Self-Concept Development in Inclusive Classroom Settings focusing on Children with and without Visual Impairment

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ABSTRACT

The encouragement of the development of a realistic self-concept of the children in their classes is an important challenge for school teachers. Children who know about their strengths and weaknesses can work on the competences, which need to be improved, more effectively. This contribution presents a study which focuses on the special time of first-grade when primary school children get to know their new learning environment. In that context a survey takes place in Germany and accompanies children with and without special needs in the field of vision which learn together in school.

Keywords: First-grade Students, Inclusive Education, Mathematical Competences, Self-concept, Triangulation, Visual Impairment

1. INTRODUCTION

The study accompanies first-grade students and their teachers looking at the development of the children's self-concepts concerning their mathematical competences. Looking at inclusive classes with children who have visual impairments, the aim is to find out whether there are differences in the self-concept development of the children with and without visual impairment and how teachers cope with the special needs of their students. The demand for inclusive classroom settings increases in Germany [1, 2]. As the German school system is characterized by streaming the process of creating more inclusive classroom settings is an aim which affects the whole system. Germany signed the UN Convention on the Rights of Persons with Disabilities and therefore needs to find ways of establishing effective school environments which see heterogeneity as a chance rather than as a difficulty [3]. At the moment two systems exist parallel – a huge system of special schools divided into different special needs (e.g. Hearing, Learning, Vision) on the one hand and on the other hand classes in regular schools in which children with and without special needs are being taught in one class together. It is a challenge for the teachers to cope with this situation getting into contact with inclusive education. Cooperation between regular school and special school teachers is required in order to plan and conduct lessons in which every student can enhance her respectively his competences as much as possible [4]. As the teachers who already work in schools for many years did not have such topics discussed during their education in university and school that much there is need of further education now. Momentarily the education is going through reforms so that new teachers are going to be better prepared to work in inclusive settings [5].

2. OBJECTIVES

This contribution presents the design development as well as first results of the study. The main research questions are, if there is a significant difference in the self-concept development of the students with and without visual impairment as well as if there is a positive effect of activities which give children a chance to think about their own strengths and competences who need to be improved because they are not as high as they could be concerning their self-concept. Therefore the teachers' perspective is being assessed in order to find out how they plan school lessons for heterogeneous student groups.

3. THEORETICAL FRAMEWORK

Self-concept

The multidimensional self-concept model of Shavelson, Hubner und Stanton [6] is used as a basis for the classification of self-concepts. Does an individual have a high self-concept it can forward security and confidence in the own performance. In the context of a research project called KILIA the self-concept has been identified to be particularly important for the performance development in mathematics when entering primary school [7]. A lot of students get used to their new learning environment in school without difficulty and they mostly overestimate their own school relevant competences [8]. According to disadvantageous or difficult learning conditions as a visual impairment could be a lower self-concept could be anticipated.

Mathematics in Primary School

The mathe 2000-project which has started in 1987 at the University of Dortmund is still having a huge impact on the teaching methods concerning mathematics in German primary schools. The focus lies on self-active learning and productive exercises in order to give the students the possibility to get an insight into the structure of math. Besides the development of a variety of learning materials for math lessons the research results are used to conceptualize further education programs for math teachers [9, 10]. In addition in the project KIRA different learning strategies of students are documented and analysed to make teachers aware of alternative ways of thinking and using math [11]. For the study it is of interest whereas teachers modify their teaching methods if there are children with visual impairment in their class and how this affects the whole learning group.

Diagnostics as Requirement for Inclusive Education

A medical diagnosis itself does not include far-reaching information about the functional vision of a child. As this is highly relevant for the school practice the following questions are being assessed in the survey:

1) Works/plays the child more with tactile or visual material?
2) Which distance chooses the child to the material?
3) Is the child able to identify characters?
4) Which enlargement is necessary so that the child can work efficiently?
5) How long can the child work with tactile or visual material?
6) Which conditions in the classroom must be created?
7) Are there changes in vision during time?

Thereby the aspects communication, orientation and movement, activities of everyday life as well as tasks in close range of the functional oriented classification system of Hyvärinen are being taken into account [12].

4. SAMPLE AND METHODS

As in Germany the educational system of each of the sixteen German counties varies one county has been chosen to be involved in the study. In the research relevant school year five inclusive first-grade classes had students with visual impairment among them in North-Rhine Westphalia. Research has taken place at the beginning, in the middle and at the end of first-grade by interviewing all ninety-four students of those five classes in order to find out how they rate their mathematical competences and their position in class. Furthermore the children attended on mathematical tests in order to gain data for comparison of their actual skills with their self-concepts. The competence tests used are part of the material which has been created in the context of the mentioned mathe 2000-project and therefore have been tested of their reliability [13]. Interviews with the teachers provided a basis for analysing the teaching methods they use and their overall strategies to meet the heterogeneity in their class. The manual for the interviews have been developed to meet the demands of the study. Researcher's observations of school lessons with the main focus on mathematics completed the design of the study. The teacher interviews have been analysed by using the 'qualitative analysis of content' of Mayring working with MAXQDA. The data of the students has been evaluated both qualitative and quantitative with MAXQDA as well as SPSS. Children with and without visual impairment who started with comparable competences and self-concepts have been grouped as tandems for a direct comparison of their development. The observations' materials enhance the interpretation of the collected data outcomes [14].

5. RESULTS

By using a longitudinal research design as well as a combination of quantitative and qualitative data interpretation techniques interesting results have been found concerning possibilities of fostering realistic self-concepts.

Students

The data shows that there is no significant difference in the self-concept development of children with and without visual impairment in the sample. This is an interesting finding as one could argue that as a result of labelling processes of having special needs in the field of vision children with visual impairment are likely to have a lower self-concept than their classmates. As the results do not prove this assumption one explanation could be that children with visual impairment receive feedback of their environment (parents, friends etc.) quite early during their development that they need to be careful in certain situations and aware of their abilities because of their restricted vision. This may lead them to a more reflected self. Children who experience this may be more aware of their own strengths and weaknesses which results in a realistic estimation of their mathematical competences. Another indication for this possible explanation is the fact that the self-concept of the children with visual impairment shows to be not over- or underestimated but realistic.

Teachers

Activities during school lessons which encourage children to rate their competences on their own can help to build a realistic self-concept as in classes in which such activities took place the childrens' self-concepts proved to be more realistic than the ones in the classes without this kind of practice. The teachers who included such practices in their lessons stated that it was important to them to support the students' competence to know their skills and therefore emphasized it.

6. CONCLUSIONS

Aspects of teaching methods and the children's view on their school experiences in an inclusive environment are of interest as children with visual impairment mostly have been taught in special schools in Germany but inclusive schooling will be the choice of the future as the German government claims [15]. Furthermore heterogeneity is found in every school class and therefore one of the challenges for teachers is to cope with the different needs of their students in order to provide helpful teaching surroundings. This work can function as a basis for further research in this field.

7. REFERENCES

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