

**Thesis of Doctoral (PhD) Dissertation**

**Development of personality characteristics of  
students aged 10-14 participating in differentiated  
development**

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## **1. The objectives and subject of the thesis**

As a subject of our thesis we have chosen to investigate the effects of differentiated development but not from the aspect of efficiency but from that of its psychological effect. To be more precise, our goal is to know what effect differentiated development has on certain variables of personality (self-esteem, self-image, anxiety and attitude towards the community). Thus, the school performance of the students participating in the study was not included at all (which in our view lies in the competence of pedagogy). Our interest was more focused on whether differentiation causes - and if yes, to what degree - a change in the personality of the students.

The value of our research lies in the fact that differentiation is a more or less researched field in pedagogy, however, its psychological effects have not yet been studied. Concluding from the above, all efforts that attempt to provide data from this field may be regarded as novel.

Our research was longitudinal which indicates that we followed the same students during the course of four years from 5th grade to 8th grade in primary school (to utilize a modern term: from input to output). Taking fluctuation into account, only the results of those students were recorded in our database who participated in all studies from the beginning to the end.

The study sample was taken from several schools including several schools from bigger and smaller towns as well, village schools and schools from relatively small settlements. This was true for the formation of the study and control groups as well.

In this study a 'study group' is summative term for all the groups of students who participated in differentiated development in three subjects (Hungarian Language and Literature, Mathematics, History) during the course of four years whereas the notion 'control group' includes all groups that took part in differentiated development only occasionally or incidentally. The framework for all the above was provided by a study of a much larger volume than our own which meant the designated faculties at our workplace developed lesson plans of differentiated development as well for each and every lesson of all three subjects, sending one of such packages monthly to the study groups of the schools participating in the research.

*Hypotheses examined in the thesis:*

*Hypothesis 1. (H1):* The conscious, planned differentiation in the study group was hypothesized to result in a positive change in the studied fields (self-esteem of the child, the

self-assessment of the school, self-esteem related to domestic impacts, interpersonal relationships and social conformity).

*Hypothesis 2. (H2):* According to our hypothesis, during the course of the study, the self-image (body image, self -image in general, school, subject, social and parental self -image) of the students in the study group would develop positively.

*Hypothesis 3. (H3):* We also hypothesised, that due to the effect of the differentiation, the attitude of students aged 10-14 towards the community (school community, society, the cohesive strength of the class, the role and rights of the local government, the function of public opinion, the possible sociometric relationships within the class, common activities) would develop more positively than that of the control group.

*Hypothesis 4. (H4):* It was also hypothesised, that during the four years, when comparing the development of the level of anxiety in the two groups, a lower level of anxiety would develop in the study group.

## **2. Applied methodology**

### *Study sample and variables*

The selection of the two study groups was completely random. We sought to have study and control groups in various smaller and bigger towns.

*Age group studied:* Students between the age of 10-14 (continuous study of grades 5-6-7-8.). The number of measurements: at the beginning and end of the 5<sup>th</sup> grade and at the end of the 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade in the control and the study groups as well.

### *Participants and their number:*

- The experimental group included 177 students (male: 86; female: 91),
- the control group consisted of 177 students (male: 83; female:94)

In the course of the four years, the differentiated lesson plans were made in accordance with the level of the students in the study groups. The teachers participating in the study sent their lesson plans to us beforehand therefore our group of teachers continually amended them with differentiating tasks taking the level and composition of the class into consideration. The general aspects of observation in the case of the students of the study group, by which the amended lesson plans were made were:

- reports and observations by teachers,
- the age characteristics of the students (cognitive, social, emotional)
- The observance of the individual skills, development and personality characteristics,

- Taking incidental opinions of experts into consideration

In the course of the four years, pair and groupwork were common in the study group. Observation took place from grade 5 to 8 whose students in the study participated in the program weekly.

*Study variables*

- self-esteem
- self-image
- attitude towards the community
- anxiety

*Methods of study:*

- Consultations with the teachers
- Observation
- Questionnaires and tests:
  - self-image scale by Bóta
  - Coopersmith's self-assessment questionnaire
  - A measurement tool by Hunyadiné,(modified by Tóth) to examine attitudes towards the community
  - CMAS anxiety test that is applicable internationally and in our home country

The studies take place within the framework of the classroom of the primary school, the psychological questionnaires were conducted by the teachers and us. The questionnaires were filled in each year (in grade 5, at the beginning and also at the end of the year) as the attention span and endurance of students (first occasion: self-image and attitude to community test, second occasion: anxiety and self-esteem test) had to be taken into account. Before the commencement of the studies, the parents were briefed then they gave permission to the conduction of the test in writing.

The study was conducted from 2006-2007 school year to the 2009-2010 school year. In the following, the results of the four-year study will be introduced. The input measurement was conducted at the beginning of grade 5 in September, the further ones were carried out in grades 5, 6,7,8, in May.

### 3.Thesis enumeration of the results

#### *Results of H1:*

In our first hypothesis it was assumed that the planned and conscious differentiation in the study group would result in a more positive development in the fields of self – esteem examined by our research (self-esteem of the child, the self-assessment of the school, self-esteem related to domestic impacts, interpersonal relationships and social conformity). The results of the two-sample T-probe test of the study and control group indicate that there is no significant difference ( $p < 0,05$ ) between the study and control group in all scales at the first (input) and the second measurement. In the case of peer relationships (T-scale) there is a significant difference ( $p < 0,05$ ) between the study and control group at the third measurement that is, in grade 6. In the case of the sub-scales S (self-assessment), I (school) T (peer relationships) and the self-worth index in the case of the third and fourth measurement a significant difference ( $p < 0,05$ ) may be observed between the two groups. In the case of O scale, there is only a significant difference ( $p < 0,05$ ) at the output measurement only.

The results in the control and study groups clearly indicate that the students were at the same level at the beginning but due to the effect of differentiated development, a significant difference can be observed in all scales between the two groups by the end of 8th grade.

Following the analysis of the results, it can be observed that in the course of the four sub-scales of the self-esteem, comparing the results of the control group and those of the study group, the conscious and planned differentiated development resulted in a positive change in the case of the 'T', that is, the social self-esteem scale. In the case of the other scales ('S' scale – self-assessment, 'I'-scale – self-assessment of the school), a very minimal difference may be observed between the two groups. In the analysis of the 'O' scale (self-assessment of the family) results, the slight difference may be attributed to the fact that the family plays a crucial role in the development of self-esteem of all children. It can be clearly stated - based on charts No 1. and 2. - that the control and the study group started at the same level at the beginning of the study. This remained for a period of time unchanged then a significant difference was detected at the 4th measurement in grade 7 in all dimensions but one. In the case of grade 8, whole or in part, the difference was not too big but significant in all aspects (S, I, O, T dimensions + self-esteem index)

Based on the results above, we may conclude that **our first hypothesis was partially proven.**

### *The results of H2:*

In our second hypothesis it was assumed that the self-image of students (body image, general self-image, subject, school, social and parental self-image) would change positively in the study group during the study. The change and development of self-image is a long process in our lives. It is influenced by our family, peers, teachers and ourselves as well. Having a positive self -image assists us in achieving our goals and in everyday life. To study self -image, a multi-aspect research method was chosen to examine the change in self -image. The results of the two-sample T-probe test of the study and control group indicate that there is a significant difference ( $p>0,05$ ) between the two groups in the fields of foreign language, information technology, subject and parental self- image at the first (input) and the second measurement. There is already a significant difference ( $p>0,05$ ) between the study and control group in the fields of physical ability, information technology and social self-image at the second measurement, that is, in grade 5. There is a significant difference ( $p>0,05$ ) between the two groups in the fields of foreign language, information technology, subject, peer, complete and parental self- image at the fourth measurement as well. After the fifth, last measurement there is a significant difference ( $p>0,05$ ) between the two groups in all fields of self- image.

The results in the control and study groups clearly indicate that the students were at the same level at the beginning but due to the effect of differentiated development, a significant difference can be observed in all scales between the two groups by the end of 8th grade. While analysing the results of the study group and those of the control group, smaller or bigger differences were detected in all thirteen fields of self-image. It is worth pointing out, that a continuous positive development could be observed in the fields of subject and social self -image. Personality dimensions tend to develop slowly therefore – as it was observed during the course of this study - there are differences in the results of the control and study group but in most cases, these are minimal. The fields more affected by change are those related to learning, school life and peers.

Based on the results above, we may conclude that **the second hypothesis was partially proven.**

### *The results of H3:*

Thirdly, it was hypothesised that due to the effect of the differentiation, the attitude of students aged 10-14 towards the community (school community, society, the cohesive strength of the class, the role and rights of the local government, the function of public opinion, the possible sociometric relationships within the class, common activities) would develop more positively than that of the control group. We were intrigued to observe how the

attitude of students aged 10-14 towards the community would develop during the study. The results of the two-sample T-probe test of the study and control group indicate that there is a significant difference ( $p < 0,05$ ) at the 4th measurement in the fields of attitude towards the broader community, the role of the local government, the presence or lack of class cohesion. There is a significant difference ( $p < 0,05$ ) at the 3rd and 4th measurement in the field of function of communication between the control and study group. In the social relationships within the class, there is a significant difference ( $p < 0,05$ ) at the 3rd and 4th and 5th measurement between the control and study group. In communal activity, there is a significant difference ( $p < 0,05$ ) at the 1st, 2nd, 3rd and 4th measurement between the control and study group.

The results in the control and study groups clearly indicate that the students were at the same level at the beginning but due to the effect of differentiated development, a significant difference can be observed in the attitude towards community between the two groups by the end of 8th grade.

In our experience, due to the planned and conscious differentiation, the relationship towards the broader community, the development of common activities and class cohesion resulted in a more positive development in the study group. However, the role of the local government and the function of public opinion developed similarly in both groups, that is, a slight difference was detected during the course of the four years. Age plays a crucial role in the development of these fields as the students – irrespective of groups – become more experienced and mature to form their opinions and criticism.

Based on the results above, we may conclude that **our third hypothesis was partially proven.**

*The results of H4:*

In our fourth hypothesis it was assumed that that a lower level of anxiety would develop in the study group when comparing its development in the two groups during the four years. The results of the two-sample T-probe test of the study and control group indicate that there is no significant difference ( $p > 0,05$ ) in the development of anxiety between the control and study group during the study of four years.

The results in the control and study groups clearly indicate that the students were at the same level at the beginning, no significant difference could be observed.

The degree of anxiety may be determined by environmental and hereditary factors. Parents, teachers and peers play a crucial role in them.

The level of anxiety is decisive in different fields of life, it is intriguing to observe that after the 6th grade a decrease may be observed in the case of both groups which is advantageous with regard to school performance. Considering the fact that this was characteristic of both groups, these may be more likely attributed to age characteristics and not differentiated development.

To sum up, we may conclude that **our fourth hypothesis was not proven** as no significant difference was detected between the results of the study and the control group.

## **Discussion**

### **The development of self-esteem**

When analysing the results of the control and study groups, it may be observed that there is no significant difference ( $p > 0,05$ ) in either scale in the first (input) and the second measurement. In the case of the scale of peer relationships (T scale) there is a significant difference ( $p < 0,05$ ) between the control and the study group in the third measurement, that is, in 6th grade. In the case of S (self-assessment), I (school) and T (peer relationships) subscales and self-assessment index, a significant difference ( $p < 0,05$ ) may be observed in the third and fourth measurement between the two groups. With regard to O, it indicates a significant difference in the output measurement only ( $p < 0,05$ ).

The results in the control and study groups clearly indicate that the students were at the same level at the beginning but due to the effect of differentiated development, a significant difference can be observed in all scales between the two groups by the end of 8th grade.

The development of a realistic self-assessment enables the individual to be better orientated in the world and to become aware of their own skills and boundaries. The family plays a crucial role in this and it will become decisive element in forming relationships to the school, our teachers and to our peers.

In our experience, due to the planned and conscious differentiation, the social self-assessment subscale indicated a significant difference between the control and the study group. As far as the results of the other sub - scales are concerned, a difference may be detected but it can only be observed at the last, output measurement.

### **The development of self -image**

When comparing the results of the control and the study group, there is a significant difference ( $p > 0,05$ ) at the first (input) and second measurement in the case of foreign

language, information technology, subject and parental self- image. In the case of physical ability, information technology and social self-image there is a significant difference ( $p < 0,05$ ) between the control and the study group in the second measurement, that is, in 5th grade. In the case of the 4th measurement, the fields of foreign language, information technology, subject and parental, and general self- image indicated a significant difference ( $p < 0,05$ ) between the two groups. After the 5th measurement, a significant difference ( $p < 0,05$ ) could be observed between the two groups in all fields of self-image.

The results in the control and study groups clearly indicate that the students were at the same level at the beginning but due to the effect of differentiated development, a significant difference can be observed in all scales between the two groups by the end of 8th grade.

The positive development of self-image plays a crucial role in the development of personality. Due to the continuous feedback from the environment, self -image is constantly developing. With regard to the development of self -image, starting school is a decisive event. On one hand, the tasks of the child change, the role of their peers becomes stronger, on the other hand, school successes and failures also form the different fields of self-image. In the analysis of the study, it may be observed how the self-image of the control and study group developed during the study of four years.

When taking the fields of self-image into account, a positive development could be observed in many fields. However, a considerably significant difference could be detected in the fields of subject and social self- image.

In the case of body image, a bigger difference could be observed between the results of the control and study group after the 4th measurement, that is, a steep rise in the case of the study group whereas a decrease in the graph of the control group could be detected.

Between the 1st and the 4th measurement, similar results were observed with both groups.

In our experience, there is a minimal difference between the two groups after the 2nd measurement on the graph of general self-image, that is, the graph slightly rises in the case of the study group then - similarly to the former graph – the difference is bigger at the 4th measurement.

As we mentioned before, in the field of subject self-image, there is a significant difference in the analysis of the results of the two groups.

When taking the results of social self-image into account, it could be observed that there is a significant difference between the two groups. In this case, the difference can be detected after the 4th measurement as well.

The last field of the questionnaire indicates the change of the general self-image during the study of four years. When taking the results into account, it can be observed that when comparing the two groups, the biggest difference may mostly be detected at the 4th measurement.

The development of self-image is a very complicated process. The development of a positive self-image helps the adaptation of the student to school requirements, to their peers and their self-actualization.

### **The development of attitude towards community**

Between the control and study group, there is a significant difference ( $p < 0,05$ ) at the 4th measurement in the fields of attitude towards the broader community, the role of the local government, the presence or lack of class cohesion. There is a significant difference ( $p < 0,05$ ) at the 3rd and 4th measurement in the field of function of communication between the control and study group. In the social relationships within the class, there is a significant difference ( $p < 0,05$ ) at the 3rd and 4th and 5th measurement between the control and study group. In communal activity, there is a significant difference ( $p < 0,05$ ) at the 1st, 2nd, 3rd and 4th measurement between the control and study group.

The results in the control and study groups clearly indicate that the students were at the same level at the beginning but due to the effect of differentiated development, a significant difference can be observed in the attitude towards community between the two groups by the end of 8th grade.

In our experience, the relationship towards the broader community, the development of common activities and class cohesion indicated a significant difference between the control and the study group.

In the case of the development of role of local government and the function of communication, the age characteristic and the attitude of the teachers who control the work of student council is more decisive.

### **The study of the development of anxiety**

There is a no significant difference ( $p > 0,05$ ) in the development of anxiety between the control and study group during the study of four years.

The results in the control and study groups clearly indicate that the students were at the same level at the beginning, no significant difference could be observed.

The degree of anxiety may be determined by environmental and hereditary factors and parents, teachers and peers play a crucial role in it. The results indicate that no significant difference develops in the results of the control and study group.

#### **4. Summary**

The objective of our research is to explore to what extent the application of continuous differentiated development with students aged 10-14 affects certain personality variables.

The significance of our research lies in the fact that although differentiated development is widely discussed in the technical literature, all of these studies examine the effect of differentiated development on school performance as a method of learning organization not paying attention to the psychological aspects, particularly not to whether or not differentiated development has a significant effect on personality. With our study, we would like to explore the latter.

During the course of four years from 5th grade to 8th grade in primary school, within the framework of a longitudinal study, our research sought to verify our hypothesis - with the application of control and study groups – that the development of certain personality variables in the case of students who consistently participated in differentiated development (study group) is more significant than those of students who participated in the aforementioned development only occasionally or incidentally (control group).

During the course of four years from 5th grade to 8th grade in primary school, the teachers of the – by us - randomly selected experimental schools agreed to plan their lessons with the utilization of previously developed lesson plans in three subjects.

Our results indicate that differentiated development has an effect on the development of the personality variables of the students. However, it is important to note that age characteristics influence the development of the different fields of personality.

#### **5. Conclusions for researchers, developers, teachers and education**

The objective of our study was to find out how personality dimensions might change due to the effect of planned, differentiated development during the four years of study. The fields of self-image, self-assessment of students and the attitudes towards the community were measured in the indicated period of time. Besides the above, we monitored the change in the

level of anxiety. Our hypotheses were analysed with statistical methods after the end of the study.

In the four years, continuous measurements, assessments and analyses were carried out in thirteen schools altogether. Even before the commencement of our research we were aware that our field of study had been relatively less researched before.

As a conclusion of this study it can be stated that the conscious, planned and well-developed differentiation resulted in a positive change in some fields of self-assessment, self-image and attitude towards the community that in the control group. However, these are not all the fields that we assumed when our hypothesis was developed. It may be concluded that age characteristics in many cases ‘override’ that is, prevail irrespective of the fact whether or not students participated in differentiated development.

Despite all the above, differentiated development is worth applying in education as it - even to a small degree – demonstrably helps the development of the personality of students and its positive effect on school performance has not been questioned so far either.

#### **Publications that serve as a basis for this PhD thesis**

**Here come publications or certifiably accepted (by publisher) publications of the author concerning the topic of the thesis with indication of page numbers;**

**Here come other publications or certifiably accepted (by publisher) publications of the author with indication of page numbers;**



Registry number: DEENK/192/2019.PL  
Subject: PhD Publikációs Lista

Candidate: Nóra Kós  
Neptun ID: KXJMN4  
Doctoral School: Doctoral School of Human Sciences  
MTMT ID: 10024376

### List of publications related to the dissertation

#### Hungarian books (1)

1. **Kós, N.**, Lestyán, E., Hunya, T. T.: Kompetenciafejlesztő játékok az 1-4. évfolyam számára. 2. kiad., Apáczai K., Celldömölk, 101 p., 2011. ISBN: 9789634653219

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Wydziału Humanistycznego Uniwers., Siedlce, 185-199, 2013. ISBN: 9788393663514

#### Hungarian scientific articles in Hungarian journals (4)

3. **Kós, N.**, Tóth, L.: A differenciált oktatás hatására változó személyiségjellemzők: az önértékelés területeinek fejlődése felső tagozatos tanulóknál.  
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*Különleges Bánásmód. 1* (3), 21-42, 2015. EISSN: 2498-5368.  
DOI: <http://dx.doi.org/10.18458/KB.2015.3.21>





Foreign language scientific articles in international journals (1)

7. **Kós, N.:** Attitudes Towards the Self and Personality Development of Students' Relationship with the Community.  
*Partiumi Egy. Szle. Közlésre elfogadva*, 1-6, 2014. ISSN: 1582-9952.

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8. **Kós, N.:** Az énkép a differenciált oktatásban.  
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12. **Kós, N.:** Gyermekismereti módszerek, technikák a személyiségfejlesztésben.  
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13. **Kós, N.:** Személyiségjellemzők fejlesztésének lehetőségei.  
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DOI: <http://dx.doi.org/10.18458/KB.2017.3.7>

17. **Kós, N.:** A felső tagozatos tanulók énkép, önismeret és szorongás eredményeinek bemutatása.

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