

Home Economics and Technologies at an Elementary School: Problems and Solutions

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Abstract: The choice of the research theme and its topicality was detected by still existing inconsistency between the theory and practice in the learning process of Home Economics and Technologies. Research objective is to explore and analyze the problematic aspects of unity of theory and practice in the study subject of Home Economics and Technologies in the aspect of pupils' development at an elementary school in historical and contemporary perspective and to look for solutions. The research has used the theoretical methods – literature, document analysis and empirical methods – interviews, observation and practical experience analysis as well as mathematical processing of data. The study was carried out in Teacher Training and Educational Management Academy and in urban and rural elementary schools of Latvia. It is typical to have mental, physical, intellectual unity and harmonization of emotions in the learning process of study subject Home Economics and Technologies. That would facilitate elementary school pupils' development, formations of labour skills and acquisition of its values. The variation of the content of Home Economics and Technologies, pragmatism, creative activity, guarantee of free will and the opportunity to meet individuals' needs are the preconditions for pupil's development. It was clarified that the tasks of Home Economics and Technologies in the aspect of pupils' development are still not realized in practice. The recommended solution is the reformation of students' (prospective teachers) practice in schools. It would be desirable to include the student conference with exchange of experience and the exhibition of methodological materials prepared by students during the practice.

Keywords: the study of Home Economics and Technologies, elementary school, pupils' development.

Introduction

Pupils regarding their national, cultural and life organization values, prepare themselves for life. Over time, the perception of the significance of the study subject „Home Economics and Technologies” has changed. The question of importance of handicrafts in children's development has been highlighted. The latest study shows that there is an increase of the number of pupils and students (prospective teachers) who have not mastered the basic simplest handicraft skills in working with textiles, as well as basic skills necessary for life activities (Volāne, 2008a, Volāne, 2008b). A question about the relation of theory and practice is still topical.

Nowadays there are many publications, descriptions of scientific studies available, however, in the last 20 years; existing contradictions between theory and practice in the aspect of pupils' development have still not been resolved in the study of Home Economics and Technologies.

Firstly, the contradiction between the implementation opportunities of the teaching content at a modern elementary school and pupils' individual abilities and needs.

Secondly, the conflict between the methods used in the training process, a uniformity of work and diversity importance emphasized in theory.

Thirdly, there is the contradiction between the awareness of learning tasks of Home Economics and Technologies (educational, developing, instructional) and their implementation into practice.

Aim of the Study

To explore and analyze the problematic aspects of unity of theory and practice in the learning of Home Economics and Technologies in the pupils' development aspect at an elementary school in historical and contemporary perspective and to look for solutions.

Methodology

The study of the subject “Home Economics and Technologies” has changed as a result of various school reformations. The name of the subject has been changed – handicrafts, crafts, housekeeping, household study, housekeeping and handicrafts and finally home economics and technologies. With *the technology* the author understands the acquisition of different skills of handicraft technologies in the learning process. With *the study content of Home Economics and Technologies* the author understands the scope of knowledge, methods and attitudes, by acquiring which the pupils develop their intellectual, emotional will power, and improve labour skills and habits. Consequently, in this study the author are going to use the name of this subject in accordance with historical documents.

The theoretical methods – literature, document analysis and empirical methods – interviews, observation and practical experience analysis as well as mathematical processing of data were used during the research.

The study was carried out in Teacher Training and Educational Management Academy and in urban and rural elementary schools of Latvia.

Results and discussion

K.Cīrulis had a special role in the creation of the handicraft training study system in Russia and Latvia, who created a handicraft training system, with an emphasis on handicrafts, its tasks and the contents of the main learning principles that are still topical today.

K.Cīrulis's practical activity is also important, the aim of which is the implementation of his own handicraft teaching system in schools, as a result, there were the first bigger teacher preparation courses held in Riga in 1888, 1889, 1890, which were led by K.Cīrulis himself. The major audience as noted by E.Pētersons, were Latvian and Estonian teachers (Pētersons, 1931, 89).

K.Cīrulis emphasizes the idea that children have to be prepared for life by creating their aesthetic tastes, stimulating the imagination. Possibly, therefore he recommends that the handicraft training content should not be limited by knitting, sewing, embroidery and patching, but it should also include other types of work such as washing, ironing and lessons in the kitchen, in the garden and the vegetable garden (Цируль, 1894, 166).

In the development of the model of a handicrafts teacher, K.Cīrulis's cognitions are important – that the handicrafts teachers have to feel the urge to work, feel the duty to nurture love to work, to be reflective and remember that handicrafts are a means to reach the goal (for a personal development) (Цируль, 1894, 189).

The author's opinion is that the handicraft teaching, its aims and principles at the end of the 19th century are understood and implemented in different ways. The situation is not clearly visible because the execution of handicraft training plan and syllabus depends on the local conditions and the teacher who implements them. And yet the handicraft training tasks are associated mainly with practical action, practical product fabrication and preparation of pupils for life and the acquisition of maintaining order.

There is an essential question - why the handicrafts training system developed by K.Cīrulis was not implemented into practice. It is worth considering E.Pēterson's cognition that the first stage of the labour school in Latvia could not develop because its beginnings, with all the roots were destroyed by the russification era (Pētersons, 1931, 90). J. Anspaks notes that K.Cīrulis, like Ž.Ž.Ruso, dreams of free people's upbringing in a free society, where work will be each person's obligation, however, he does not find the way out of such a condition, because he does not understand the laws of society development, without lifting up to the scientific revelation of contradictions between mental and physical work (Anspaks, 1975, 48).

In 1920-1930s there are many theoretical insights on the importance of handicrafts in children's development. Several scientists-like J.Students, K.Dēķens, believe that the handicrafts satisfy the children's need to act. For the youngest school-age, according to J.Students, it is characteristic to have internal unrest, physical energy surplus, which can be eliminated by involving students into practical activity (Students, 1935). K. Dēķens, in his turn, indicates that the arm muscle finesse also promotes

brain development, develops the vision, touch, memory - especially in younger classes. The stuttering is treated by developing the efficiency of the right hand. K. Dēķens claimed that the right hand movements and speech centres are situated in the left hemisphere of the brain. By developing one of them, the other develops as well (Dēķens, 1919, 135).

Nowadays, there is an important K.Dēķens's cognition that it is necessary to cultivate work enjoyment, work initiative and confidence in pupils' own abilities. K. Dēķens's opinion that the teacher's ability to recognize each pupil's ability, to individualize the learning tasks, ensures the pupil's confidence in his forces. As soon as he experiences his ability, then his self-consciousness begins to grow as well as his drive to work (Dēķens, 1919, 114-115).

In this respect, it is important to see the pedagogical and methodological basics of composition worked out by M. and R.Bīlmanis, which expresses the idea that the composition up to the age of 13 and 14 is considered as a learning aid in relation to all subjects and not as an independent subject. M. and R.Bīlmanis emphasize that composition in the first school years is considered as a toy that promotes the child's imagination and ability development (Bīlmanis, 1920,7). The scientists include the pedagogical cognitions into methodic recommendations for teachers:

- composition is one of the easiest technical work processes, however, it includes links to extensive brain centers' and by basing on the tactile sensation of children provides them with the most impressions,
- composition work in accordance with the child's age develops and multiplies his tactile sensation and arm musculature; by including in itself creative process elements, composition expresses and develops the child's sense of beauty and creative inclinations (Bīlmanis, 1920, 8-12).

In the middle of 1930s the curriculum contains the same place for practical work as for other subjects. As it is emphasized by "The Handicraft Curriculum for Folk High Schools", the teachers of this subject must be sufficiently prepared because there is an entirely new suggestion in handicraft teaching - the child has to familiarize himself with the objects, to disclose the object properties, he must come to the conclusion, to judge, to find the truth. Only the self-found truth is real "(Pamatskolu programma..., 1935, 11). It is to say that nowadays this topicality is as important as the existing offer in the folk handicraft curriculum for students to work in groups, as well as the recommendation to organize excursions in order to collect the materials (reed, wicker, straw, roots, branches, etc.) which are later used for preparation of various products (Tautskolu rokdarbu..., 1925, 20). In practice, however, at schools in 1925 physical work and handicraft lessons are considered to be an unnecessary subject that can be taught or even avoided by finding such excuses as shortage of funding, premises and other deficiencies.

In its turn, in theory later pedagogical writings also reveal and expand the role of the handicraft in pupils' development. A great benefit in the development of handicrafts study is a pedagogical justification by R.Zeidels that handicrafts and related movements, senses are not the only source of knowledge, but there is a foundation for harmonious education and training. He explains harmonious education as education that corresponds to human nature and, in particular, to the physical, mental, social and moral, where the quality and not quantity is important (Zeidels, 1926, 8).

Many of the scientists' thoughts proved their importance over the years, they are still relevant today. One of those is the assertion that the handicraft study is training of the future and method of mentoring, and the only one that is able to meet all the requirements of harmonious upbringing (Zeidels, 1926, 12).

Like K.Dēķens, also R.Zeidels recognizes creative work. They asserts that in creative activities children have a chance to show their abilities and it is important for them to gain assessment for themselves and their work. According to the author, a proper assessment can be provided only by the person who has created something by himself. R.Zeidels recognizes that handicrafts is an experimental study, it is a challenge to the theory of some theoretical study that provides with certain foundations and interest (Zeidels, 1926, 18-26).

Although in 1920s – 1940s theoretical basics of handicraft study in the children's development is a new twist in the handicraft study, however, according to J.Greste, both theory and school go their own ways (Greste, 1990, 125).

Nowadays, integrated teaching that was started in 1920s – 1930s regains its topicality. I. Kjaiss admits if subjects with appropriate learning content follow one another in quick pace with a 45-minute interval, then this style does not leave space for interests even in a genius head (Кяйс, 1991). Currently the situation is similar because as a result of the reformation of the teaching content of Home Economics and Technologies and its implementation the reduced number of lessons from 2 lessons to 1 lesson per week reduces the pupils' development *opportunities on the half*, yet 25% from this time has to be devoted to theoretical learning. It is specified by the words – understands, knows, is familiar with, sees, differentiates, understands, realizes, recognizes feels (Noteikumi par valsts..., 2013).

The cognition already expressed by L. Taivāns that it is necessary to apply the learned success to real life conditions (Taivāns, 1935, 62-66) corresponds to one of the didactic principles in National education curriculum that pupils learn better when the learning process is based on the pupil's practical life experience, i.e. emphasizing learning based on practice (Valsts pamatizglītības..., 1998, 9). Consequently, the integrated curriculum is one of the options to bind the theory to practice.

The study content of Home Economics and Technologies is also included in the integrated training. Modern subject aims and objectives that are focused on the pupils' harmonious development, work skills creation and their using opportunities are topical both in the traditional lessons system and in the integrated training.

Thinking about the theory of the study of Home Economics and Technologies being realized in practice in the aspect of pupils' development, it is necessary to adhere to the principle of pragmatism, which gives pupils the opportunity to be aware of the knowledge gained, the necessity of skills and their usability in real life situations, in the processes of exploration of the surrounding world, respecting the multiformity of the content – the unity of educational, developing and instructional functions. Choosing a content personalization and differentiation according to the principle of pragmatism it is necessary to emphasize the national, local and regional educational content components, as well as to ensure the systematic approach, the inclusion of the principle of free choice into the created integrated teaching content which is being implemented into the learning process at Riga Teacher Training and Educational Management Academy. Throughout the process of studies and learning it is beneficial learning environment that encourages students'/pupils' creative activity, for their own joy, while developing spirituality, respecting the balance of spiritual and physical strength. Clearly, the most important aspect in the Home Economics and Technologies learning process for students, prospective teachers are pedagogical practices in elementary schools, in which students gain experience for the implementation of the theory in practice, especially thinking in terms of the pupils' development.

In order to understand study and analyze the problematic aspects of the study of Home Economics and Technologies in terms of the pupils' development, the research was conducted in conjunction with the Riga Teacher Training and Educational Management Academy including the 4th year full and part-time prospective teachers in forms 3 of the elementary school. In total, 927 results of pupils' activities were analyzed at the lessons of Home Economics and Technologies in urban and rural schools.

The author chose some evaluation criteria for the implementation of theoretical approaches of the studies of Home Economics and Technologies to their assessment in practice, for which there are developed the indicators corresponding to a theory (Table 1).

Teachers' skills to realize the multiformity of the content were found out within the progress of the research, i.e., the unity of developing, educational and instructional functions; the-author analyzed the objectives and tasks formulated by teachers. The author concludes that here is a significant difference between teachers-practitioners and students-trainees. According to students, it is the most complicated thing in the whole training process to formulate the objectives and tasks in terms of pupils' development. In practice, it is observed that teachers-practitioners mostly associate their objectives

with implementation of a definite training content, but the learning process is organized in conjunction with the educative aspect, it is harder to find tasks in connection with the pupils' development for those pupils who are gifted, especially in urban schools in those classes where the number of pupils is 30 and more.

Table 1

Theoretical cognitions indicators of the study of Home Economics and Technologies

No	Theoretical cognitions within the aspect of pupils' development	Indicators
1.	Selection of training tasks	• product with a practical application, pupils work with enthusiasm because they experience interest, need, • pupils fulfill the tasks according to the teacher's requirements without enthusiasm, because there is no practical application for the tasks, they are uniform and long-lasting • pupils perform the task in a bored manner because the tasks do not correspond to the interests of the pupils', their needs.
2.	Pupils' ability to cooperate by working in a group	• pupils negotiate regarding the allocation of responsibilities, carry out the duties and evaluate the accomplished result, • pupils agree on the allocation of responsibilities, but not all of the pupils get involved in the work process, • pupils are not able to split duties, the activity is chaotic, there are pupils who do not participate in the process of work.
3.	Pupils' ability to work independently according to the work description.	• are able to perform tasks independently • help is needed for the fulfillment of the tasks • are incapable of performing tasks autonomously.

The situation is different with students-trainees, who have mastered the skills to articulate the objectives, separately highlighting educational, developing and instructional functions, but its realization, in turn, causes problems, but it is a matter of experience and practice. Among the teachers involved in the research there were also the teachers who had graduated from Riga Pedagogical School No.1 or a Teachers' Institute. They recognize that a pedagogical practice has been the most important thing throughout the learning process, which consisted of several stages and conditions:

- practice runs on a regular basis, i.e., one day a week, according to a specific training plan,
- during the week prior to the day of practice the lesson plan (synopsis, methodical handouts) has to be coordinated with a teacher and a practice coordinator-methodologist of a pedagogical school,
- a student runs a handicrafts lesson in the presence of a teacher, pedagogical school practice coordinator-methodologist and ten students (the rest of the course run other lessons in the presence of other methodologist),
- after the conducted lesson there is a students' introspection, a teacher's, methodologist's and students' analysis,
- at the conclusion of practice one day is the day of a seminar with an exhibition of the methodological materials developed by students and public speaking, sharing experience.

It is to admit that this would be a successful experience, which should be introduced into the progress of a modern pedagogical practice, because experience has shown that students' professionalism increases significantly if the practice is guided by a professional teacher, methodologist.

During the research the author found out form 3 pupils' ability to work independently according to the work description. Results were evaluated according to selected criteria (Figure 1):

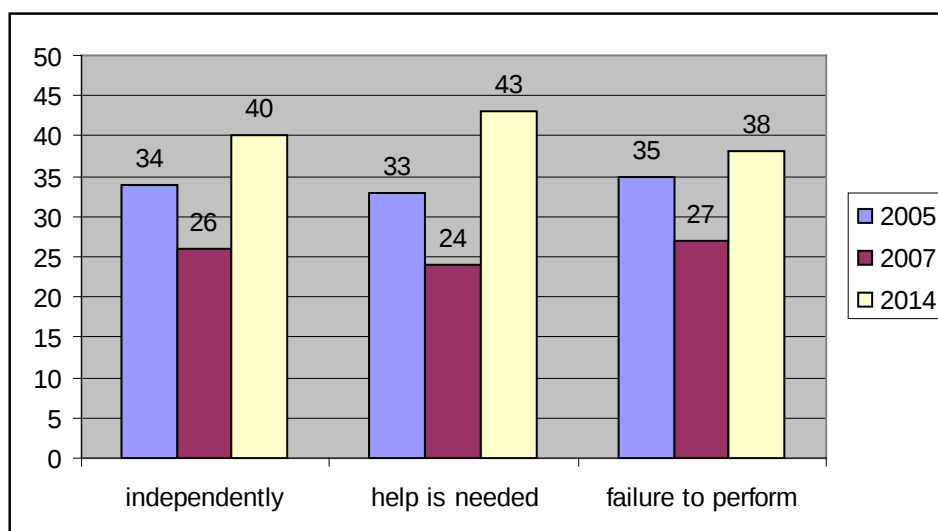


Figure 1. Pupils' ability to work independently according to work description:

The research compared pupils' skills to work according to the work description for several years (Volāne, 2008b). The number of students who have mastered the skills to work independently has risen a little at 35% (it was 34% in 2005; it was 33% in 2007). The number of students who need help has also increased — 27%. It is nice that the number of pupils who cannot cope with the task by themselves has decreased - 38% (40% in 2005; 43 % in 2007). However, the author has noticed that there are teachers who often carry out the task instead of a pupil, get the pupils accustomed to the idea that the teacher will help. As a result, pupils even do not dare to do the work themselves, because they wait for the teacher's approval.

It should be noted that the situation may not be unequivocal as the pupils' skills and work quality are promoted by a teacher's proficiency, a skill to get pupils interested into the training process. It was observed that the pupils are much more independent in their actions in any situation in those forms where teachers provide students with the ability to work independently in a *variety of ways* (according to the description, work sheets, technical drawing, and orally formulated task). The author concludes that the pupils are more independent if the teacher includes such forms of work into the training process which allow students to judge, perform and analyze by themselves, pupils are much more active and independent than in cases when they only reproduce the teacher's activity, regardless the fact whether the teacher works in an integrated manner or traditionally. The survey shows that teachers more often use conversations and frontal work as work organization forms. Despite the diverse content of Home Economics and Technologies and its different nature, the pupils' actions are based on the teacher's explanation. Teachers prefer this type of activity because it is easier to assess the pupils' individual achievements.

The situation is more complicated in regard to work organization that is connected with acquisition of pupils' cooperation skills. Teachers recognize that for pupils when doing group work it is easier to observe and evaluate pupils' cooperation, the ability to negotiate. In their turn, the pupils recognize that it is much harder to work in a group than individually because everyone wants to make the most interesting work, to achieve results more quickly, hence without hearing other pupils' thoughts. There are students who say they do not like the existing noise in the classroom while completing group work. It is to admit that this situation is observable in integrated classes led by students, if they have not made an arrangement with the pupils regarding evaluation criteria, one of which is a skill to talk softly. After the discussions, pupils also concede that it is easier to do the pair work.

The author's opinion is that the content of 'Home Economics and Technologies' over the past nine years has been more oriented to learning theory in elementary schools, which is in contradiction with the cognitions of the authors analyzed above. There is also a contradiction between the didactic principles of learning – the unity of theory and practice. For example, to meet the essential requirements for form 3 – *they know how to characterize the quality of food items according to their*

external features, to cook simple dishes without the use of heat treatment; they can lay the table for an easy daily meal, deal with cutlery, behave well while eating – observing all the necessary safety and hygiene requirements, is impossible due to the decoration of a classroom, materially-technical equipment in elementary schools (Volāne, 2008a). After consultations with the teachers it was found out that none of the elementary handicrafts lessons take place in a special classroom of Home Economics, due to the fact that this change of rooms and classes is an overcomplicated process, besides teachers of Home Economics are not willing to let the elementary school pupils into their classroom which is suitable for pupils from form 5, and the number of girls is twice as little as the number of pupils from forms 1-4. The author has observed that in some of the elementary schools (pupils study there from forms 1-4) there is no classroom of Home Economics at all.

With respect to the choice of products according to the training content the results obtained are different. It depends on a number of reasons. One of them is the correspondence of the product to individual pupils' abilities, sometimes they are either too easy (28%), or too complex (15%). As a result, pupils lose interest. It is proven by the results of the questionnaire in form 3. 31% of pupils in urban schools recognize that the selected works are mainly paper works, and they do not generate interest, when working from form 1 already. Consequently, pupils' interests are not respected in development patterns, there is no guarantee that the development is ensured from the simplest to the most complex things. Many students lack the patience; they rush in order to obtain faster results. As a result, both the quality of work and the pupils' satisfaction with their work suffer. The results aggregated within the time period of several years show that quality of work during the lessons decreases with each year, while the number of superficial works increases. It is contributed by the limited time that is one lesson a week. It is harder for teachers to choose and offer handicrafts technology tasks corresponding to the boys' interests and needs (36%). It has been noticed that successfully selected tasks, which are interesting, with practical applications or using new handicraft techniques are important for students (21%).

Research has been carried out in different schools during students' integrated practice. In order to find out pupils' interest in acquiring the study content of Home Economics and Technologies while working in the integrated way or traditionally, a survey of teachers and pupils was conducted. The most common teachers' replies: "Pupils' wish to learn a new craft technique is determined by the elementary teacher's pedagogical experience and erudition. The most essential thing is the choice of tasks according to the pupils' interests, especially when thinking about the handicraft techniques corresponding to the boys, which is not always considered to be successful. Several teachers admit that the difficulty is caused by the types of handicraft, associated with a defectively developed finger muscles. As a result, pupils get tired, lose focus, their will diminishes.

In their turn, the pupils of form 3 explain that it is more interesting to learn in the integrated way, but more seriously at ordinary lessons. There were pupils who claimed that they would learn in the integrated way, as they could operate independently, and it was interesting. In this context, the teacher-student's evaluation: "I believe that not everything was always conducted perfectly, although I was sufficiently prepared. Also, pupils have to get used to this type of work. They cannot hide the excitement about the changes in the life of the school, but it is hard work for teachers. The only satisfaction is pupils' emotions." The author agrees thoughts expressed by pupils correspond to O.Svenne's cognition that teachers limit children's self-performance too much by putting them in roles of passive observers and it is not enough for the children's energetic body (Svenne, 1930, 77).

According to the observations, the study content of Home Economics and Technologies within the aspect of pupils' development (also in integrated training), cannot be implemented by all teachers. The main problems are caused by a teacher's habit to work traditionally, the insecurities when implementing new forms of work. J.Greste sharply criticized the training where practical work was acquired without leaving the desk. He declares that work shapes a person, just like a tree, spade, plane and clay (Greste, 1990, 128).

Whereas an integrated learning is a complex technique (as it was considered in Russia), combined training (according to E.Pētersons), life learning (according to L.Taivāns), where the study content of Home Economics and Technologies is included into the whole curriculum content, then there are more

opportunities for pupils to acquire the study content of Home Economics and Technologies than once a week within the limited time in which the pupil is hastened. It also undeniably promotes each pupil's harmonious development.

Conclusions

- The significance of the study subject "Home Economics and Technologies" has to be viewable in pupils' development.
- It is typical to have mental, physical, intellectual unity and harmonization of emotions in the learning process of study subject Home Economics and Technologies. That would contribute to elementary school pupils' development, creation of work skills and acquisition of its values.
- The study content of Home Economics and Technologies at the elementary school within the aspect of pupils' development has to be implemented in procedural approach as an integrated subject or as an independent discipline. The variation of the content of Home Economics and Technologies, pragmatism, creative activity, guarantee of free will and the opportunity to meet individuals' needs are the preconditions for pupil's development.
- During the research the author ascertained that learning tasks of Home Economics and Technologies in the aspect of pupils' development are still not realized in practice. The recommended solution is a reformation of organization of practices for students, prospective teachers, which could include conference with exchange of experience and the exhibition of methodological materials made by students during the practice.

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