

STIPPS

The Implementation of the Scientific Thinking Process in (Pre) Primary School Settings

**THE PROJECT WORKING MEETING
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PRE-SCHOOL EDUCATION

- 1.First level of education in Poland**
- 2.For children aged 3 to 6**
- 3.Not compulsory**
- 4.Administrated and financed by local governments**
- 5.Parents' payments cover meals, extra lessons and a child's attendance for more than 5 hours a day**

PRE-SCHOOL EDUCATION

- 6. THE MAIN GOAL: to support and stimulate the child's development, in the process of which the needs and possibilities of each child ought to be taken into account**
- 7. Education of a 6 year old child includes stimulating his/her general development and teaching primary reading skills and basic mathematics**

PRE-SCHOOL EDUCATION

1. CURRICULUM
2. Three sets of curricula (approved by the Minister of National Education)
3. Kindergartens and pre-school classes attached to primary schools are obliged to follow one of these curricula
4. Pre-primary teachers can write their own curricula always based on the national core curriculum

PRE-SCHOOL EDUCATION

AREAS OF ACTIVITIES

- Acquisition of knowledge and understanding of oneself and the world
- Acquisition of skills through activities
- Finding one's place in the peer group and community
- Construction of a system of values

PRE-SCHOOL EDUCATION

METHODS

- No official recommendations or guidelines
- A pre-primary school teacher has the right to choose their own

ASSESSMENT

- No formal principles for evaluating or monitoring
(the only exception – evaluation concerning health state and physical development of the child - connected with recruitment to primary school)

PRIMARY EDUCATION

1. Compulsory
2. For children aged 7 to 13 (6 years of age- "0 grade" – obliged to a year of preparation for primary education)
3. Two stages of 6-year primary school education
 - stage 1: grades 1 to 3 called integrated teaching
 - stage 2: grades 4 to 6
1. Free of charge for all pupils

PRIMARY EDUCATION

GENERAL OBJECTIVES:

- To develop in children the following abilities:
- Self-expression
- Reading and writing
- To solve arithmetic problems
- To use simple tools
- Habits of social life
- Cognitive abilities enabling mature understanding of the world

PRIMARY EDUCATION

GENERAL OBJECTIVES:

- Conscious motivation to prepare for undertaking tasks requiring systematic intellectual and physical effort
- Aesthetic and moral sensitivity of children and their creative abilities

PRIMARY EDUCATION

CURRICULUM

1. Core curriculum (must to be followed by each school)
2. Outline timetables (contains a list of subjects for teaching: Polish Language, History and Civics, Modern Foreign Language, Mathematics, Natural Science, Music, Art, Technology, Computer Science, Physical Education, Religion/Ethics)
3. Requirement standard

PRIMARY EDUCATION

ASSESSMENT

1. Descriptive assessment in grades 1-3
 2. Pupils are assessed separately in each subject (4-6)
 2. Evaluation depends entirely on the teacher
 4. An external standardised test upon the completion of the primary school
- TEACHERS (professional promotion grades)
1. trainee teacher
 2. contract teacher
 3. appointed teacher
 4. chartered teacher

State of Art of Scientific Thinking with Young Children in TTC in Lomza

1. Courses and workshops for kindergarten and school teachers
2. Courses have been aimed to prepare teachers to enable children to:
 - create ideas
 - define conceptions
 - solve problems
 - set their hierarchy of values
 - make decisions

State of Art of Scientific Thinking with Young Children in TTC in Lomza

3. The list of courses and workshops
 - Active methods in integrated teaching
 - "I observe, experience and express myself in the written form"
 - Work with a bright child
 - Games and plays developing cognitive thinking, memory and concentration
 - Inspiring creative speech methods

State of Art of Scientific Thinking with Young Children in TTC in Lomza

- The list of courses and workshops (2)
- How to express elements of European Education in integrated education
 - Ecological workshops
 - Using games and plays in maths education
 - Games and plays developing analysis and sight – hearing synthesis in kindergarten and primary schools (grades 1-3)
 - Project as a teaching method
 - Searching experience in ecological and natural education

OBJECTIVES AND EXPECTATIONS OF THE PROJECT:

1. **Creating a new programme (not existing in Poland as yet)**
2. **Working out scenarios of activities (based on the project)**
3. **Disseminating the results among educational staff**

Theoretical vision and model of scientific thinking

OBJECTIVES:

A pupil taking part in the Program is able to:

- 1. Observe and analyze certain phenomena both in the real world as well as in multimedia**
- 2. Look for information in different sources (albums, dictionaries, maps, the Internet...)**

Theoretical vision and model of scientific thinking

OBJECTIVES (2):

- 3. Handle things, schemas, ideas to search and solve possible problems**
- 4. Formulate and ask questions without being afraid of other people's reaction**
- 5. Collaborate in teams (of children and adults)**

IDEAS CONCERNING THE STIPPS PROJECT

- 1. "A child in the technical world"**
 - discovering scientific principles of technical devices
 - "through technology to science"
 - taking appliances to pieces and putting them together
 - tools, toys and various projects to explain principles of working with technical equipment

IDEAS CONCERNING THE STIPPS PROJECT

- 2. Educational films (e.g. simplified version of films on Discovery Channel)**
- 3. Science and technology competitions**
- 4. Discussion**
- 5. Experiments**
- 6. "The science environment", "The science school", "The science Kindergarten" (especially designed)**

IDEAS CONCERNING THE STIPPS PROJECT

1. Excursions to:
 - laboratories
 - factories
 - scientific institutions
2. Science Associations (clubs) in Kindergartens and schools

IDEAS CONCERNING THE STIPPS PROJECT

3. Inspiring a child to ask questions

- A child's questions (PROBLEM)



ANSWER ← DATABASE
r scientific explanation

- Creating the database of answers concerning scientific explanation but suitable for the child's intellectual level)
4. Using ICT (many possibilities)

CONCLUSIONS

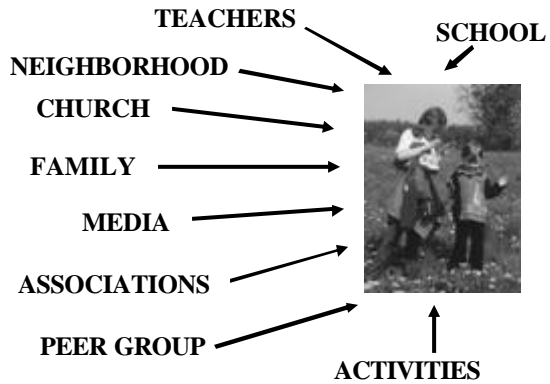
In order to achieve the objectives of the project it is worth considering the following:

1. New strategies involving:
 - development of thinking (from concrete thinking to abstract thinking)
 - educational process introducing the right model of thinking to pupils (children)

CONCLUSIONS

2. Creating "Scientific environment"
 - Science Associations (clubs)
 - excursions
 - competitions
3. Preparing pedagogical staff
 - qualifications
 - motivation

STIPPS – The implementation of the Scientific Thinking in (Pre) Primary Schools settings



STIPPS – The implementation of the Scientific Thinking in (Pre) Primary Schools settings

THE STYLE OF TEACHING RECOMMENDED FOR TEACHERS EXECUTING THE PROJECT

- 1.The teacher – The adviser and organizer
- 2.The teacher uses active and searching methods

- -experiments
- -interviews
- -meetings
- -games and educational plays

CREATING "SCIENTIFIC SITUATIONS"