

## ASSESSING SCHOOL PERFORMANCE AND MOTIVATION\*

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**Summary.** We verify the theoretical hypothesis that individual reference norm helps the development of positive achievement motivation and lowers the performance fear of pupils. The research was carried out with pupils aged 9 to 12 years. The article presents the results of the research in using reference norms with 61 teachers in connection with achievement motivation of their 1144 pupils. The research also mapped the real school situations for the teachers involved, based partly on observation during lessons and detailed records from the lessons, and verified the possibilities and limitations of using the individual reference norm for school assessment. Both parts of the research showed that using the individual reference norm does not necessarily lead to the increase of achievement motivation of pupils or lowering the pupils' fear at school.

**Key words:** reference norms, achievement motivation, anxiety, hope of success, fear of failure

### Introduction

Motivation at school influences pupils' success rate in learning, their performance, but also the development of the pupils' personalities. Whether the pupils will make use of their ability potential and thus whether they will further develop their abilities depends on motivation. Working with motivation is one of the most difficult tasks teachers have. Teachers most likely have to solve problems with pupils' motivation all over the world on daily basis. We would therefore like to mention in the first part some of the areas of school motivation research we carry out in the Czech Republic. In the second part, we will explain the area of school achievement motivation development from the point of view of teacher's use of reference norms in more detail.

We have been researching the psychological questions of pupils' motivation in schools in the Czech Republic for a long time. An educational-psychological **concept**

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**of pupils' motivation for learning** at school was created (Hrabal, Man, Pavelková, 1984, 1989; Pavelková, 2002), which deals with both the questions connected with identification, development and possibilities for progress in pupils' motivation and questions connected to diagnostic strategies. We analyse both situational and long-term motivational factors working at school, including pupils' time orientations and will. We also deal with sources of pupils' **demotivation** or problems with motivation – **fear** at school (Hrabal, Pavelková, 2010; Kubíková, 2013), **boredom** at school (Pavelková, 2010).

Problems in pupils' motivation could be for some pupils connected with certain helplessness or inability to understand themselves, in shaping their own life and reluctance to take responsibility for their education and life path into their own hands. The area of pupils' motivation thus gets into the time context of individual life and it is closely connected with the educational self-regulation that manifests itself in the ability to change and improve oneself according to a certain plan, shaping oneself with regard to certain goals that should be accomplished. We consider the ability of an individual to be future oriented and to work with future to be an important part of this self-regulative competence and an important psychological regulative. On the basis of theoretical background (Gjesme, Nuttin, Hechausen, De Volder, Zimbardo, Helus in the Czech Republic) and research findings, the **concept of perspective orientation** was created (Pavelková, 1990, 2002).

In the context of the so-called society of knowledge (or learning society), the requirements for education, its concept, form of the schools, and concept of teaching as a profession change. The question of the quality of teachers, key performers in the changes of schools, is of course closely connected to the increasing importance of the quality of education. Teacher's self-reflection is considered to be an integral part of the teacher's proficiency. Therefore we also deal with the possibilities of teacher's self-reflection in the area of **subjective theories** using **self-diagnostic methods** (Hrabal, Pavelková, 2010). Quality self-reflection of a teacher is a very complex process; the capacity for human self-perception is limited and affected by many distortions. Teachers do not always know the incentives for their behaviour, because they often behave according to certain inner, not clearly defined conceptions, they act more intuitively. The teacher's subjective theories (concepts) of how to teach, how a successful pupil in the given area acts, what dispositions individual pupils have for the given area, etc. thus play an important role here. Subjective theories are very complicated structures, it is possible to influence them with one's own experience, but it can be difficult to influence them from the outside (Zabel, 2008), they regulate the teachers' behaviour towards pupils, their communication with them and their assessment (Schnebel, 2003; Müller, 2004). The objective of our work was thus to create self-diagnostic strategies and certain methods that will help the teachers learn the specifics of their own educational activities and to learn about their own individuality and its sources and reveal the non-adequate approaches to pupils and possibilities for the remedy (Hrabal, Pavelková, 2010).

In the following part of the article, we will present research we used to validate the positive influence of using an individual reference norm during assessment on the development of pupils' achievement motivation and mitigation of fear at school.

## **Research of Reference Norms Used for Assessing Pupils**

### **Teacher's Diagnostic of Achievement Motivation**

The strength of both tendencies (to succeed in the task – fear of failure, see below) depends on the strength of both needs and also on the conditions the teacher creates for the pupils by his or her expectations and behaviour, task situations, work with rewards and sanctions and assessment. The knowledge of achievement needs of individual pupils is thus very important for the teacher. But the research carried out in the Czech Republic shows that the teachers have trouble with diagnosing the achievement motivation of their pupils (Pavelková, Frencl, 1997; Pavelková, 2002; Hrabal, Pavelková, 2010). Pupils stated the “good feeling from good performance” (positive achievement motivation) as the most frequent motivation incentive for learning. Teachers have a different and less differential view of the pupils' motivation. Fear of the consequences of failure, which was far less frequent for the pupils (“the pupil learns to avoid failure”) was overrated by teachers. The research of achievement needs from 2008 (Pavelková, 2010) confirmed that for all years of the second stage of elementary school, the need to achieve had higher frequency than the need to avoid failure. Also the results showed that while the pupils self-evaluation of the intensity of both needs is mutually independent ( $r = 0.03$ ), which means that the intensity of one need does not imply lower or higher intensity of the other need, teachers mix these two motivational tendencies ( $r = 0.61$ ) and they often give pupils high intensity of both needs or in neither of the two needs.

### **Reference Norms**

For the development of normal (healthy) achievement motivation at school, the professional literature suggests assigning clearly formulated adequate tasks, differentiated use of various difficulty tasks and flexible work with reference norms, particularly the importance of individual reference norm is suggested to decrease the fear orientation. In the following part of the article, we will mostly deal with the question of reference norms and the connections of their use with achievement motivation of pupils in the school environment, so it will be useful to show their theoretical background.

Reference norms are standards the result has to be compared to, if we want to assess this result as performance (Rheinberg, 1980; Heckhausen, Heckhausen, 2008). The result alone is not achievement. A certain standard is needed to compare the result with. These standards are called reference norms (Heckhausen, Heckhausen, 2008). There are three types of reference norms to assess achievement. The social reference norm: the result is compared to the results of the relational group: better-than-average is good, worse-than-average is bad. The individual reference norm means comparing the present results with the pupil's previous achievements;

we thus compare the given result of a pupil with the pupil's performance history. An increase is good, a decrease is bad. The criterion referenced (objective) norm is a comparison with the standard that lies in the thing itself, or in the intended purpose of the behaviour. Fulfilment of the given objective (task) is good; non-fulfilment of the given objective is bad.

The professional public is especially interested in two types of reference norms (individual and social). Both these perspectives combine in real situations and provide information we use to form our expectations, aspiring levels and our performance comparisons. This information strongly influences the development of our achievement motivation and its modification. Which of these two reference norms will be used in the current situation depends on situational factors. But there are individual differences in the preference of these two perspectives. In this case the orientation to a reference norm is considered to be an individual disposition (Rheinberg, 1980; Heckhausen, Heckhausen 2008).

Achievement at school is often realised in situations of external assessment. The orientation of the teacher to some reference norm thus probably plays an important part. The purpose of this study is to verify the hypothesis that using the individual relational norm is connected with higher development of the positive achievement orientation and lower occurrence of fear of failure in pupils.

The theory of achievement motivation is mostly focused on two motives, "chance to achieve success" and "fear of failure". Achievement in achievement environments is studied not only in the area of achievement motivation, but also in the tradition of the research of examinational anxiety. These two different approaches contributed to the development of different strategies for the reduction of anxiety (fear of failure) and for an increase of the motive to achieve success in school context (Rheinberg, Krug, 2005).

### **Achievement Motivation and Fear at School**

Achievement motivation is also often cited in connection with the area of fear. But the relationship between fear and performance is not totally unambiguous. When researching fear, especially fear of testing, it is necessary to consider not only its emotional, experiential side, but also the role of cognitive processes in it. Cognitive processes get involved in the occurrence of fear in many aspects (the situation is considered difficult and dangerous, an individual doesn't believe he/she can handle the situation, an individual occupies himself/herself with the negative consequences of not coping with the situation, etc.) Fear, despite its negative connotation, is a motivational factor at school, which improves the pupils' performance, when in low intensity (Hrabal, Pavelková, 2010). On the other hand, when increased, it worsens the performance. But we have to differentiate between anxious and calm pupils. Anxious pupils get very fast into the state of anxiety and they experience the fear which complicates their learning process more intensely. Calm individuals experience fear at school more as a motivational pressure that motivates them to perform better or to work harder on the school tasks. But they usually don't experience fear during the process of learning itself. In the past teachers at Czech schools

when trying to increase performance (motivation) of pupils often chose situations that induced fear.

The tendency to experience fear in various situations is very individual. For primarily anxious individuals, the fear comes much faster already with lower real danger. When the situation is very dangerous, the differences decrease, all experience fear (e.g. during the graduation exam). Fear at school also depends on the form and frequency of fear situations at school (character of tests, difficulty of requirements, unsuitable competitions, hurtful communication, hostility of classmates, etc.). Also the relationship of pupils to school performance plays an important role. Is the pupil afraid of not achieving good results, or are the school results less important and the pupil fears mainly the consequences of his/her failure? Fear is also connected with the trust in one's own skills (compare with the area of self-efficacy, Bandura, 1991). The lower the trust in one's own skills and the lower the self-esteem, the higher the fear one experiences could be. It can be summarized that expectations and self-assessment are cognitive constructs that influence the sensation of anxiety. In difficult situations pupils with low self-assessment stay in defensive behaviour, apprehend their failure, divert the attention from fulfilment of the task and focus on the estimation of the adverse consequences of the task results. On the other hand pupils with higher self-assessment don't question their personality and the vision of success strengthens the effective use of their skills to solve the tasks or manage the situation (Schwarzer, Jerusalem, 1992).

This offers an opportunity for a deeper analysis of achievement motivation. In theory, the achievement motives are understood as dispositions, achievement goals as "middle-term" constructs and preoccupation with school or increase in the performance as dependent variables. Regarding this Schmalt (2005) noted that motivational dispositions for performance are constructed as direct dispositions for accepting or avoiding the achievement objective. Schmalt analysed the achievement motives of the hope of success (HS) and avoiding failure in connection with achievement behaviour of children at school. He supposed that the HS motive is a predictor for orientation on achieving and managing the objective, while the fear of failure (FF1 – passive fear; FF2 – active experience of fear) is connected with evasive tendencies, because a common objective is to avoid the usual negative consequences. He also assumed that HS and FF2 have a positive effect on performance and involvement, while FF1 decreases performance. Based on these assumptions, he created a tool for measuring achievement motivation – LMG (Schmalt, Sokolowski, 2000). LMG records the two-dimensional nature of fear and it is also suitable for measuring the achievement motivation at school.

## **Objectives of the Research**

The objective of this research is to validate the theoretical assumption that an individual reference norm helps to develop positive achievement motivation and decreases the achievement fear in pupils. Based on former studies (Rheinberg, 1980, 2001a, b, 2008; Mischo, Rheinberg, 1995; Dickhäuser, Rheinberg, 2003; Rheinberg, Krug, 2005), we assume that pupils of teachers oriented to the individual reference

norms will be different from the pupils of teachers oriented to the social reference norm, mainly by lower occurrence of the fear of failure in the school context and a higher level of achievement motivation. The second objective is to verify the possibilities and limitations of using the individual reference norm at school.

We were interested in the real classroom situations in the teaching of the observed teachers, and the processes occurring during assessing pupils' performances.

### **Participants and Settings (sample and data collection method)**

The sample of the presented research consisted of class-teachers of year 4 and 5 of Czech elementary school. 61 teachers of the fourth- and fifth-year classes (59 females and 2 males) and 1144 of their pupils (584 girls and 560 boys) aged from 9 to 12 years participated in the research. All teachers taught all the subjects in their classes. The teachers filled in FEBO, a questionnaire for determining reference norm orientation and pupils filled in the Schmalz's semi-projective test for school activities. At first, pupils received instructions from the researcher about how to work with the questionnaire and then they were asked to fill it in. At the same time teachers responded to the questions in the FEBO questionnaire. Both groups of respondents were working with the questionnaire for 30 to 40 minutes.

### **Research Methods**

The research uses a mixture of quantitative and qualitative methodology.

**Quantitative Analysis.** The results of the quantitative analysis are based on the results of the FEBO questionnaire, which focuses on the teacher's preference of a certain reference norm and Schmalz's semi-projective test of AMG which maps achievement motivation in pupils.

**Measuring the teacher's preference of a reference norm – FEBO.** This is the Czech version of Rheinberg's questionnaire for determining reference norm orientation (FEBO (Rheinberg, 1980, 2001ab); Czech version Man & Hondlik, 1981). Teachers were asked to consider 39 statements (sentences) describing various aspects of the teacher's behaviour and they had to assess their approval or disapproval on a six point scale. The questionnaire covers five content areas, which, according to the authors of the questionnaire, give true picture of the teachers' work with reference norms. The individual areas follow, always with one example of an item:

- **Performance comparison** (9 items)
- **Causal attribution** (10 items)
- **Individualization** (9 items)
- **Expectations** (9 items)
- **Behaviour regarding rewards and sanctions** (2 items)

Teachers replied on the scale from -3 (totally disagree) to +3 (totally agree). For the purposes of statistical processing of the data, these values were re-coded to 1 to 6 so that the value 6 meant highest tendency for the individual reference norm.



### Descriptive Characteristics of the FEBO Questionnaire

Standardisation of the FEBO questionnaire has not been made yet in the Czech Republic, but a quite detailed psychometric analysis of the questionnaire was made in our sample – detailed results were published: Pavelková et al., 2013. Characteristics of the total FEBO score are given in Tab. 1. Reliability (tested by Cronbach's alpha) of the questionnaire 0.77 is quite good, even if it doesn't reach the value stated by Rheinberg (1980), i.e. 0.85 to 0.87.

Table 1. Characteristics of the total score of the FEBO questionnaire

Average	141.4
Median	142.0
Modus	148.0
Standard deviation	15.5
Minimum	112.0
Maximum	193.0
N	61.0

### Relationships of Individual Areas to the Total Score

Relationships of individual areas of the test (factors) to the FEBO total score could be most easily described by a correlation matrix. Correlation coefficients of all factors with the total score are high, the highest for the factor *Performance* comparison and lowest at the factor *Strategy*.

Table 2. Correlation coefficients of individual factors with the total score of the FEBO questionnaire

Total score	Performance comparison	Causal attribution	Individualisation	Expectation	Strategy (rewards/punishments)
	0.727	0.8	0.447	0.597	0.38

### Measurement of the achievement motive – AMG

Measurement of variables of achievement motives for children aged 9 to 14 years was developed by Schmalt (1976, 2005) as a semi-projective process (Das LM-Gitter, Ein Objektives Verfahren zur Messung des Leistungsmotivs bei Kindern). The method separately measures intensity and extensity of various components of the achievement motive. It uses 18 picture situations, in which performance plays an important role. 18 pictures are divided into 6 different domains: manual, music, school, independent, help providing and sport. The tool was translated into Czech by Man (1977). In the referred research, only the area of school activity is used, i.e. 3 pictures, while there are 18 items for each picture. The main reason for the re-

duction was focusing the research area on school. Even if LMG allows to measure implicit achievement motives, the questionnaires are often only focused on explicit motives. More details of the method could be found in the studies by Klinger, Man, Stuchlíková, 1997; Schmalt, Sokolowski, 2000; Brunstein, 2003; Stuchlíková, Man, 2009. In Schmalt's LMG the focus is on the important variables obtained using Exploratory Factor Analysis (EFA) and at present also using Confirmative Factor Analysis (CFA; compare Schmalt, 2005). Schmalt identified using EFA partial scores for Hope for Success (HS) and Fear of Failure (FF). Fear of failure proved to be two-dimensional. FF1 was marked as the passive fear showing inhibition processes in performance context, connected to the concept of low abilities (Schmalt, 1976, p. 19). The second component of the fear of failure, marked as FF2, is the active fear of failure, which describes the "emotional components of the fear of failure" (Schmalt, 1976, p. 121). Division of FF is also supported by independence of FF1 and HS, while HS and FF2 show high correlations. Apart from these variables, there could be other scores derived from them, such as Total Motivation (sum of Hope and Fear) and Clean Hope obtained by deducting Fear from Hope.

**Research hypotheses – Quantitative Analysis.** We defined 3 research hypotheses.

H1: Teachers who prefer individual reference norm developed by the students' achievement motivation work more effectively than teachers with prevailing social reference norm – related to the overall score FEBO and its individual parts.

H2: Teachers who prefer individual reference norm will have lower ratios of pupils' passive fear (FM1) than teachers with prevailing social reference norm – related to the overall score FEBO and its individual parts.

H3: Teachers who prefer individual reference norm will have higher ratios of pupils' active fear (FM2) than teachers with prevailing social reference norm – related to the overall score FEBO and its individual parts.

**Qualitative Analysis.** Results obtained by quantitative analysis using the FEBO and AMG methods were confronted with the results of qualitative analysis of work with reference norms of the observed teachers in the real school situations. Detailed observations were made for a total of eight teachers – the total number of observed lessons was 68.

Results obtained by quantitative analysis using the FEBO and LMG methods were confronted with the results of qualitative analysis of work with reference norms of the observed teachers in the real school situations. We were interested in the correspondence of teachers' answers in the FEBO questionnaires with their real lessons and also in the possibilities and limitations of using individual types of reference norms in the teaching process. The teaching was observed for quite a long time including breaks for eight teachers from the basic sample. Qualitative analysis had several levels. First we tried to operationalize the possible acts of the teachers in connection with the area of reference norms. We were seeking recordable acts of teachers that allowed judging their work with reference norms (teachers' acts were structured according to individual FEBO questionnaire areas. During observations we also tried to record the general working atmosphere in classes. When designing the research, we focused mostly on the behaviour of the teacher in assessment sit-



uations, his or her interaction with pupils and also work with tasks of different difficulties, dividing pupils into performance groups; we also observed attributional tendencies of the teachers. For each of the observed teachers, we created a detailed casuistry, which contained the data of his or her preferences from the point of view of reference norms (FEBO scores), data about the pupils from the point of view of achievement motivation including fear characteristics (LMG scores) and especially data from the teacher's work during teaching gained by the observation in lessons, recorded into the recording sheets and further quantified. The observations were always realized without knowing the results from the FEBO and LMG questionnaires of the teacher to prevent the researchers from being influenced by the results.

## Results of the Research – Quantitative Analysis

### Relationship between the teachers' orientation on a reference norms and achievement motivation of the pupils

The relationship between the orientation of teachers to a particular reference norm (FEBO questionnaire) and achievement motivation of pupils (AMG questionnaire), which we monitored using correlation analysis, was not proven. As table 3 shows, correlation analysis did not confirm any important connections between the FEBO total score and AMG total scores (FF<sub>1</sub>, FF<sub>2</sub> and HS).

Table 3. Correlation coefficients for the FEBO questionnaire total score and AMG scores

	LMG FF <sub>1</sub>	LMG FF <sub>2</sub>	LMG HS
FEBO	0.01	-0.1	0.1

On the other hand, in the correlation analysis the situation was slightly different, as the individual FEBO subtests show. The correlation between FEBO of individualisation (individualisation of task difficultness for individual pupils) and developed achievement motivation of pupils (HS)<sup>1</sup> was confirmed as important. See table 4. If we use not only the statistical method, but also the method of dimensional effect<sup>2</sup> to assess the correlation coefficient, we find out that for the sample of 61 respondents both methods correspond well. This allows us to consider the correlation coefficients of the value 0.2 and higher to be worth mentioning. The fact that using individual reference norm in the areas of *Causal attribution* and *Expectations* not only probably doesn't lead to higher motivation of pupils in the *School HS*, but it also

<sup>1</sup> Statistical importance of correlation coefficients depends on the size of the group. This is why it is also good to assess the size of correlation coefficients using the values of the dimensional effect (effect size).

<sup>2</sup> The dimensional effect for the correlation coefficient  $r$  is the value of the correlation coefficient itself. For the research in social science, Cohen (1988, p. 109-143) describes values  $r = 0.1$  as small, values  $r = 0.3$  as middle and values  $r = 0.5$  as large (Cohen, 1988).

lowers their active experience of fear  $FF_2$  could be inspiring. Regarding the fact that the total motivation of pupils is usually described as the sum of active fear  $FF_2$  with the motivation given by  $HS$ , the results suggest that using the individual reference norm in the areas *Causal attribution* and *Expectations* is, against the expectations, lowering the total motivation of pupils.

Table 4. Correlation coefficient for the scales of the FEBO questionnaire and AMG scores

FEBO	LMG		
	$FF_1$	$FF_2$	HS
Performance comparison	-0.03	-0.20	0.02
Causal attribution	0.09	-0.06	-0.11
Individualization	0.08	0.02	0.32
Expectations	-0.07	-0.21	-0.05
Strategy of work (rewards/punishments)	0.11	0.20	-0.09

Relationship between FEBO individualization and developed achievement motivation of pupils (HS) in school area is also supported by the dot graph in figure 1. We used this type of graph mostly as one of the bases for qualitative data analysis, but we also identified a concrete teacher and his or her place from the point of view of the factors examined in relation to the others using a dot graph.

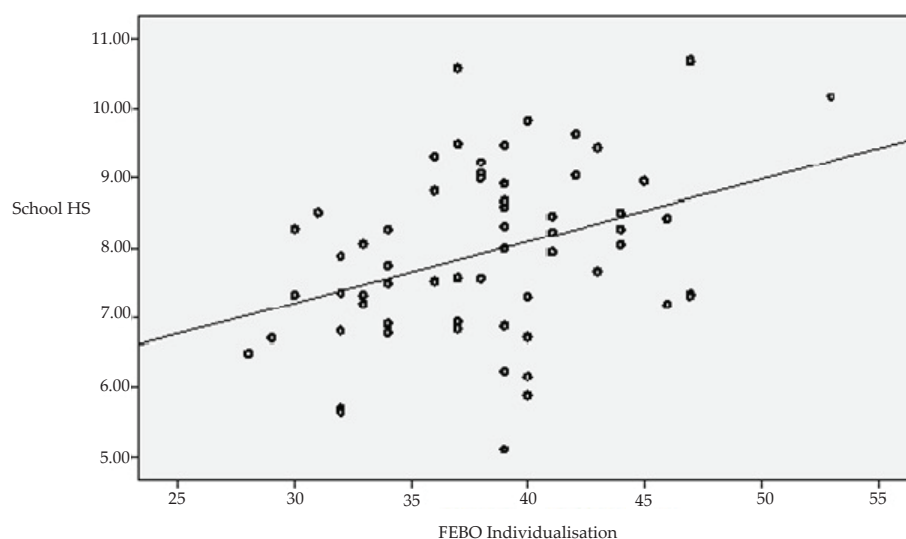


Figure 1. Dot graph for the dependency of school achievement motivation of pupils (School HS) and the FEBO Individualization factor

The relationship between the FEBO questionnaire and the school area of the AMG test could be also observed using factor analysis. Three factors we obtained by the method of main components while using the VARIMAX rotation take up around 63% of the spread (see table 5).

Table 5. Rotated matrix of FEBO and LMG factor loads

	Factor – 1	Factor – 2	Factor – 3
FEBO performance comparison	.708		
FEBO causal attribution	.839		
FEBO individualization			.754
FEBO expectations	.749	-.320	
FEBO strategy of work with rewards and sanctions		.761	
LMG school FM1		.563	
LMG school FM2	-.403	.582	
LMG school HE			.808

**The first factor**, taking up the largest part of the variance (more than 25%), comprises the areas *Performance Comparison*, *Causal Attribution* and *Expectations* together with the active fear  $FF_2$  measured using the AMG method. At the same time using individual reference norm in the three above mentioned areas is connected with lower active fear. The decrease of motivational pressure (active fear) could be connected with pupils' feeling they don't have to try hard. The finding corresponds with the results of correlation analysis and, as we will see further on, also the results of the qualitative analysis.

**The second factor** is the "fear" one. Active and passive fear are connected mostly only with the *Strategy of work with rewards and sanctions* and the *Expectations* factor. While using individual reference norm in the area of *Strategy of work with rewards and sanctions* is connected with increased active and passive fear, in the area of *Expectation* the opposite is true. The stability of expectations, which is typical in teachers, is thus probably not connected with increased fear in the pupils. This trend is also confirmed by the correlation coefficients in table 4. Correlation coefficients of  $FF_1$  and  $FF_2$  with the *Strategy of work with rewards and sanctions* factor are positive, while with the *Expectation* factor they are negative.

**The third factor** (18% of the spread) is the "performance" one. Achievement motivation is positively connected to the individualisation of the work with difficulty of the tasks, which has already been shown in the relatively high correlation coefficient between these two variables. The factor suggests that pupils whose

teachers try to work with differentiated difficulty of the tasks develop stronger positive achievement motivation.

## **Qualitative Analysis – Results**

It is impossible to describe individual steps of the qualitative analysis in the scope of this article. We will thus only choose several findings that turned out to be important for the investigated problem and complement (refine) the above mentioned results. A detailed description of individual steps of the analysis and results could be found in the literature: Kubíková, 2013.

### **Working with reference norms in school situations – comparing observation with the FEBO questionnaire and AMG results**

We will structure the results of the comparison according to the five factors of the FEBO method, but at the same time we will try to show other findings that probably play an important part in teaching and condition the work with reference norms, in other words probably influence the development of achievement motivation and fear at school. It turned out that the FEBO questionnaire was relatively successful in differentiating between teachers from the point of view of preferences for certain reference norms; those teachers that got higher scores (higher preference of the individual reference norm) in the FEBO questionnaire were using the individual reference norm more in the real teaching. But it is also necessary to say that for all teachers a shift was proved regarding overestimating the preference of individual reference norm in the FEBO questionnaire against the real work of the teachers in the teaching process.

## **Performance Comparison**

The core of the school work of observed teachers was based on the objective (criterial) reference norm, assessment on the social reference norm, or on the criterial reference norm. There was no teacher that would base his or her work in the lesson only on the individual reference norm. But there were differences in whether the teacher further develops and comments on the social reference norm from the point of view of the individual reference norm. Only in two cases we faced the situation, when teachers sometimes assigned marks according to individual reference norm (improvement – worsening). It was interesting that one of these teachers published the results, the second never made them public in front of the class, only generally commented on the results at the objective level.

The teachers' work with reference norms could be also influenced by their focus on a certain type of pupils. The analysis has positively shown that there are quite big differences between teachers in focusing on certain type of pupils. Some of the teachers engage mostly with more gifted pupils (give tasks only to the pupils with A grades, the others have to/don't have to work), others only with the less gifted pupils, and some with the average. Some of them manage to divide attention between all pupils – they don't prefer any performance group. But the attempts

to get all the pupils involved are usually connected with great trivialization of the teaching. The work with reference norms could be different for one and the same teacher on the basis of which group of children he or she currently works with.

The clear formulation of tasks and emphasising their fulfilment probably also matters as for updating and developing the achievement motivation. For the teachers observed, it was possible to note that higher achievement motivation measured using AMG was developed for the teachers who assigned clear tasks and insisted on their fulfilment, generally worked with social reference norm, but somehow also the criterial reference norm, and partially also the individual reference norm, and there was a good working climate in the lessons.

Regarding the passive and active fear in children (again measured using AMG), the aspect that turned out to be the most important one in the teachers observed was whether the teachers consistently demand performance from all pupils. Lower fear was measured (according to AMG) for those teachers who had, especially for the weaker pupils, lower demands, and the pupils could get away with little work.

### **Causal Attribution**

The questions focus on attribution tendencies to explain school performances by causes stable in time (talent) or causes not stable in time (diligence, interest, motivation). The test distinguishes between stable (social reference norm) and unstable (individual reference norm) attributions, but it does not distinguish between teacher's attribution tendencies for weaker and stronger pupils. It also doesn't distinguish between attribution tendencies after success and failure. During the observations in schools, it was clear that the so-called lucky attributions are no problem for teachers when assessing good pupils. They attribute failure of good pupils to unstable causes (luck); success to stable internal causes (abilities). It is much more difficult for them when assessing weaker pupils – some solve it by not commenting on the weaker pupils, other teachers do not point out the success of stronger pupils (they show that the good performance is expected). It was interesting that some teachers worked well with attributions when working individually with the pupils, but when they worked with the whole class, they, especially in failure, attributed it to bad luck and in success to suspicion of illegal achievement. Some teachers do not comment on the results – it is then hard to assess their attribution tendencies – the assessment could then be not very important for the children. It is interesting that for the teachers that mostly did not comment the performances, (didn't show attributions) AMG showed relatively small fear of children.

### **Individualization**

Individualisation only refers to the difficulty of tasks the teacher assigns to individual pupils. From the point of view of the theory of achievement motivation development, this is probably the most important requirement, and the results confirm this: individualisation significantly (middle strength) correlates with performance hope HS in total ( $r = 0.32^{**}$ ). On the one hand we were surprised how

little the teachers work with varying the difficulty of the tasks in the meaning to assign tasks with various difficulty. Some teachers do not use different difficulties even when the pupils work independently. On the other hand, there were quite a lot of various strategies (methods) of individualizing the difficulty of the tasks. Some teachers assigned all pupils the same test (same difficulty) but helped some children, omitted some of the sub-tasks for them, gave them longer time for work, prompted them or trivialised the assignment. If at all the teachers work with various difficulty levels, it is in the form of preparing some additional tasks for the best pupils and motivating the average ones for more complex tasks. As for the weakest ones, they only try to fulfil the task assigned (the same difficulty as the others). The surveying again suggests that little fear is sometimes connected with the fact that the teacher has low demands on the pupils.

### **Expectations**

The questions are aimed at the non-variable expectation of the result (pre-judging). The discussions with teachers, but also observations in lessons show that almost all teachers have a clear idea of the pupils' abilities – some do not prefer any performance group, some do. The opinion about pupils is very stable. Teachers most often divide pupils according to their success rate and to what causes the success rate according to them – the level of talent. Most often teachers divide pupils into three groups: excellent – gifted pupils, average – average pupils, weak – pupils without talent. Communicating or not communicating the opinion about pupils was both intentional and non-intentional. These were mostly comments to the scores. The teachers also show their opinion using latency time they give for replying. Some teachers give all pupils the same time to react. Some teachers give longer time to good pupils. Some teachers give a chance to the weaker pupils too, if there was enough time, but in a hurry only to the good ones. Teachers give their opinions both non-verbally and verbally – trivialisation, reformulating the question, simplification. Verbal and non-verbal communication sometimes corresponded, sometimes not. Achievement motivation factors were mostly connected with objective communication.

### **Strategy of Work with Rewards and Sanctions**

This factor focuses on the preference of appraising or criticizing after performance by either comparing to the class or to a former performance – the same as performance comparison – with the difference that here the assessment is translated into rewards and sanctions (consequences of the results). It thus means the individualization of rewards and sanctions. There were both connections to the other pupils and comments about personal development in both appraisals and admonitions. It was much more often possible to observe reactions to a mistake (criterial reference norm), both verbal and non-verbal. Especially the non-verbal signals were very varied: raised eyebrow, lips pressed together, gentle nod of the head, raised finger, turning the ear closer, crossing the hands, paralinguistic signals: hissing, negating sounds, grumbling – pupils from these signals identified in time whether



or not they responded correctly. When a pupil does not know, often another one is called up, or the teacher answers. Teachers praised the correct answers highly. Some of them also praised the attempts.

## Discussion

The theoretically proclaimed positive influence of individual reference norm on the development of achievement motivation was not confirmed unambiguously by our research. Higher achievement motivation was found more in classes where teachers worked with all reference norms. The work of teachers is based especially on the social and criterial reference norm. But we couldn't simplify the results by saying that the educational activity of the teacher is done only in the intentions of social comparison. Assessment of the tests was indeed based on social reference norm, possibly the criterial reference norm, but in individual work and sometimes in competitions teachers used the individual reference norm. The main difference between teachers turned out to be how the teacher works with reference norms, how he or she develops those, comments on (interprets) them. The individual reference norm was used more for explanations or adding information from the teacher. It was mostly used in an attempt to motivate some of the pupils.

The research shows that passive fear does not change on the basis of working with reference norms. It was even slightly growing in some classes, where teachers had more tendencies to work with individual reference norm. The passive, but also the active fear was lower mostly in classes where teachers had low demands on weaker pupils. The weaker pupils then did not participate much.

The research showed certain contradictions between the established orientation on a certain type of reference norms according to the FEBO questionnaire and the real work of teachers with reference norms. The research showed that without knowledge of some contexts from school work, it isn't possible to give clear recommendations for the teachers' work with reference norms. The research e.g. showed the importance of working culture or performance atmosphere in the class, clarity of tasks assigned and consistency in demanding their fulfilment.

Confrontation of the theories of achievement motivation and their diagnostic comprehension with what really happens in class opens new questions for research. It is clear that diagnostic tools, no matter how well construed, measure only some aspect of the complex school work. Our research confirms how complex, unsettled and varying the school work is. Also because of these reasons we work on self-diagnostic strategies for teachers, which will allow teachers to know the specifics of their teaching (look into their implicit concepts) in the area of assessing the pupils (Hrabal, Pavelková, 2010).

On the basis of research findings, it is possible to recommend cultivation of work with all three reference norms instead of confronting the social and individual reference norm. Observations in lessons emphasize the importance of objective communication between the teacher and the pupil, the working climate in classes and the importance of criterial (objective) norm, which is usually put back in theory.

The research also opened new questions, some of which we would like to pursue in further research. Fear at school or pressure at school should probably be analysed deeper, with its inhibiting and facilitating consequences; fear at school confronted with working atmosphere; fear in present day children. – Aren't the present day children afraid of things different from those in the past? – Aren't they afraid of e.g. not being able to force themselves to work on more difficult tasks? Mathematics teachers talk among others about great reluctance of children to work on cognitively difficult tasks – unwillingness to think (Rendl, Stehlíková, 2014); aren't present day pupils afraid of their own boredom? They usually refuse the responsibility for their own boredom and assign its sources mostly to the teachers. Also the question of the role of individual reference norm for anxious pupils, respective not anxious pupils remains open.

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#### OCENA OSIĄGNIĘĆ SZKOLNYCH I MOTYWACJI

**Streszczenie.** Autorzy weryfikowali hipotezę głoszącą, że indywidualne standardy odniesienia mają pozytywny wpływ na rozwój motywacji osiągnięć oraz obniżenie poziomu lęku u uczniów. Badaniami objęto 61 nauczycieli i ich 1144 uczniów w wieku od 9 do 12 lat. W artykule przedstawiono wyniki badań nad związkiem standardów stosowanych przez nauczycieli i motywacji osiągnięć ich uczniów. Badania obejmowały obserwacje zachowań w czasie lekcji i szczegółowe zapisy przebiegu lekcji. Badacze interesowali się zakresem i ograniczeniami użyteczności stosowania indywidualnych norm odniesienia dla oceny szkolnej. Badania wykazały, że stosowanie indywidualnej normy odniesienia nie jest koniecznym warunkiem wzrostu motywacji osiągnięć uczniów lub obniżenia lęku uczniów w szkole. **Słowa kluczowe:** standardy odniesienia, motywacja osiągnięć, lęk, nadzieja na sukces, obawa przed porażką