

ATTENTION AND TOMATIS® METHOD FOR SUCCESS: RESULTS OF THE PROJECT MADE IN POLAND FROM 2010 TO 2013 (SUMMARY)

The project “*Attention! The way to success*” was carried out in Poland through the years 2010 to 2013. The principal aim of the project was to test whether including auditory stimulation into school curriculum would have beneficial effect on childrens’ further school achievements. The specific aims of the project were:

- To develop an innovative education program incorporating auditory stimulation into regular education schedule
- To increase education efficacy in children with special education needs

The project was co-funded from resources of the European Social Fund. The partners of the project were Young Digital Planet Company and the Institute of Physiology and Pathology of Hearing, Warsaw.

PROJECT DESIGN

62 schools from all over the country participated in the project. They were participants of the previous Tomatis® projects In Poland and already had equipment for Tomatis® program. The types of schools included special schools and regular schools with special/integration departments. In each school, a special class was formed to have auditory stimulation included in the education process through grades 1, 2 and 3. The number of children involved in the study varied at different stages of the project from 1111 to 1179 (the total number of participants was 1333). The methods of auditory stimulation used in the project were Tomatis® Method in the grades 1 and 3, and logorhythmics in grade 2.

The teachers received basic training on the Tomatis® Method. As mentioned before, the schools have already had some experience with Tomatis® Method due to participation in the previous Tomatis® projects in Poland. For the purpose of the project 7 pre-prepared programs were provided (lasting from 8 to 10 days) for different types of cases, 3 cycles of listening sessions were recommended. The teachers were taught how to select programs for different cases they could encounter. On the average, 198hrs of Tomatis® listening sessions over 2 year period, and 60 hours of logorhythmics within one year were required.

ASSESSMENT TOOLS

Short version of the listening test was performed in all children (whenever possible, depending on child's cooperation).

For the purpose of the study the key competences questionnaire was developed. It assessed the following areas:

- Learning skills (4 subscales: memory, attention, using the knowledge in practice, motivation and self-confidence)
- Language (native) skills (2 subscales: perception and expression of language, ability to listen)
- Musical skills (3 subscales: perception of music, ability to express oneself in movement, expression of music)
- Social skills (3 subscales: ability to work in a group, respecting the rules, expressing and understanding different points of view)

ASSESSMENT WAS PERFORMED AS FOLLOWS:

- Beginning and end of the 1st grade (listening test, key competences)
- End of the 2nd grade (key competences)
- Beginning and end of the 3rd grade (Listening test, key competences)

The children were classified according to additional problems to the group without additional disabilities and a group with disabilities (like genetic syndromes, ADHD, autism, cerebral palsy etc). 776 children were subjected to stimulation with Tomatis® program. The inclusion criterion for Tomatis® was abnormalities on the listening test. For the purpose of analysis, 4 groups emerged: children without disabilities who did not undergo Tomatis® sessions (number at different stages of the project ranging from 244 to 270), children without disabilities who underwent Tomatis® (number ranging from 398 to 419), children with disabilities who did not undergo Tomatis® Method (number at different stages ranging from 78 to 96) , and children with disabilities who underwent Tomatis® (number at different stages ranging from 304 to 335 children).

RESULTS

The results presented below refer to the 1st grade students, when the sole method of auditory stimulation was the Tomatis® Method. The results of 2nd and 3rd grade children are in the process of analysis.

Analysis of the listening test

The parameters of the listening test were subject to analysis and the results showed improvement in all parameters. The external auditory attention after auditory stimulation improved

- In the 1st zone (frequency band from 125 Hz to 750 Hz) in 70% cases
- In the 2nd one (frequency band from 1000Hz to 3000Hz) in 63% cases
- In the 3rd zone (frequencies above 3000Hz) in 63% cases

The inner auditory attention (bone curve) improved

- In the 1st zone (frequency band from 250 Hz Hz to 1000 Hz) in 73% cases
- In the 2nd one (frequency band from 1000Hz to 3000Hz) in 57% cases
- In the 3rd zone (above 3000Hz) in 40% cases

Selectivity for both right and left ear improved in 50% of cases. Localization of the sound source for the right and left ear improved in 69% and 68% cases, respectively.

Analysis of the key competences questionnaires

The aim of the key competences analysis was to assess whether listening stimulation had effect on children's performance in the fields of learning, social skills, music perception and production and skills in native language. The assessment whether the stimulation was effective was based on the observations of competence change in groups subjected and not subjected to the auditory stimulation. There were 4 groups to make comparison between, which were:

- Group 1 – children with disabilities who underwent a Tomatis® program
- Group 2 – children with disabilities who did not undergo Tomatis® program
- Group 3 - children without disabilities who underwent Tomatis® program
- Group 4 - children without disabilities who did not undergo Tomatis® program

LEARNING SKILLS

For the groups subjected to Tomatis® stimulation, the increase in learning skills was statistically significant, being 5,8% and 5% for children with disabilities and without disabilities, respectively. The increase in learning skills in the groups not subjected to Tomatis® was 3,3% for children with disabilities and 0% for children without disabilities. In the groups not subjected to the Tomatis® Method the increase in learning skills was not statistically significant.

SOCIAL SKILLS

The yearly increase in social skills in the group with disabilities subjected to Tomatis® training was 6,3% and was statistically significant, while in the analogous group not subjected to stimulation the increase in social skills was insignificant, being 1,5%. The same was observed for the groups without disabilities. In the group which had Tomatis® the increase in social skills was 5,3% (statistically significant) and for the group without stimulation it was 1,4% (nonsignificant).

LANGUAGE SKILLS

The yearly increase in social skills in the group with disabilities was 7,5% (statistically significant), and in the analogous group which did not undergo a Tomatis® program was 3,2% (nonsignificant). The numbers for the groups without disabilities were 5,7% in the Tomatis® group (statistically significant) and 2,5% for the group without stimulation (not significant statistically).

MUSICAL SKILLS

Similarly to the above results, in the groups subjected to the Tomatis® Method the increase in musical skills was higher than in the groups not subjected to stimulation. In the group with disabilities the increase in competence level was 10,3% and in the group without disabilities it was 8,6%. In the groups who did not receive stimulation, the competence increase was 6,7% for children with disabilities and 4,1% in children without disabilities. The increase in musical skills was higher in the Tomatis® groups, however it was not statistically significant for none of the four analyzed groups.

The increase in all measured competences was higher for the groups subjected to the stimulation with the use of Tomatis® Method. The comparison of improvement between the groups subjected and not subjected to stimulation showed that the difference between the groups was the most prominent and statistically significant in case of learning skills for both children with disabilities and without disabilities, and for social skills in case of children with disabilities. It means that after a Tomatis® program all children who received stimulation presented significantly higher increase in competences than the groups which did not receive stimulation. The same applied to the increase of social skills in the groups of children with disabilities. For the rest of the cases, the differences in competence increase between the groups were in favor of the Tomatis® groups, but the differences between the groups subjected and not subjected to the program were not statistically significant.

- Joanna Ratynska, PhD.

SUMMARY

The results of the study suggest strong positive effect of the auditory stimulation with the use of the Tomatis® Method on the increase of the competence level in children in the first school grades. The effect was the most prominent in case of learning skills and social skills. Results of the study suggest that Tomatis® Method could be beneficial in supporting and promoting development of children with and without special needs. The study shows also that auditory stimulation can become a part of a school curriculum.

RESOURCES

<http://www.uwaga.ydp.com.pl/> - official website of the project

“Raport z analizy związku pomiedzy stosowaniem Metody Tomatisa® a rozwojem kompetencji kluczowych” (The report on the relationship analysis between application of the Tomatis® Method and development of key competences) by prof. Roman Konarski, University of Gdansk.