

METHODOLOGY STRUCTURE FOR TRAINING TEACHERS OF HOME ECONOMICS AND TECHNOLOGIES

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Abstract: Education occupies an important place for future education, which covers the development of main skills, for example, analytical thinking, ability to work as a team, self-reliance, initiative combined with professional competence, methodological competence and personal competence. Home economics and technologies study subject includes both theory and practical side. Home economics and technology teacher is an ongoing student work organizer at school activities and also in out of school activities, that is why the very important role is given to the teacher's methodical training in theoretical, practical and organizational aspects. The aim of the article is to raise awareness and to pay special attention to the methodology of the Home economics and technology study subject training, about the regularities of the learning process, specific components of the technical and pedagogical elements to be used for Home economics and technology training. There are developed *Methodology Structure for Training Teachers of Home Economics and Technologies* and it is part of established study course *Teaching methodology of Home Economics* in e-studies environment *MOODLE* for training teachers of Home economics and technologies during 2011, which is tested during the practical work with students of study programs *Home environment and visual arts in education* and the *Home environment and informatics in education* students for full-time and part-time students.

Keywords: education, home economics and technology, methodology structure.

Introduction

Home Economics (HE) is a field of study and a profession, situated in the human sciences that draws from a range of disciplines to achieve optimal and sustainable living for individuals, families and communities. Its historical origins place Home Economics in the context of the home and household, and this is extended in the 21st century to include the wider living environments as we better understand that the capacities, choices and priorities of individuals and families impact at all levels, ranging from the household, to the local and also the global community. Home Economists are concerned with the empowerment and well-being of individuals, families and communities, and of facilitating the development of attributes for lifelong learning for paid, unpaid and voluntary work; and living situations. Home Economics professionals are advocates for individuals, families and communities (IFHE, 2011).

Home economics is described as an ‘interdisciplinary’ and a ‘multi-disciplinary’ profession, with the importance of families at the core of everything undertaken by professionals in the field. “Although it is multi-disciplinary, it does not teach a skill for the sake of that skill, it teaches for application, it teaches for informed decision making, it teaches evaluative and critical thinking skills, it empowers individuals no matter what their context.” (Pendergast, 2006)

In today’s mobile global society there is a need for a consistency of common language across recognised international frameworks of educational knowledge. The International Federation for Home Economics (IFHE) formalised an international understanding of home economics: “The study of household management for achieving the highest quality of life” (IFHE, 2004). IFHE advocates the need for home economists to teach vital and culturally integrated theory for human capacity building, and identifies the present challenges for home economists as sustaining a better quality of life and conveying life competencies. In addition, home economics must be seen in the context of ‘family studies’, and in a holistic context. The description is further expanded as:

- improvement of the quality of everyday life for individuals, families and households through the management of their resources,
- highlighting the impact of the social, economic and environmental impact on the management of everyday life of individuals, families and households, and

- expanding the understanding of the ecological view of the individuals, families and households in the larger environment (IFHE, 2004).

Nowadays much is discussed on the home economics, household curricula content learning in schools. Consequently with the Latvia Republic accession to the European Union public perceptions of home economics and technologies content and its need for today's school is changing. In many European countries home economics and technologies, household study subject decreases or disappears at all and the ancient handicrafts forms and ethnographic heritage is no longer considered as a priority. The traditional culture is still survived in Latvia as typical national feature and part of study content of home economics and technologies. Our task is to promote and maintain the traditional culture in nowadays school curricula and take care of the national traditional cultural wealth transfer to the future generations.

General education plays an important role in future education, which will cover development of the major skills, for example, analytical thinking, ability to work as a team, independence, self-initiative combined with professional competence, methodological competence and personal competence. Home economics and technology study subject includes both theory and practical side. Home economics and technology teacher is an ongoing student work organizer in both in school activities and in out of school activities. Teacher's work success is largely determined by her/his good background and readiness of theoretical and practical training and organizational skills.

The education establishments should encouraged students' interest to learn through student-centered approach in education, there should be wider use the information technologies in training several study subjects by organizing virtual environment. Also practical tasks should be integrated into students' education and regular practice should be organized in the labor market in close cooperation with employers (Dišlere, 2011, 32).

We have been using the term "didactics" to describe the "science or art of teaching". The concept is well-accounted for in the Dutch, German and French literature. It covers the whole range of activities - instructional design, teaching models, assessment practices, human development and curriculum development. However, because of the transmission mode of delivery linked to the science, many academics are now shifting towards "learning practices". (Fraser, 2000).

Concerning with the text above it is obvious why the very important role is given to the teacher's methodical readiness in training in theoretical, practical and organizational aspects.

The aim of the article is to raise awareness and to pay special attention to the training methodology of the Home economics and technology study subject, about the regularities of the learning process, specific components of the technical and pedagogical elements to be used for Home economics and technology training.

Materials and methods

The main focus of this paper is on the theoretical discussion of didactics and methodology of training home economics. The present paper contains bibliography analysis, observations and the analysis of practical experience. Based on the author's many years of wide work experience there are developed *Methodology Structure for Training Teachers of Home Economics and Technologies* and it is part of established study course *Teaching methodology of Home Economics* in e-studies environment *MOODLE* for training teachers of Home economics and technologies during study year 2010-2011, which is tested during the practical work with students of study programs *Home environment and visual arts in education* and the *Home environment and informatics in education* students for full-time and part-time students. Totally 24 students were involved in testing the e-study materials using Methodology Structure.

Results and discussion

Didactics is the teaching science which develops education and learning theory. Basic problems of didactics are discovering the regularities of the learning process, discovering the study content (curriculum), rising efficiency of teaching methods and organization.

Didactics is educational theory (sub-branch of pedagogy science), which examines the education and teaching theoretical foundations - universal legitimacy, objectives, methods, tools and results. It

covers theories of learning issues, develops planning basics of curriculum, teaching methods, organizational forms. (Lasmanis, 2011).

This article focuses on **e-learning** promotion. E-didactics is an e-learning theory, which examines the education and teaching theoretical foundations of the e-environment (the general law, goals, methods, tools and results). It covers theories of learning issues, develops the planning basis of curriculum, teaching methods, organizational forms. E-didactics based in Dž.Džui constructivist ideas. So the e-didactics is a science – the branch of human activity, whose aim is to gain knowledge of e-learning (e-learning and e-teaching). Acquisition of knowledge is the way information flows, which constitute the so-called information pyramid (Figure 1).

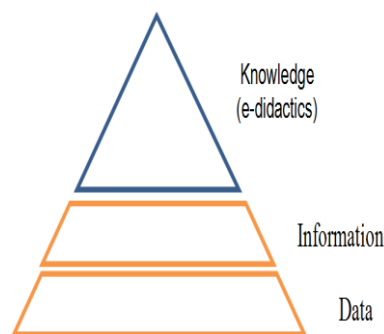


Figure 1. **Information Pyramid in e-didactics** (Lasmanis, 2011)

The Pyramid is based on data (they are empirically derived of pedagogical practice and in theory - from various sources). Mid-pyramid (next level) is information (it is obtained from data processing with relevant research methods (E-pētniecība, 2011)). On the top of the pyramid is the conclusion of knowledge (e-didactics). The information is gathered from the source data transfer process, on the result of using this information arises knowledge in certain circumstances. Systemic knowledge constitutes science. (Lasmanis, 2011).

Nowadays it is very important to use the e-study environment in the study process providing students with the available training materials, access to more resources. It is important that the learning process become more streamlined and more interesting for young people, more visible and with wider opportunities.

Study subject methodology (hereafter referred as "Methodology" in the text) is the branch of education science that studies the training patterns for a particular subject. The Methodology shall specify and apply training general principles, methods and teaching techniques for each study subject. It is very important needed to develop an effective teaching methods that suit the concrete subject-specific. Methodology Structure for Training Teachers of Home Economics and Technologies developed by author sees in Figure 3. (Dišlere, 2011).

Subject of Methodology is one or another scientific or artistic basis of targeting organized cognitive process (learning process). Misconception is the belief that it is enough to be a good specialist in some science field for being good to teach others. There are three interrelated concepts in the study process: a study subject; teacher activities – teaching and student activities - learning.

Tasks of Methodology is to find regularities for link of teaching and learning within a concrete study subject area, which includes:

- to determine the place of concrete study subject in all education system;
- historical research of teaching concrete study subject;
- to set up content of concrete study subject; to work out teaching programs and teaching books and teaching aids;
- to choose teaching methods and organizing forms;
- to substantiate necessary teaching equipment according to the study subject;
- to work out criteria for estimation both of pupil's work and teacher's work.

Teaching Methodology' of study subject *Home Economics and Technologies* space in the pedagogy science and their sub-branches structure see in Figure 2. (Dislere, 2011). The main task of Methodology is to find effective methods for managing the study process, including analysis of daily

teaching and historical experience and generalization, analysis of school and other educational institutions' documentation. Methodology develops methods for how to use various technical teaching aids: photography, films, video, audio, multimedia, etc. equipments.

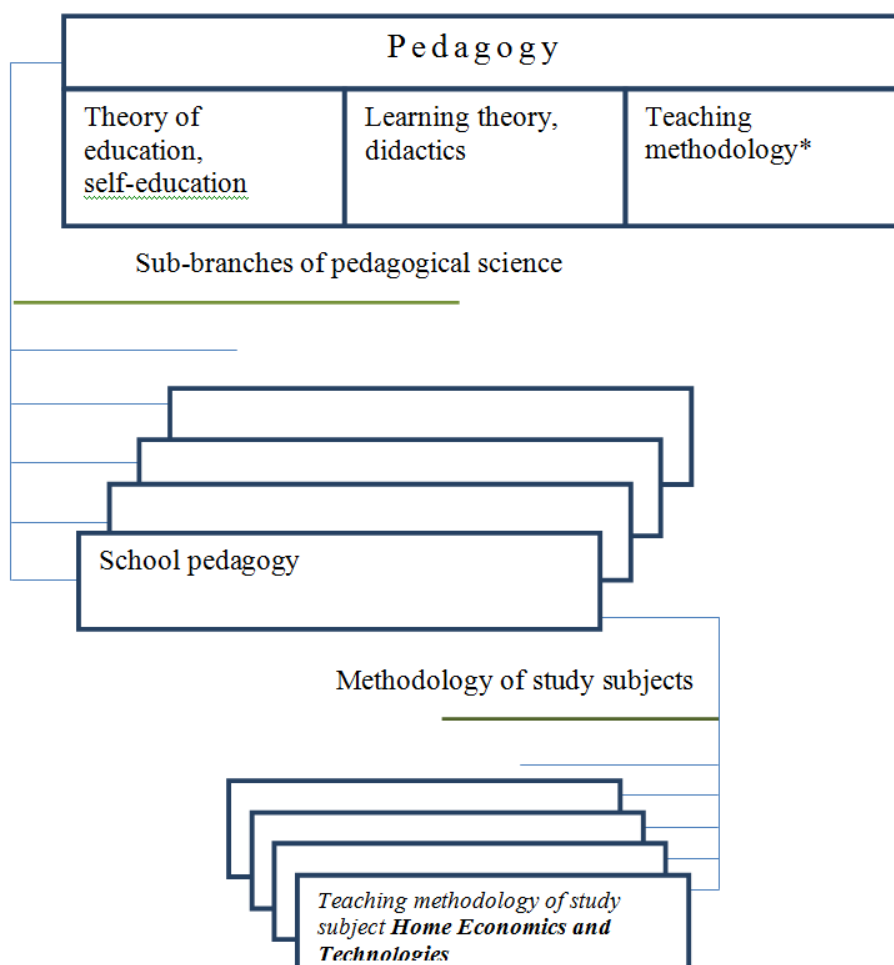


Figure 2. Teaching methodology' of study subject *Home Economics and Technologies* space in the pedagogy science and their sub-branches structure

**Methodology* - is a set of principles, methods and methodological techniques for targeted training and educational activities;

method - is a set of systematic methodological techniques for fulfilling the tasks of training and education;

methodological technique – is a way for specific solving the problem of training and education.

Components of study subject are: aim; tasks; content; methods; teaching aids; organization; results. The aim of training is knowledge. The aim of education is wisdom. The aim of education is a virtue. Training course is the path chosen to provide a curriculum for substance. It must be such as to enable the student to supplement their own knowledge after graduation without the teacher's assistance, it must always return to the student's self-learning. Teaching methods must be such as they combine a set of teaching techniques using which students reach their targets by the most direct way.

The content of study course worked out by author *Teaching Methodology' of study subject Home Economics and Technologies* covers the history of HE education; Topicality of HE; Teacher's of HE personality; The curriculum guidelines in HE and technologies form Ministry of Education; Teaching methods, planning and preparation the lessons for HE; the evaluation of student's learning results in HE, evaluation of HE textbooks; the technical resources of HE studies, the teaching aids, general safety rules in HE training workshops. *Learning outcomes* of the Methodology are the following. *Knowledge* acquisition and understanding of the theories of home economics (HE) and usage them in practice - learning regularities of HE and technology, of the subject of methodology and it's tasks, of

the challenges of learning components, of the general principles of methodology, of elements of teaching techniques, of history of HE education, about development trends of HE, of HE training workshop facilities provided. *Skills* to analyze and assess theories of methodology of HE and to choose the most appropriate for HE training process, the most appropriate teaching methods, textbooks, teaching classes, students study works of home economics. *Competence* - able to navigate the home economics and technology program development and assessment, able to draw up the thematic schedule, use of appropriate teaching methods, able to plan the lesson.

Developed *Methodology Structure for Training Teachers of Home Economics and Technologies* is the part of this study course and reflects the structure of the core elements of the methodology underlying the study process. Totally 24 students were involved in testing this study course which is placed in the e-study environment during study year 2010-2011 and during the practical work. 6 of them were part time students and 18 full time students. Full-time students were satisfied with the form of study using e-learning environment in addition to the classroom, and their success was much higher than part-time students. The group average evaluation mark for full-time students was 7.8 (in 10-point system), but the group average mark for part-time students was 6.5. By the authors opinion the situation should be upside-down, because e-studies is more foreseen for part time studies and it should be as important aid in the independent study process.

Basic principles of Methodology are the following: formulation of study aims and tasks; approachability of study tasks; to take into consideration steps of planning and organizing study work; to take into consideration general didactic principles; to take into consideration teaching strategy and strategy of choosing teaching aids; understanding of study matter; to make sense of understanding levels of pupil's.

Pedagogical technique is the set of knowledge, ability and skills which are needed for teacher to effectively put into practice the selected method both with individual students, with groups. Usability of pedagogical techniques is a key component of pedagogical mastership. (Pedagoģijas terminu skaidrojošā vārdnīca, 2000).

Elements of pedagogical techniques are teacher's skills to lead own and student's attention; sense of speed; control emotionality; culture of speech; psychological adaptation; exactingness; goodness; persuading skills; equitable evaluation skills; deference ect. HE and technologies teacher's pedagogical activities relate to development of youth physical, mental, moral and creative abilities. Teaching profession is characterized by the need for continuous improvement, enthusiasm and work of the creative nature, which is based on the art of forecasting of pedagogical communication and personal development. Special place in the education of HE and technologies teachers holds interest education, knowledge and skills in new technologies and the use of technical equipment, while maintaining the traditions and national culture.

To ensure the professional competence what is necessary for quality of work, Home Economics and Technology Teachers should manage the pedagogical techniques elements; to know the history of Home Economics Education, to be competent in Home Economics and Technology curricular and in training all themes: cooking, clothes processing, material handling, including textile, composition, woodworking and metalworking, electrical equipment and motor vehicle service, technical drawing; consumer science, housing, food, clothing, security, family finances, advertising, shopping, arts, the correct relationship between family members; to be familiar with modern household equipment and technology; to be able to arrange training workshops and organize training standards appropriate safe work. (Dišlere, 2011, 33-43).

Educators' central problem is to choose the right of the large amount of available material. As a result of knowledge explosion occurred in many areas the teacher should be able to choose the appropriate material. Teacher is not allowed to choose the material to good fortune. Educator should seriously evaluate learning material quality and relevance of a particular student age and the modern era. Practical guidance is related to the direct relevance of the material expedience. Training efforts are devoted to be estimated! 75% of time devoted HE and technologies lessons should be given to practical work.

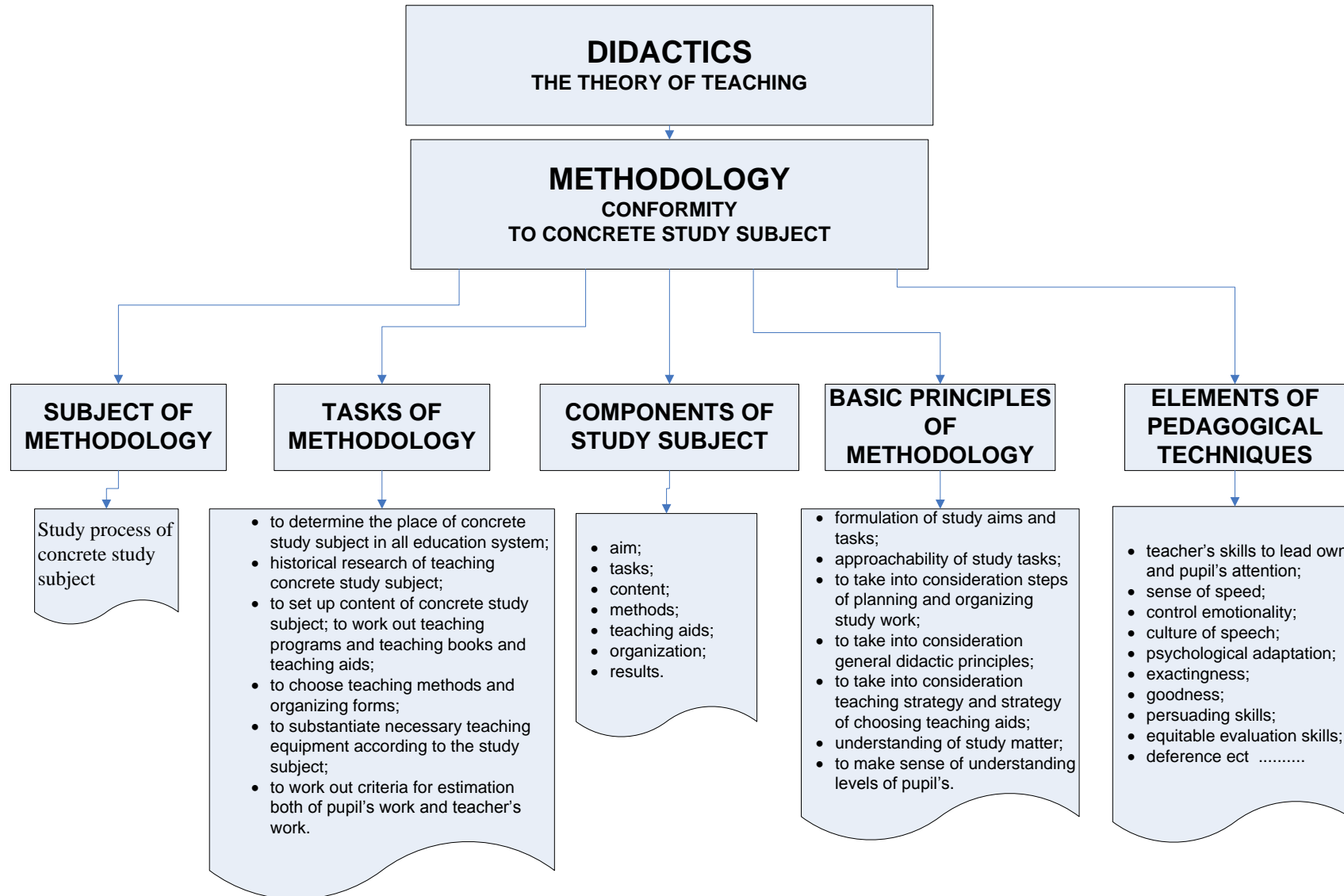


Figure 3. Methodology Structure for Training Teachers of *Home Economics and Technologies*

Mainspring of the learning process is the contradiction between the requirements of society, as it puts forward a new generation required for the training and the level of training, what is achieved in the study process. Sometimes it is observed that the actual level of students' acquiring study content is not in compliance to the level of result to be achieved. At an early stage of learning mainspring of the student's need is to satisfy their cognitive needs and inability to do it alone. The main prerequisite for teaching activities through which the student can activate the internal momentum and develop the student's intellectual forces is to determination of the degree of difficulty and hardship. (Albrehta, 2001).

Working as HE and technologies teacher in school, educators should realize and implement all components of the learning process respecting the basic principles of the methodology, using of all pedagogical techniques and to indicate the links with other study subjects for students understanding.

Home Economics content draws from multiple disciplines, synthesising these through interdisciplinary and transdisciplinary inquiry. This coalescing of disciplinary knowledge is essential because the phenomena and challenges of everyday life are not typically one-dimensional. The content (disciplinary bases) from which studies of Home Economics draw is dependent upon the context, but might include: food, nutrition and health; textiles and clothing; shelter and housing; consumerism and consumer science; household management; design and technology; food science and hospitality; human development and family studies; education and community services and much more (IFHE, 2011).

A review of the roots of transdisciplinary (TD) methodology in home economics will be followed by an explanation of methodology (especial empirical, interpretive, and critical). The profession's readiness to embrace the TD approach is very important. All members of the profession have an abiding obligation to generate new knowledge to enhance family well-being and quality of life; TD methodology is the most recent innovation for that task. When a tipping point is achieved within the profession, the TD methodology can spread widely and profoundly. (McGregor, 2011).

Home Economics can be clarified by four dimensions or areas of practice:

- as an *academic discipline* to educate new scholars, to conduct research and to create new knowledge and ways of thinking for professionals and for society;
- as an arena for everyday living in households, families and communities for developing human growth potential and human necessities or basic needs to be met;
- as a curriculum area that facilitates students to discover and further develop their own resources and capabilities to be used in their personal life, by directing their professional decisions and actions or preparing them for life;
- as a *societal arena to influence and develop policy* to advocate for individuals, families and communities to achieve empowerment and well-being, to utilize transformative practices, and to facilitate sustainable futures. (IFHE, 2011).

Critical science is the process used to examine a situation and develop strategies for improvement. This concept is evident in the mission statement for home economics. Today, HE professionals use critical science to improve practice in a variety of ways. Critical science is used to think beyond the immediate effects of a solution to question underlying beliefs, values, and assumptions. Engaging in intellectual discussions on various topics is valuable to recognize another point of view or unintended consequences, develop logical reasoning skills, and improve presentation skills. The following purpose statement still shows elements of critical science and ecosystems theory, "an integrative approach to the relationships among individuals, families, and communities and the environments in which they function" (Vincenti, Smith, 2004).

Conclusions

- Home economics provides learning contexts in selecting, preparing, cooking and serving food to ensure the empowerment of individuals and families to make informed choices in their lives in the most basic of ways. Home economics teaches the importance of critical and reflective

thinking about social issues towards enabling optimum health, focusing on how students can be empowered both individually and collectively.

- The education establishments should encouraged students' interest to learn through student-centered approach in education, there should be wider use the information technologies in training several study subjects by organizing virtual environment. Also practical tasks should be integrated into students' education and regular practice should be organized in the labor market in close cooperation with employers.
- Author's developed *Methodology Structure for Training Teachers of Home Economics and Technologies* is the part of established study course *Teaching methodology of Home Economics* which is accepted in e-studies environment as complementary aid for training teachers of Home economics and technologies. Students attitude were very positive and full-time students were more satisfied than part time students using it.
- Methodology is the theory that implements the proper selection of training material; effective teaching organization (methods, teaching aids, teacher's personality); to choose the most appropriate content (curriculum) taking into account learning objectives; students' knowledge and skills and for what purposes acquired material will be used.
- To be successful in four dimensions of practice (academic discipline, everyday living, curricula and development policy) means that the profession is constantly evolving, and there will always be new ways of performing the HE profession. This is an important characteristic of the profession, linking with the twenty-first century requirement for all people to be “expert novices”, that is, good at learning new things, given that society is constantly and rapidly changing with new and emergent issues and challenges.

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