

**CZECH UNIVERSITY OF AGRICULTURE IN PRAGUE**

**Department of Education**

and

**EUROPEAN NETWORK OF LEARNING AND TEACHING  
IN AGRICULTURE AND RURAL DEVELOPMENT**

with financial assistants

**CZECH MINISTRY OF AGRICULTURE  
Research, Education and Foundation Department**



**PROCEEDINGS  
of the International Seminar**

**THE ROLE OF EDUCATION IN  
THE PROCESS OF TRANSITION:  
From Consumer Society to  
Knowledge Society**

**May 2005**

**Prague, Malá Chuchle**

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Department of Education, 2005

ISBN 80-213-1384-6

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**Title:** Proceedings of the International Seminar  
THE ROLE OF EDUCATION IN THE PROCESS OF TRANSITION:  
FROM CONSUMER SOCIETY TO KNOWLEDGE SOCIETY

**Editors:** Czech University of Agriculture in Prague, Institute of Education and  
Communication

**Print:** Reprographic Studio of the Faculty of Agricultural Economics and  
Management CUA

**Printed:** 80 copies

**Number of pages:** 98

**Edition:** first, 2005

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ISBN 80-213-1384-6

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## **THE MAIN FACTORS INFLUENCING WORLD AGRICULTURAL EDUCATION**

**Tatiana Boldyreva, Olga Gushina**

### Abstract

Higher and vocational agricultural education always plays an important role in rural development and also in the increase of agricultural production but nevertheless modern life is very demanding towards agricultural establishments.

During the last years the political situation in the world has changed a lot but in many developing countries agricultural education was not able to adapt to rural reality. The existing methodology doesn't correspond to the aims of the development of these countries, to farmers' needs or to the whole market. This current situation has become more urgent after some economic crises. In many developing countries agricultural graduates were mainly employed in state owned sectors. But at present the situation has changed and it has become more difficult for agricultural specialists to find a job. Agricultural education, they got, was not oriented towards the demands of modern market economy. But nevertheless not only in the developing, but also in industrialized countries agricultural education is influenced by many objective factors that must be taken into consideration, they are:

1. increase of urban population and decrease of employers in agriculture
2. demographic problems
3. impetuosity of scientific-technical progress
4. changes of labour conditions
5. changes of women's role in the agrarian sector
6. ecological problems
7. necessity of a consulting system to adjust the knowledge of consultants to the needs of farmers.

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Higher and vocational agricultural education plays an important role in rural development, improving the efficiency of agricultural production and facilitating change. In a rapidly changing economic environment managers and technicians in agriculture now have multi-functional roles and the agricultural education system has had to adapt rapidly to changing demands.

In recent years the political situation in the world has changed a lot but in many developing countries agricultural education has not been able to adapt to rural reality. The existing methodology does not correspond to the aims of the development of these countries, to farmers' needs or to market requirements. This current situation has become more urgent after some economic crises. In many developing countries agricultural graduates were mainly employed in state owned sectors. It is now more difficult for agricultural specialists to find work because the agricultural education they received was not oriented towards the demands of modern market economy.

In both developing and industrialized countries agricultural education is influenced by many objective factors that must be taken into consideration, they are:

1. increase of urban population and fewer employment opportunities in agriculture
2. demographic problems
3. the impetus of scientific-technical progress

4. changes of labour conditions
5. changes of women's role in the agrarian sector
6. ecological problems
7. the need for an effective consulting and extension system

for food increases. By 2040 at the present rate of increase of world population the world agrarian system will be called upon to feed an extra 2 billion people. Matching supply to demand can be only solved by increasing labour productivity, mechanization and a simultaneous commitment to principles of sustainable agriculture. Currently there is large-scale migration of rural people to While the number of people engaged in agriculture decreases in the world, the growth in demand cities where living standards are higher and working conditions as a rule are easier.

As the state meets the requirements of urban people (taking into consideration their political importance) we see constant decrease of real profits per capita in the rural areas. Budget reductions influence not only farm profits but also the welfare of farming families particularly as funds for their children's education are reduced. Urban people tend not to be aware of the problems in rural areas. Very often educational programs adapted at the state level are based on knowledge of urban population but not rural. As for the rural population they are the main sources of agricultural knowledge because of peculiarities of their life style. It is necessary for agricultural educational institutions to play not only the role of "academy" but also to try to organize close connection between farmers and modern agronomy science.

Demographic forecasts estimate growth of population on the planet from 5,5 billion people at the beginning of the 21<sup>st</sup> century to 11-14 billion by the end of the century. The tendency is that generally the growth is taking place in the developing countries, where birth control measures are not very effective until women receive a secondary education and become wage earners.

Such rapid growth of the population creates a threat to food security in many countries and thus the requirements to agriculture are increasing. The growth of the population also causes subsequent environmental problems such as soil erosion, deforestation and loss of agricultural land to urbanization. That is why higher agricultural educational institutions should introduce into their curricula and programs such subjects that will promote training the specialists capable to foresee and evaluate the relationships, existing between food, population, environment and social and economic development of the country. The students must know how, for example, the growth of the population affect agriculture and natural resources, and acquire a habit of working with people.

The specialists trained as tutors in the field of agriculture, must be obliged to work effectively with the farmers. The latest achievements in the scientific and technological progress rush into the sphere of agriculture. To keep pace with this progress it is necessary to introduce into educational programs such subjects as: the technique of yield storage, biotechnology, management of agro – industrial enterprises. Due to change of economic policy in the countries of Eastern Europe agricultural educational institutions should train specialists who can work in private sector.

It is necessary to take into consideration problems of occupation and growth of unemployment among agricultural graduates to avoid these problems it is recommended to meet employers more often to determine skills needed and to develop relevant curricula.

At present women play a major role in the system of agricultural production in developing countries. In these countries women are the heads of 1/3 agricultural farms but more than two thirds of places in agricultural education go to men. The agricultural education system also needs to adapt to the specific needs of women farmers and the need to train more women agricultural specialists.

One of the most urgent problems is ecology and development of sustainable agriculture. The agricultural education system has a major role in the development of sustainable farming systems research, teaching and extension. Extension centres and consultant training in the field of agricultural can greatly facilitate the development of rural areas. According to the information of the International Organization of Farm Producers there is a great need for qualified specialists-consultants in many developing countries. Therefore it is necessary to reconsider the curriculum, taking into consideration the probable demand for specialists of Extension centres, highly - qualified teachers and also financial-material base. Students, trained as consultants, must have knowledge to react quickly to the change on the labour market and must also contribute to the development of the whole country.

The government plays a considerable role in governing higher educational agricultural institutions. As a rule the national policy determines the aims, organization, structure and resources of higher schools. It also determines cooperation and interaction between student training, research and information – extension centers. Thus, training specialists can be considered as one of the instruments of the country's agrarian policy.

Until recently in the countries with a centralized administration and a planned economy the State has set the task before higher school to train specialists for administrative work on state enterprises and in educational establishments. This close connection between the state and the higher school brought about lack of flexibility in the curriculum, in teaching methods and the selection of personnel. The budget of higher schools also suffered from this dependence on the state.

This led to the scarcity of funds for technical equipment, for business trips, for good payment to scientists, teachers, and technical personnel. In this situation colleges and universities could not earn money and get extra income for their work.

Educational establishments in Central and Eastern Europe during communist times were fully dependent on governmental directives and because of that our programs and teaching methods were not flexible and were free of initiatives. In these countries when we can witness the transition to the market economy agricultural universities are still in a difficult situation because of the decrease of the budget, changes of aims and objectives that our universities are facing today and also because of the lack of placements for specialists with diploma, for our graduates. In our opinion such universities should find their own way and make their own decision in agricultural development of their own country taking into consideration all these factors.

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## **NEW DEMANDS ON COMPETENCIES OF FARMERS AND THEIR TEACHING STAFF**

**Manfred Bräuer**

### Abstract

On the way to Knowledge Society there are changing demands on professional competence of farmers and gardeners. More and more it becomes necessary to use varied information for managing professional assignments. Such information you find in electronic form more and more. For procurement, assessment, selection and presentation of these information farmers need especially competencies in using of methods and media, particularly the ability in dealing with modern media. This competence becomes important more and more within the scope of lifelong learning. Therefore one of the very important assignments of vocational training is to develop subject related methodical competence which helps to manage selfsteered learning.

Teachers must be prepared for this assignment especially in their didactical education. Demands on their didactical competence are increasing. Teachers get a new role. They need the competence to use the new media and their didactical integration into subject related lessons. They have to be able to develop modern teaching and learning arrangements by using new media, especially computer. As consequence of it process of teaching and learning is changing at vocational schools. By using of new media student's action-oriented process of selfsteered learning can be supported and put into the centre of didactical reflection.

At the Humboldt-University was developed a four steps program for teacher training students to increase their media-competence. Within their didactical education students learn step by step how to use modern media for realization of subject related lessons.

### Key words

Collect, evaluate and choose technical information, use of modern media, lifelong learning, media competency, selfsteered learning, four-steps program

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## **1. New requirements for vocational decision-making and responsibility of farmers and gardeners**

Changing demands of vocational decision-making and responsibility of farmers and gardeners arise on the path to the information and knowledge society.

Solving vocational problems and accomplishing actions in a quality-related fashion are bound increasingly to the demand of utilizing versatile information for that purpose; that is to say, to collect, evaluate and choose it independently. Increasingly technical information is provided electronically, e.g. via the Internet, data base systems, CD-ROMs or technical-specific software. Companies present their catalogues in the World-Wide-Web and offer their customers the possibility of online ordering or provide their product catalogues as a CD-ROM.

Data offered electronically are e.g. (cp. Bräuer /1/):

- current crop data from the field
- current stand, performance and feeding data of a herd
- cultivation indices, cultivation planner

- evaluation programs of domestic animal husbandry systems
- online-information system in the DAINet
- price- and weather information
- fertilization and plant protection recommendations
- bidding and tenders
- information pool for products and services
- customer service
- online-ordering.

Farmers and gardeners have to be able to use such electronic data available e.g. for cultivation planning and performing or customer service. Therefore it is mandatory in their vocational decision-making and responsibility to deal with this kind of information providing and/or individually prepare technical information in this way. For this purpose subject-related methods competency as well as the ability to use the new media as information source in connection with the qualification of life-long, self-controlled learning are necessary. For a competent use of the new media as information source for realizing professional activities strategic knowledge in approaching the individual collection of technical information is demanded. The students must be able to continuously update this competency on their own throughout their professional life. The learners are to be prepared for the task of life-long and in part self-controlled learning. In this regard deficits currently exist in the agrarian vocational education because didactic concepts and issue-related examples using new media in technical instruction and the related qualification possibility of learners for systematic independent collection of technical information are still missing in part.

Up to now teachers also haven't been sufficiently prepared for this task during their education. They often lack the competency in using new media and their didactic integration in technical instruction. There is also a lack of issue-related examples in using new media in technical instruction and in developing media competency of the learners.

**Media competency is primarily understood as the capability to be able to use „new media“ in a goal-oriented fashion in connection with the use of computers for solving problems and tasks as well as gaining knowledge.**

**In this spirit technical-related media competency has therefore developed into an important learning goal in the education of gardeners and farmers.**

## **2. Consequences in teaching**

So that agrarian teachers correspond to new demands and are able to create modern teaching-learning arrangements in terms of the presented competency development of the learners, they must be able to, among other things,

- introduce step-by-step media-supported interactive teaching and learning types,
- use the computer as a teaching and learning tool in vocational education,
- create teaching and learning processes in connection with the Internet as well as CD-ROMs,
- arrange tele-communicative instruction and moderate tele-learning of the learners,
- oversee Internet classrooms or media corners.

The use of information and communication technologies (e.g. multimedia) and the use of the computer as a tool and medium in agrarian vocational education are changing teaching and

learning at vocational schools.

It is necessary to integrate the existing modern technical possibilities into methodical-didactic concepts. It is therefore to be taken into consideration that the learner's qualification through ICT isn't a substitute for previous offers but they are an important complement for traditional teaching and learning types. That means modern (electronic) media are to be integrated in existing concepts of teaching and learning to develop competency in using these media as a part of vocational decision-making and responsibility in the learners. Including among others:

- the capability to deal with new technologies and the new structural concepts coordinated therefrom,
- the capability to differentiate between relevant and irrelevant contents and to choose the contents accordingly and
- the capability to realistically estimate one's own learning situation and learning capacity as well as to develop an appropriate working plan.

The use of media for finding, choosing and deepening vocational knowledge is particularly successful if new media are combined with other media and learning methods and imbedded in a social context.

To realize these tasks the learner is required to possess media-didactic competency which is the capability of proper, self-determined, creative and socially responsible action in connection with media and information technologies in appropriate teaching and learning types. This competency is the pre-condition to prepare for changed conditions in teaching and learning by means of new media and to actively create these processes as well as to estimate didactic concepts for the implementation of modern information and communication technologies into the agrarian vocational instruction and to be able to effectively use these concepts in one's own pedagogic considerations and instructional activities.

The focus of the didactic conception concerning the use of ICT should be the creation of a modern teaching/ learning arrangement that encourages an action-oriented discussion by the learners with contents that are to be acquired and where the competency-developing, problem- and task-related independent learning increasingly becomes the focal point.

The instruction goals are to be determined in connection with the concrete planning of teaching/ learning arrangements for agrarian instruction with regard to the use of modern media and information technologies based on the vocational learning situation. They are a significant reference point for implementing media in the temporal instruction process. The contents are to be chosen, classified as well as structured and a determination of appropriate methods and social forms are made. The choice of media and implementation in certain learning fields, e.g. information research, learning programs, communication, creation and presentation, are to be integrated into the overall context of instruction activities, taking into consideration the performance pre-conditions of learners, particularly the media-specific prerequisites as well as the social-cultural conditions and the required time demand. The use of media should take place depending on the goals so that differentiated as well as cooperative and interactive learning is possible and the learning motivation is increased. The learner is learning planner, learning advisor and moderator of learning processes as well as responsible for the evaluation of the performance provided by using new media.

The teachers are to be prepared within their education and further education for these tasks in handling new media, imbedded in a modified didactic concept of the teaching and learning arrangement. They have to gain the capability particularly within their technical didactic education to develop teaching strategies by means of modern methods and media.

### **3. Concept toward the development of media competency of agrarian future teachers in the technical didactic education**

As the role of agricultural teachers and the requirements on their didactic competency in connection with the use of modern media have changed, the technical didactic education has to be conceived in a new way. Therefore the following contents should be integrated and/ or expanded (cp. Bräuer /2/):

1) Contents to be integrated in the basic course “technical didactics”

- media-pedagogic basics,
- use of modern methods and media,
- individual learning by means of multi media,
- teaching and learning by use of nets,
- tele-communicative instruction forms as well as
- computer-supported learning technologies.

2) Contents to be integrated in the special course “technical didactics”

- creation of modern learning arrangements for the technical instruction,
- development of teaching strategies by means of modern media and methods,
- examples for using the computer in technical instruction,
- creating learning software for the technical instruction,
- creation of learning sequences,
- development of operational instructions to independently gain technical information as well as
- to solve vocational information tasks by means of a computer.

To implement these contents with the goal to develop media competency a four-step program has been worked out. With it future teachers in their technical didactic education are introduced step-by-step through appropriate tasks to the use of modern media for creating the technical instruction:

- Within **step 1** students acquire security in using modern media to independently gain technical information concerning the choice of content for technical instruction topics. Through the use of didactically based operational instructions to guide the user the students learn procedures in gaining technical information by means of a computer.
- Within **step 2** competency is gained in presenting technical contents by means of appropriate computer programs with consideration of didactic points of view in a manner that the learners at vocational schools are capable of a successful acquisition of this content. Therefore graphics, work sheets and information sheets among others are produced. They are part of instruction drafts which are to be prepared by the students on themes of the technical instruction at vocational schools.
- Within **step 3** the students produce homework written over a longer period (=project work, 20 pages) that deals with the creation and/ or use of media for technical instruction purposes. The didactically founded examples for the use of media are tested and evaluated during instruction. The results and conclusions will be reported in a principle seminar. The presentations are shown as a Power-Point-presentation.

- Within **step 4** the students process themes within the framework of their final work (=state examination, 80 - 100 pages), where the focus is on creation and the use of media in vocational-technical instruction (e.g. creating web sites, company presentations, etc.). These didactically founded instruction procedures by means of modern media are tested, evaluated and adapted in the vocational school. They present the evaluated proof that students are able to independently produce and implement in a goal-oriented fashion modern media in the technical instruction.

Through this sequence with increasing demands the students gain more and more competency to be able to implement media in a goal-oriented fashion into the technical instruction and at the same time they acquire didactic strategies to develop a comparable media competency for their students in vocational schools.

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## **ECOLOGY OF EDUCATION IN VOCATIONAL EDUCATION IN RURAL AREAS**

**Baiba Briede, Ludis Pēks, Maija Sirvide**

### Abstract

One of the themes of vocational and continuous education researches is the improvement of educational environment for the development of versatile and humanistic personality ready for life long learning and labour market relations. It refers also to the development of agricultural advisers' education. Rural consumer and knowledge society in Latvia has fully recognised the necessity of professionally, socially and pedagogically competent agricultural advisers. The Latvian Rural Advisory and Training Centre (LRATC) have initiated the necessary development of the educational curricula and courses, which are under the guidance of the Training Department. Ecocentric approach in education is based on human and environment interaction and promotes improvement of the environment at the vocational education establishment and continuous education courses. Ecocentrism emphasises that education should offer learning environment in which the development of one's consciousness is in conformity with evolutionary essence of ecosphere and allows to overcome prejudices of anthropocentrism. The environment development involves such aspects as eco-system (micro-, meso-, exo- macrosystem) and chrono-system (micro-, meso-, macrotime) impact on the personality. The vision of ecological approach in education is a direction from me-ego to me-eco, i.e. from democracy to noocracy. Noocracy - a system of the world government based on the integrated mind of civilization and its transpersonal decisions. One of the most important rules of noosphere development determines that the development of intellect always must be faster than the development of production and not vice versa.

Therefore outdoor education part also should be emphasized in vocational education. It helps creating close contacts with the environment, culture, society and promotes life long learning ideas and motivation.

### Key words

vocational education, ecocentric approach, continuous education

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### **Current vocational and advisers education possibilities and problems**

Rural schools have to develop considering the situation and their problems in Latvia and EU. Multisided developmental possibilities should be revealed and realised in social economic conditions of Latvia's rural areas nowadays. The central problem of the rural areas is that there is a tendency of leave living places and work in cities because of high unemployment, low wages, low business development in the countryside. Actually there is a gap between living standarts in cities and rural areas. In spite of the mentioned problems rural development should be promoted and vocational schools and agricultural advisers can contribute significantly in this process. First and foremost rural schools must fight for survival in those conditions and attract more students in formal and non-formal education including continuous education. So multisided development possibilities are the following: school strategic developmental plans; life-long learning of teachers; offer of vocational and continuous education programmes close to living places; regional peculiarities and labour market actual necessities and forecasts; development of attractive school pedagogical environment for students, parents, local community and employers; intensive work to motivate young people for learning; integration of teenagers with special needs in vocational

education; making of compensatory programmes for lagged behind students; helping to solve hard social problems of students; involving out of work and out of learning young people in continuous learning process putting stress on their career development.

The second block of problems and possibilities deals with agricultural advisors education. It is being researched since 1997 and the model of continuous education had been introduced in 2000 in Latvia. It consists of five qualification levels and its content comprises professional, pedagogical, social competencies. Agricultural advisers should be high level specialists, some even on quite narrow fields, to give qualified advice. Up-to-dated and professionally, socially and pedagogically competent advisers play an important role in the rural consumer and knowledge society as contributors in rural peoples' continuous education and their transition from training to working life. There are about 291 agricultural advisers in Latvia and they have to be competent in the following fields: training; providing of information, rural people income increase support, cooperation, development of sustainable agriculture, rural development consulting, organising, management, planning, EU structural funds digestion. Within the context of EU Structural Funds, there exists real hope, that continuous education for rural consumers will be available enough during the 2005 and next years.

The status and name of The Latvian Rural Advisory and Training Centre (LRATC) have changed since 2004. Advisers work duties have changed. They are focussed on overall rural development. The advisers experience the lack of a lot of specific knowledge on rural development. Therefore co-operation among different agricultural specialists (the integrated approach) is important and it is an efficient method of advising in nowadays of informational and communication technologies world. It also means that the agricultural advisor is becoming a rural advisor now who works in a team constantly preparing EU structural funds projects for rural businessmen, consumers and various persons involved in agriculture. This kind of service demands high competence both in agriculture and rural development.

The third block of problems refers to the IT development in all the rural advisory bureaus. There are several internet accesses in each bureaus. 95% of advisers use mobile links. Knowledge and skills in ICT is established but another problem is emerging - the volume of information is increasing and advisers lack knowledge of information selection as well as discipline in ICT usage. Private calls and e-mails decrease the quality of services.

One of the University's contributions in the solving of the above mentioned problems is creation of study courses based on concrete paradigms in education. It is ecocentric paradigm in our case.

### **Ecological approach in education.**

There are three main approaches and paradigms in education:

- anthropocentric- a human in the centre;
- ecocentric- based on a human and environment interaction;
- complementary - anthropocentrism and ecocentrism.

Anthropocentrism (< gr. *anthrōpos* human) opinion, that humans are the centre of the earth. Anthropocentrism exaggerates the importance of the human in biosphere and heralds the view of the human capability to understand and control the processes of nature in human's favour. It could be a desire to reach a definite result essential for satisfying needs. It is also a turn to: increase of competition, a view that a human can control all the processes of the earth (Salīte, 2002).

In Ecocentrism the following conclusion is being emphasised now: the mission of education is to offer learning environment in which the development of one's consciousness is in conformity with evolutionary essence of ecosphere and allows to overcome prejudices of anthropocentrism (Whitehead, 1967; Barry, 1999; Siliņš, 1999 from Salīte 2002).

Ecological approach in education in chrono system can be divided as follows:

- microtime system: time of development of school as ecological system here and now;
- mesotime system: period of development of school as ecological system which includes times: here and now, yesterday, the immediate future;
- macrotime system: time of development of school as ecological system in total (Bronfenbrenner, 1994).

One of important aspects of ecological approach necessity in education is ecological crisis:

- it is expression of our mind and mind crisis in real life;
- it is not only danger to nature;
- crisis is in us and we have to think how to change our minds in favour of humanity survival;
- our mistakes are often the result of behaviour stereotypes, lack of knowledge, understanding, valuation skills;
- more and more experiments prove hypothesis that intellectual energy is a binder of biosphere in its wholeness and humans intellectual sphere – noosphere and the space.
- .. we can assert that the rules of the space, noosphere and biosphere development in many respects is in accordance with the rules civilization and social relations development.

(Dinēvičs V. 1998. *Krustcelēs*. Rīga: LPTIA, LTVSVL, 9. pp.)

Ecological imperative should be kept to overcome the crisis. It means eco civilisation, eco economics, eco society, eco education.

Science may favour an alternative doctrine, evolutionary rationalism: rationality in nature and in society is a phenomenon *a posteriori*, a product of selection from countless trials and failures. Democracy is one of such evolutionary products. Yet, the spontaneous flexibility and adaptability of democracy may no longer keep pace with the high speed of growth of science and technology. Noosphere could be recognised as the *sphere of human thought*. This concept is derived from the Greek *νοῦς* (*nous*) meaning *mind* in the style of *atmosphere* and *biosphere*. Just as the biosphere is composed of all the organisms on the Earth and their interactions, the noosphere is composed of all the interacting minds on Earth. The word is also sometimes used to refer to a transhuman consciousness emerging from these interactions. Pierre Teilhard de Chardin (1881-1955) created the term noocracy and Vladimir I. Vernadsky (1863-1945) explained this concept.

Noocracy may become an evolutionary outgrowth of democracy, having the capacity to match the quickly changing states of knowledge. It would comprise conscious, systematic and institutionalised experimentation taking place in many decentralised autonomous subsystems. The European Union, which has reached a critical stage in its successive institutionalisation, has a unique opportunity to introduce this application of evolutionary rationalism. Next step in its application could be syntellect (Gr *syn*, with, together + *intellect*) – the unified mind of civilization that integrates all individual minds, both natural and artificial, through the cumulative effects of informational networks.

The vision is that the Intellectual network--inteLnet--will connect all thinking beings into one communicational network that gradually will develop into a new form of consciousness--syntellect. The syntellect will absorb and condense the potentials of all thinking beings and will operate on both biological and *quantum levels*.

Outdoor education is another aspect worth stressing in vocational and continuous education. It promotes creating close contact with the environment, culture and society. In the methodology of outdoor education, the first-hand sensory experience is a key factor in learning about natural and cultural phenomena in an authentic environment. Outdoor education is an important complement to the often too simplistic and literary learning environment of the classroom. It is action-centred learning process often related to activities in the outdoor environment;

learning environment more or less unstructured; unexpected meeting with uncontrolled but physically more comprehensive situation than the artificial, subject divided context of the classroom. Outdoor education is an effective pedagogical means to shift focus from me-ego to me-eco.

### **Conclusions**

1. The problems in vocational and continuous education of agricultural advisers could be solved finding new possibilities of programmes and educational environment development complementary with university researches.
2. Ecological approach in education is based on human and environment interaction where outdoor education possibilities is stressed as one aspect of the approach.
3. Noosphere, noocracy and syntellect are concepts revealing further development direction of democratic society.

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## **THE PROJECT OF EXTENSIVE FARMER EDUCATION THROUGH TELEVISION PROGRAMMES (YAYÇEP) IN TURKEY**

**Kürşat Demiryürek, Onur Köprülü**

### Abstract

Television programmes about agricultural subjects have broadcasted since late 1960s in Turkey. Those programmes were generally prepared to provide information varying needs of the day. The broadcast of television programmes under YAYÇEP started in 1991 which was the first project using the distance education method for educating farmers in the rural areas of Turkey. The television programmes were supplemented with printed materials and advisory work on village level. The objective of the project was the transfer of information to farmers in an efficient, effective and extensive manner so that farmers were supposed to adopt modern farming techniques. This paper initially reviews studies on farmer education activities with television throughout the world. Secondly, the details of YAYÇEP will be presented. Then, the results of some studies about the project will be given and suggestions will be made about how to develop and organise similar projects.

### Key words

distance education, agricultural extension, television, YAYCEP, Turkey

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## **1. Introduction**

Distance education serves as an alternative method for delivering information to those unable to attend traditional classes for a long time. Likely, traditional education in agricultural and the management of extension services have become difficult because of the lack of sufficient educated staff and financial resources particularly in developing countries. To avoid these shortcomings, distance education methods have been introduced.

Distance education is an instituted method where the learner is physically separated from the instructor, but still with regular contact (Cook, 1998). Improvements in the diffusion of technology, information could be achieved by the aid of television compared to other mass communication mediums because of its practicality and cheaper costs price property. The role and efficiency of television have become widespread due to capacity of information transmittance and its entertaining characteristics. The use of television has also become indispensable in training directed towards rural communities especially in developing countries due to excessive population in rural areas, inadequacy in investments and qualified teaching staff. However, the experiences in different countries and in Turkey have proved that, the positive impacts of television broadcasting for rural education are higher when supported with printed materials and advisory services (Demiryürek, 1993).

This paper initially reviews the research and practices on farmer education with distance education activities throughout the world and discusses their effectiveness and limitations particularly the role of television as an education medium. Further the first Turkish project using the broadcast of television programmes as a distance education technique for educating farmers (YAYÇEP) will be presented and the results of some empirical research about the project will be discussed. Finally, based on the experience of YAYÇEP over ten years in Turkey suggestions to develop similar projects will be furnished.

## **2. Literature Review on the Use of Television Programmes for Farmer Education**

Some basic research on farmer education activities with television throughout the world particularly discussing its effectiveness and limitations are presented below:

Dumanzier (1956) evaluated the efficiency of television programmes prepared for the people living in the rural areas of France. Before the preparation stage, farmers were divided into 180 different groups according to their economic, social and occupational particularities so that the problems could be determined. In the programmes, the improvements in agricultural technology were introduced and the steps must be taken by the farmers were explained. Programmes were broadcasted by the contribution of farmers in order to solve problems with their participation (Geray, 1978).

Shingi and Mody (1982) examined the impacts of agricultural television programmes (SITE) on farmers in India. The preparation of these programmes was realized in the field enriched with the lessons about various production techniques. Moreover, television programmes were supported with face to face interviews to answer the occasional questions. Farmers watched these programmes in specially designed places (telecenters) by the accompanied with supervisors. The results based on research indicated that television programmes were been very effective in the process of informing the innovations to farmers while the impacts were unsatisfactory in the stages application of and adoption.

Batey and Cowel (1986) reviewed various examples of distance education applications especially in the US and reported that distance education improves the conditions of the equality of opportunity. Besides, they stressed the positive contribution of the utilization of certificate and reward system at the end of the training programmes. They also expressed that the education of the training personnel should be given importance in order to obtain the better results of the programmes.

Fraser (1987) expressed that the scarce of agricultural extension staff in developing countries make the use of mass communication a necessity. The researcher indicated that besides the visual broadcasting, printed materials and field demonstrations increased the accomplishment of the programmes in Peru.

Angelina (1990) examined the farmer education through television programmes and observed that video recordings that are repeatedly shown afterwards, make issues clearer to farmers. Moreover, printed material and simple guide books contribute to the positive effects of the training.

Hungwe (1991) examined the development and the use of instructional agricultural films for rural audiences in Southern Rhodesia. By providing films showing a better way of life exemplified by the achievements of the people alien to themselves, the development and advancement of the methods were better appropriated. Besides the entertainment value of the films, it also appears that the educational content of agricultural films was taken seriously by peasant audiences. The use of such kind of distance education materials proved that the rates of watching television by the farmers also had been gradually increasing.

Rogers (1995) elaborated the results of assert research in general and found that the efficiency of mass communication tools were very effective for introducing the innovations. However, the researcher also added that the level of efficiency of programmes in other stages like decision making and application were not satisfactory. There have been also several studies in Turkey supporting this later point of view. For instance Aziz (1982), Aslan (1982), Oskay (1985), Alkan (1987), Ceylan (1988), Demiryürek (1993) and Gültekin (1995) can be pointed out.

In brief, researchers maintained that television increases the effectiveness of applications of agricultural extension for developing the information transfer process. Television also has additional motivative function towards behavioural change (van den Ban

and Hawkins, 1996). However, some researchers expressed doubts for the television as not being a perfect substitute for direct interaction of extension staff with some additional functions of the latter like ability to give specific and direct personal advice (Oakley and Garforth, 1985).

### **3. A Turkish Case: The Project of Extensive Farmer Education through Television Programmes (YAYÇEP)**

Turkish Ministry of Agricultural and Rural Affairs (MARA) as being the institution directly responsible for executing agricultural extension and farmer training launched distance education through television programmes in 1991 in order to increase the number of farmers benefiting from agricultural extension activities and to support the traditional extension methods. The Project of Extensive Farmer Education through Television Programmes (YAYÇEP) was adopted by a protocol signed by Ministry of Agricultural and Rural Affairs, Ministry of Finance, Turkish State Radio Television Institution and Anadolu University. The main objective of YAYÇEP expressed by the protocole was: “to broadcast specific educational programmes through television in order to develop the agricultural background of farmers and make them to gain knowledge and skills in various fields of agriculture”. This project based on distance education system was an important application of agricultural extension comprising agricultural television programmes, manuals, advisory services on village level, exams, certificates and awarding systems (TEDGEM, 1991). Television was chosen as the basic mean because, beside its basic function as being a mean of entertainment, it offers the opportunity for reaching a greater number of people with a lower cost (Altınbıçak and Demiryürek, 1994). The Project (YAYÇEP) covering almost all the cities and districts in Turkey was applied between the years 1991 and 1996 and comprising about 338 different agricultural subjects concerning animal husbandry and breeding, crop production, plant protection, agricultural mechanization, farmers’ organization etc. Then the programmes were again broadcasted between 1999 and 2003 with some supplementary topics. The television programmes were enriched with supplementary materials like agricultural manuals, related to the programmes, some 800.000 books were printed and distributed to the farmers involved in the project. During the first phase of the project total 113.123 farmers registered to the Project and after the control within the scope of the Project, Anadolu University (Open University in Turkey) made an examination and the farmers who were successful in the exam were awarded for encouraging their participation to the Project. Among all participants, 77.424 successful farmers were qualified to obtain certificates and of them 33.200 were rewarded (MARA, 1998). Another crucial aspect of the project was the continuous advisory services in the areas and for this the local “Agricultural Directorates” were made responsible.

### **4. Some Remarks on the Results**

A research on the evaluation of the first programmes (animal husbandry and breeding) of the Project conducted by Demiryürek (1993) showed that, among the farmers taking part in the project, the farmers who applied the agricultural techniques suggested by the programmes had the following distinctive characteristics: They were relatively older, with a higher level of formal education compared to the non-adopters. They had higher income levels and were listening radio and watching television more frequently, reading the materials about agriculture regularly and more contacts with the agricultural engineers and veterinarians. Those farmers also asserted that they were regularly watching the television programmes within the scope of the Project and reading the printed materials and derived benefit from

them. They were frequently sought the extension staff about the Project materials, and consulted with each other.

In parallel with the previous research on distance education in the world, several studies on YAYÇEP shows that the television programmes were very effective in increasing the awareness about agricultural techniques. However, their effectiveness was limited as to the process of adoption and field applications. This was mainly due to the lack of suitable advisory services and demonstrations at the field level necessary to support television programmes. Moreover the time schedule for project broadcasts, the duration of the programmes were not appropriate according to most of the farmers. Similar results were obtained the evaluation of YAYÇEP made by Gültekin (1995) and MARA (1998).

## **5. Conclusion Remarks**

YAYÇEP which has been broadcasted since 1991 had distinctive properties compared to the other applications of farmer education and extension programmes in Turkey. A larger population of farmers were informed about the technological progress and scientific applications in agriculture by this Project. The agricultural manuals distributed were found simple and clear to understand by most of the farmers and are still being used as guidebooks. The television programmes of the Project were also recorded as a videocassette format and distributed to the Agricultural Directorates in order to be used for farmer training.

Beside these positive aspects mentioned above, there were yet some crucial problems of the project. According to research results evaluating YAYÇEP the following summary proposals can be made as a contribution to improve the application of similar projects:

- Conduct field demonstrations parallel to the project applications with the presence of extension staff who can also provide advisory services.
- The preparation of most of the programmes taking place in state farms not reflecting properly the real conditions of the farmers, has to be redirected to more natural environment and with the active participation of farmers.
- Distribute the related agricultural manuals to the farmers before the television programmes.
- Consider the role of women in agricultural production, increase the number of programmes addressing women to encourage their participation to the project.
- Adapting the broadcasting time schedule of the programmes in accordance with the request of the farmers to a later and freer time with an increase in the duration of the programmes.
- Pilot trials, monitoring and evaluation activities have to be conducted in order to measure the perceptive and adaptive capacities.
- Farmers with certificates should have the priority of benefiting from the various agricultural measures and supports.
- Coordination among the actors of the project should have been more structured with the continuous feedbacks taken into consideration.

For the efficiency of agricultural distance education, the programmes have to be integrated whole with suitable television broadcasting, simple manuals and regular advisory services, where the lack of one element negatively affect the level of benefit that farmers could gain from the project.

## **Acknowledgements**

We are grateful to the organising committee of the Seminar for inviting our contributions, and especially Prof.Dr. Milan Slavik and Ing. Petra Zakova for their concern, help and hospitality. I wish to thank my ex-supervisor Prof. Mourice Rolls for his support and

guidance. We are also very grateful Prof.Dr. Erdal Yavuz, Prof.Dr. Alper Güzel and Ms. Esra Derle for their contributions.

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## **INTRODUCTION TO SUSTAINABLE DEVELOPMENT IN TEACHER TRAINING**

**Radmila Dytrtová**

### Abstract

Education for sustainable development is very important in the preparation of future teachers. Teachers should be informed and convinced of the reality and of the necessity of endeavour in all the aspects of sustainable development. Environmental education has been included in the curriculum of teacher training. The aim of environmental education consists mainly of developing the skills for teaching the practical application of environmental knowledge in the content of vocational subjects. The concept describes competencies of teachers for education to sustainable development.

### Key words

Education, sustainable development, future teachers, environmental education, curriculum, skills, vocational subjects, teacher training, competencies

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### **Introduction:**

The idea of sustainable life for future generations on the Earth must inevitably lead to the review of the present conception of content and form of school subjects. To educate today on the basis of up-to-date knowledge of particular subjects means to educate for future. Education must definitely include the analysis of future possibilities. To maintain the future world sustainable, we must direct the strategies of every teacher to this goal.

Educational goals conformable with goals of sustainable development have been set to create frame educational programmes (based on the recommendation of OECD UNESCO).

This year OSN has declared the Decade for Sustainable Development. In the course of two years all countries involved in the project should set up the national strategies in education for sustainable development.

An Environment Act N.17/1992 Coll. defines sustainable development as “ the development of society which maintains the possibilities of satisfying basic life needs for the present and future generations while not reducing the diversity of nature but keeping the natural functions of ecosystems”.

The strategy of sustainable development of the Czech Republic (Programme of National Development in 21<sup>st</sup> Century) is a vision of sustainable development of the society. It concerns the social and economic development with respect to providing the necessary needs of citizens – education, health protection and basic social security.

The strategy is aimed, apart from others, at the incorporation of education to sustainable development into the national system of education – with the emphasis on continuing education.

The strategy should include the introduction of the aspects of sustainable development into study programmes of all specialisation and the didactic interpretation of curriculum connected to sustainable development. *A significant educational goal is creating interdisciplinary thinking and behaviour which is based on sustainable development.*

Teacher training should strive to develop teacher’s competencies of introducing sustainable development into education of pupils and students.

Training of teachers of vocational agricultural subjects should aim with respect to sustainable development at the development of the following competencies.

*Subject competencies:*

Teachers should have knowledge of the subject with respect to environmental aspects. They should be able to apply the principles of sustainable development into educational content of the subject. They should be also able to transform the knowledge of ecology into the subjects and integrate knowledge of other disciplines into curriculum. They should be able to use ICT to find and process information – e.g. information about the present state of environment, about ecological approaches to agricultural production, about modern agro-ecological technologies.

*Didactic and psycho-didactic competencies:*

Teachers should conduct a stimulating approach of teaching, should encourage students and lead them to the skill of self-learning. Teachers should understand educational documents, mainly frame educational programmes for vocational schooling, should be able to incorporate cross-sectional themes into the curriculum and realise them in classes. They should also use up-to-date information in classes and conduct a dialogue, positively inspiring students' opinions and attitudes. They should master a problem solving teaching in classes of vocational subjects and application of practical knowledge into vocational theory. Finally, teachers should regard school projects as an effective teaching method when dealing with themes of sustainable development.

*General pedagogical competencies:*

Teachers should master processes of student's education in relation to the general goal of education and to the moral codex. They should encourage student's thinking and behaviour with respect to sustainable development. Teachers should participate in the formation of ethical and emotional aspects of student's personality and of aesthetic feeling with the aim of forming positive attitudes towards the values of life and environment. Teachers should educate students on the basis of psychological, legal, social and multi-cultural aspects. They should form by students a personal and professional responsibility for the quality of environment. Finally, teachers should be aware of new trends in vocational schooling in the context of education within the educational system.

*Diagnostic and intervention competencies:*

Teachers should practise a continual assessment of students' performance on the basis of their acquired results in the field of education and behaviour. Teachers should master ways of keeping discipline and active climate in classes and should be able to solve various educational and disciplinary situations.

*Social, psycho-social and communication competencies:*

Teachers should be able to diagnose the social climate in the classroom and apply the results of their findings to improve it. They should master the means of communication and be able to use them not only in classes but also in communication with school partners and parents. Teachers should also know the lifestyle of their students and help, if needed, to improve it. Apart from that, teachers should analyse the possibilities and influence of out-of-school atmosphere on student's upbringing and education and constructively act in their work.

*Managerial and normative competencies:*

Teachers should be acquainted with laws and regulations concerning education and environmental topics. Teachers should have such organisational skills so that they can manage both class and out-of-school activities. They should cooperate with the centres of ecological education and also join projects run at both school and governmental level.

*Professional and personal competencies:*

Teachers should have good general knowledge and conduct continuing education. They should self-evaluate their own work, contemplate it and modify, if needed, their style of teaching. Finally, teachers should be optimists in their work.

**Conclusion:**

Teachers should lead their students to the responsibility for the quality of environment and doing this, they realise their own responsibility of bringing up future generations with respect to sustainable development.

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## **PROSPERITY OF SOCIETY- A VICTORY OR A LOSS?**

**Zdeňka Hůrská**

### Abstract

The aim of this article is to discuss the role of agricultural education in the process from consumer society to knowledge society.

Prosperity has brought to our environment big problems. Now we must learn how to solve them wisely and to take a respect for a long – termed development.

We would have to teach our students how to live in harmony with nature and to save its treasure. Since the last spring our republic has been a member of EU. Every country is expected to bring some solutions of this problem according to its traditional life style and experience.

I would like to mention one activity of our school. It has been based on after – school activities. Our students cooperate with teachers and pupils from elementary schools in the town along the instructional path in the Písek Mountains.

### Key words

the role of agricultural education, environmental problems, long – termed development, activity of our school

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The aim of this article is to discuss the role of agricultural education in the process from consumer society to knowledge society. Prosperity has brought to our environment big problems. Now we must learn how to solve them wisely and to take a respect for a long – termed development. The only positive perspective of human society is the sustainable development. But we cannot always expect our politicians or managers to give consist connection environmental, economic and social aspects. The necessity of education to responsibility for nature and society is the main condition for existence of our life on the Earth.

Since January 1<sup>st</sup> 2005 the Organisation of the United Nations has proclaimed the Decade of education for the sustainable development. It is very emphasized the role of school as an institution which is able to influence systematically the creating of necessary competency of all population. In means to provide knowledge connected with skills, to attempt at desirable habits, to develop abilities and to affect the formation of lifestyle in which the sustainable development would present the ethic norm.

We would have to teach our students how to live in harmony with nature and to save its treasure. From this point of view the teacher plays the big role. He can influence pupils and students not only by the content of education but by methods, forms and his/ her own personality, too.

Since the last spring our republic has been a member of EU. Every country is expected to bring some solutions of this problem according to its traditional life style and experience.

I would like to mention one activity of our school. It has been based on after – school activities. Our students cooperate with teachers and pupils from elementary schools in the town along the instructional path in the Písek Mountains. This action offers the knowledge of nature and the instructional path. Students can use 6 informative boards of ekosystems with information and pictures for explaining the main data. Then they can show the path to pupils of the elementary schools who are solving problem tasks and they begin to work independently.

I think these facts seem to be great motivation for studying at the secondary school of this type and for the moving from consumer society to knowledge society. And then we can say: Prosperity of our society is a victory not a loss of our life style.



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## **DEVELOPMENT OF COMMUNITIES NETWORK IN THE AGRICULTURAL EDUCATION**

(ICT concepts in vocational education)

**Jiří Husa**

### Abstract

Recently there have been significant changes in the position of agriculture and the agricultural education in the Czech Republic. The system of agricultural education is contemporarily under the power of regional authorities. They are the decision-making bodies. However, a lack of interregional communication appears quite frequently. Furthermore, the professional agricultural organizations are involved in the educational process only marginally. Additionally, the mutual communication between particular school managements can be considered insufficient. The existing "Association of the Educational Institutions for the Development of the Rural Area" can provide a sound basement in the term of establishing the communication network between the schools. The significance of the mutual communication within the educational system is likely to increase in the near future. It is highly recommended to make use of the modern ICT technologies in order to establish the communities' network in the agricultural education.

### Key words

agricultural education, agricultural organisations, educational process, ICT technologies, communities establishing

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What are the communities, what does an active and effective community network look like?

The community can be a set of people, organizations and groups communicating with each other.

The communication can be providing by internet, newspaper and meetings for example.

Communities are built on connections. Better connections usually provide better quality of communication.

Do we have enough communication activities in the network of the agricultural schools in the Czech Republic?

Is there a community of agricultural schools or only the group of schools? In contrast to a community, a group does not demand communication between its members.

We can find some creative centers of educational institutions.

Department of research and education in the Ministry of Agriculture has established the group of schools mainly for the further education.

Association of the Educational Institutions for Development of the Rural Area maintains the schools and school farms in the regions.

Department of Pedagogy Czech University of Agriculture is the leader in the pedagogy kingdom.

Department joins the group of schools mainly for the pedagogy practice.

The “Agricultural school newspaper” is only one of the communication media.

Sometimes we can hear the remarks to the content of this newspaper but hardly anybody wants to be the regular contributor to this newspaper.

Do we have only the groups or the really communicating communities of agricultural educational institutions?

This question can't be simply answered. It seems to me that the communities are on the starting point only at this time.

It seems that in the near future the majority of communications between people will take place with the assistance of computers and computer networks.

It will be very important to establish the internet web site as a community centre in the near future.

The community internet place could welcome net members to join this community to share their opinion and knowledge, resources and other materials.

The growth of the community can be a long period and slowly building up process. The ICT concepts have to be used for the community building.

The building of network communities is very important for the improving the quality of education and also for the partnership of agricultural schools in the near future.

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## COMPETENCE BASED LEARNING AND ASSESSING

**Arie de Jong**

### Abstract

Competence Based Learning and Assessing (CoBaLA) is based on a long educational tradition. Aristotle, Comenius, Paulo Freire, Ivan Illich and many others were aware of to necessity to educate (young) people in the reality of life, in interaction with craftsmen, companies or farms. Of course inside school learning is a reality but the knowledge and skills should be applied in workshops, companies, farms and therefore it is recommended to achieve these knowledge and skills in these workshops, companies, farms.

The medieval craft-guilds with their masters were suburb places to achieve to competencies and to assess the achievement by presentation of the master-proof. In spite of this long educational tradition the offer of subjects in schools and universities is based on splitting the reality in different areas. The development of the first assembly line of T-Ford triggered this systematically approach. The accreditation of courses is based on this those specialisations offer the opportunity to go into the details of the subject. The learner nevertheless should integrate the different subject areas and should be able to come to synthesis. The question is if this system of education will qualify graduates who are competent to work in the modern sectors of employ like the primary sector (Agriculture and Horticulture), the secondary (Industry) and the Tertiary sector (Service). The dynamic development of the different sectors, urges dynamic employers and dynamic leadership. Klarus&Janssen, 2003 and De Jong, 2002, give the background and arguments for Competence Based Learning as a new systematically approach for learning and assessing. In this contribution a model is presented to develop a system of competence based learning and assessing. After that a curriculum for a Bachelor of Education is presented, including some detailed examples for achievement and assessment of competencies. Due to purpose of the methodology to train trainees to be competent in their profession the results are first of all oriented on the Dutch situation. The European establishment of the Area for Higher Education, the development of the Europass-system and the concept of Life-Long-Learning needs a transparent system of education and training related to the needs of the international labourmarket. Competence Based Learning and Assessing is an answer.

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*The society requires skilled people and therefore education is a key activity in society. The content of education depends on the demand of the society. First of all the national government defined the requirements for education and the national government is responsible for the monitoring system to assess if schools and universities meets the demands and requirements. Secondly: for secondary education tertiary education will have demands for enrolment of students. Finally for all levels of vocational or professional education the labour market has his wishes: they need competent employees on all levels. Because of the worldwide dynamic development education should continuous consider the content and methodology of her courses. Teachers become entrepreneurs and mediators in information and achievement of competencies. The learner is the centre of the teaching and coaching activities.*

*Stoas Professional University developed a new and unique approach based on the Stoas tradition of learner centred education, integration of Practice & Theory and the integration of 'head', 'heart' and 'hands'. The new approach is called 'Competence Based Learning'<sup>1</sup>*

Innovation requires internal and external commitment. External commitment is necessary from the legal body that funds the organisation or in case of commercial companies commitment from shareholders or consumers is necessary. In the situation of education the employers of the graduates are important stakeholders. For Stoas the main stakeholders are the 'green' vocational schools.

Internal commitment is necessary too. Innovation processes cannot be an issue or directive from the management board. The balance between management and the executing staff involved should be considered. Stoas involved all staff members continuous in the development process as presented in the 10 steps below. Klarus, 2003 stated the importance of competence based education and formulates the background for the new curriculum.

### ***10 steps to develop a curriculum for Competence Based Learning and Assessing***

To develop the competence-based curriculum to facilitate the learner to achieve the required competencies to be successful in his/her future profession 10 steps could be distinguished.

1. Identification of relevant skills, knowledge and attitudes of graduates from point of view of the labour market. This identification is done in co-operation with the AOC's (The green secondary vocational schools in The Netherlands). A representative group of teachers is interviewed in an Action research process. The teachers were from
  - ❑ Different levels of vocational education
  - ❑ Female / Male
  - ❑ Different subject areas (example: Life stock, Floristry, General subjects etc)
  - ❑ Different tasks: teachers / co-ordinators / coaches
  - ❑ Different level of experience (juniors / seniors)
2. Analyse of the interviews and the formulated skills, knowledge, attitudes. Definition of competencies.
3. Definition of Professional Situations. To work successful in these Professional Situations requires the defined competencies. Roles and anecdotes are described to clarify the situations and the competencies.
4. Definition of criteria to assess the achievement of competencies. A protocol for behaviour to perform the competence is developed.
5. Development of electronic portfolio tool to collect the documents and files to prove achievement of competencies
6. Development of assessments.
7. Development of a clear system with description of requirements, opportunities for students.
  1. On macro level: How to get the competencies to get the final degree Bachelor in Education.
  2. On meso level: Development of block books for the different Professional Situations, including assessment criteria.
  3. On micro level: Development of relevant information resources and relevant training methods.
  4. Development of a study career guidance system.

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<sup>1</sup> In earlier brochures, publication and training materials Stoas used the concept 'Competence Based Education' (CBE). Competence Based Learner illustrates the learner centred approach.

8. Development of an intake methodology and system to recognise earlier achieved competencies.
9. Development of further co-operation with stakeholders to create ‘on the job learning situations’ for the learners.
10. Commitment and training of staff. Although this step is mentioned as number 10 the process of refreshing and training of staff was a continuous process. It started with an intensive staff training to coach learners based on learner centred approach. After that the staff is trained in assessing learners. These TOT’s (Training of Teachers) were offered before step 1 starts. During the process staff training and delivering of developed materials accompanied each step. The whole staff (70 persons) was involved in the process of analysis and development.

## **Organisation**

The content of the curriculum is based on three pillars

1. Supportive education and training. Learners are trained inside school to get skills, attitudes and knowledge necessary for the achievement of competencies. For Stoas it is more or less the traditional way of teaching based on integration of practical training and theoretical training inside university and SRL (Self Responsible Learning).
2. On the job learning. Because of the definition of competencies<sup>2</sup> the best place to learn is the reality of the profession and the society. Nevertheless the strength of inside school training is efficiency, specialisation of the trainer. Within the process it was a strong discussion if Internal “on-the-job-learning” could be considered as a real professional situation or not. It is a *contradictio in terminis*. Nevertheless it is possible that the inside school situation can be considered as professional situation, because of the selection of a limited but relevant conditions that reflects the real situation. In this overview we present both situations:
  - a. Internal on-the-job-learning: Simulation situations (like role plays / micro lessons focussed on special skills); school farm and school labs (practical instructions); case study /PGO/
  - b. External Internal on-the-job-learning: The reality of the job is the situation in which the learner learns. Example: Vocational schools, enterprises, NGO’s etc
3. Study career guidance: The learner needs to be guided in the process of learning, in the selection of professional situations, in answering the question how and were to achieve the needed competences, in awareness of personal strengths and weaknesses and in self reflection.

## **Curriculum**

The new curriculum is based on Professional Situations (PS). In the context of each situation the employee needs several competencies to be successful in the formulated situation. Within the professional situation (PS) the learner can achieve this competence. For several situations could be useful to train the learner ‘outside’ the real professional situation in a ‘safe’ and “semi-real’ environment. Therefore supportive education is part of the curriculum. Supportive education can be offered as lecturers, workshops, practical instruction, self responsible learning (SRL) etc.

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<sup>2</sup> Mix of skills, attitudes and knowledge that makes the employee or graduate successful in society and his/her profession (De Jong, 2002; Klarus&Janssen, 2003)

Curriculum Unit	Total ECTS / Unit	Total Number of units	Total ECTS
Professional Situation	14	21	294 <sup>3</sup>
Supportive Education	6		50% training 50% SRL
On the Job learning	8		Including 8 hrs for assessment.
Free units	1	16	16
Maximum	15	16	240

In the next table a short overview of the Professional Situations is given. Number 1 to 10 are compulsory. Number 11 – 21 are optional. Nevertheless: if the learner or candidate proves he is competent in some of the professional situation 1 to 10 these competencies are considered as ‘earlier achieved’.

Professional situation		
Nr	Title: Learning situations with...	Short description
1.	Development professional expertise	Within this professional situation the core issues are to get relevant information and inform others in accordance to their wants and needs. In the educational setting the professional is able to collect and transfer relevant information about the ‘green’ profession. <sup>4</sup>
2.	Practical Instruction	To prepare, to execute and to evaluate a practical instruction the teacher needs to be competent both in the professional subject (‘green’) area and in the use of the didactical methods to train the learners in a safe and well organised way. Examples: practicals, excursions, placements
3.	Activating didactics	The teacher is able to perform complete lessons and series of lessons. The approach is learner centred, aiming to activate the learner and his/her learning process. The teacher is able to anticipate and manage the learning process
4.	Self responsible learning (SRL)	The teaching methodology is changing from a teacher or subject centred approach to a learner centred approach. The teacher role can be characterized as a coach. To enhance SRL the teacher should be able to create an adequate learning situation on micro- and meso level. Because of a more or less unpredictable outcome of the learning process the teacher is flexible and has an open attitude.
5.	Counselling and coaching learners	Counselling of learner is both social-emotional counselling and study counselling. Therefore the teacher is able to recognise problems. He / she is a professional in communications and is able to maintain a professional distance to the learner. Contact with parents, colleagues, internal or external experts, and with company coaches is part of this professional situation
6.	Research, advice and extension services in the ‘Green sector’	For those who work in ‘green education and advice’, research and advice are important competencies. Research skills are useful in different situations aiming to come to a well-balanced opinion and advice. The professional is able to use both human resources as other resources, like literature, to underline the advice.
7.	Co-operation and organisation	The professional works in a continuous changing environment. Competencies to organise and to co-operate and work in a team require motivation, communication skills, commitment and creativity. Acceptation and application of different competencies and insights of the team members are important. To deliver common products needs a systematic approach. Project working is a useful methodology.

<sup>3</sup> Maximum ECTS to get the Bachelor degree for Dutch Universities for Applied Sciences / Dutch Professional Universities: 240

<sup>4</sup> In the Dutch situation and in this paper too we use the content ‘Green’, and this includes agricultural professions and sciences, but also horticulture, floristry, landscape and gardening, environmental sector, horse keeping, pet animals. Or to sum up all landbased or naturebased professions. ‘Green’ is no indication of political opinions.

8.	Life long learning in the 'Green sector'	Both the scientific results and the application or implementation of new results forces the educational professional to refresh knowledge and skills life long. He /she is able to recognize trends, new insights and is able and willing to implement them in his / her own professional work.
9.	Development and design of teaching or training materials	The professional is able to develop teaching and training materials. Demands, wants and needs of the target group are important. The actual (or future) situation in the 'green' sector is the subject. The method of development is systematic (project working for example). Excellent writing skills are required. Implementation of the product or the innovation is one of the most difficult aspects of this professional situation.
10.	Use and improvement of personal qualifications	The professional has insight in micro- meso- and macro level of his work-environment. He / she is able to communicate in the company or school on all levels. To manage, to delegate are verbs in this professional situation. Nowadays stress and pressure are common and the professional should be able to adapt to these situation. Last but not least awareness of personal qualifications, personal strengths and weaknesses and of course awareness of ways to improve are key issues in this professional situation.
11.	Assessment, monitoring and evaluation	In learning processes the professional is able to assess if the learner achieved the required standards. In production processes the product has to be evaluated too. Examples: to produce a product or to deliver a course. After assessment both the candidates (learners) as the principals or customers in production processes needs feedback aiming to improve the learning process or the final product.
12.	Learning and behavioural difficulties	In this professional situation works the teacher with learners with learning and behavioural difficulties. Especially specific counselling competencies are important. The teacher is able to apply relevant didactical and pedagogical insights and methods to enhance these learners to learn or work. The teacher is able to handle emotional- and conflict situations. He / she develops, if necessary, an personal development / activity plan for the learner.
13.	In company training (Human resource management)	Specialised consultancy companies or special departments in big companies develop refreshing courses and training programmes for the company. Commercial aspects and cost and profitability are important. Even so the mission, vision and targets of the company. Assessment of human resources in the company in co-operation with the Human Resource Department and General Management is part of this professional situation.
14.	Marketing and Public Relations	Both companies and schools work nowadays client- / customer- oriented. This professional situation can be characterized as communicative: Public Relations, Marketing and Extension in the 'green' sector. The professional is able to develop a communication- and marketing plan. He / she is able to use different methods to maintain and enhance the relation between producer and consumer.
15.	Policy and governance in the 'Green sector'	In this professional situation the key issue is to implement general policy and directives on grassroots level both achievable and realistic. He / she is able to communicate about the policy implementation in the company or school. On the other hand the professional is able to investigate demands or ideas on grassroots level and converge these demands and ideas in policy proposal. He / she is intermediate between the top-down approach and the bottom up approach.
16.	Quality control and chain-management	Quality control, traceability, logistics are of incredible importance in the 'green' sector. Insight in the total chain is necessary. The professional is able to manage to processes in the chain and to contribute to changes.
17.	Management in the 'Green sector' on company level.	The professional (assistant or junior) manager is able to analyse both the technical and economical results of the firm. Based on this analysis the professional is able to make choices in consideration of economical, ecological, social and technical aspects. Sustainable entrepreneurship is a key competence.

18.	Professional coaching on therapeutic base	In this situation the employee works in a green therapeutic setting with people with physical, psychological, psychiatric or mental disabilities. With consideration of the disabilities the professional should analyse / observe the abilities and enhance the client to strengthen these abilities. Therefore the professional (middle) manager develops methodical approach that requires welfare both for client and employees.
19.	Arts and design	Different jobs in the 'green' sector have an artistic dimension. Working with shapes, colours, materials and other resources to create and develop artistic products is a specialism. Floristry design, Garden design, Landscape design and also design of exhibitions are professional areas for these specialists.
20.	Study guidance and counselling	Children have wide interests and it is not easy to make (well balanced ) choices at their age for further study career. Especially in pre-vocational education (12-16 year). Schools offer orientation programmes to assist learners. The teacher needs to have an overview of the different kinds of employ to advice the learners. He / she is also able to assess companies if the meet criteria for being a good learning company.
21.	Blanc cheque	The student can come with a proposal for this professional situation to achieve competencies.

***Intake Assessment:***

The learner will be assessed at the intake. There are 4 possibilities:

1. Based on this assessment earlier achieved core competences or core professional situations are determined.
2. Lacks in preliminary competencies are determined.
3. Choices for optional professional situations are determined.
4. The learning path to achieve required competencies in the professional situations is determined.

**Assessment**

The central units in the program are the professional situations. Each of them covers a number of competencies. The learner has to prove he / she achieved the required competencies necessary for successful professional performance. Therefore he / she collects evidence in his /her portfolio. For the assessment the learner decides which evidence is useful to prove he / she is competent.

**Conclusion**

The last 3 years Stoas developed a new curriculum based on the requirements of the labour market, aiming to offer an efficient training and aiming to graduate competent employees. The innovation is based on a long lasting tradition of integration of skills, attitudes and knowledge. Also the strong Dutch co-operation between education, companies, government and extension forms an important fundament for the new development. The new curriculum needs expertises from both staff and students, respectively to guide the students and to follow self-responsible the study path's. The electronic learning environment (BlackBoard) offers useful tools to communicate in case the learner and coach / teacher are not on the same location. The implementation of the new approach is going on and will be monitored and assessed carefully. Staff and students are involved. Stoas, labour market and governmental bodies (NVAO Accreditation committee of The Netherlands and Flanders) are involved too. Last but not least the competence-based approach is an excellent answer on the Bologna agreements aiming to create a transparent and transferable system of higher education. The general descriptors (see Annex) are specified and adapted to the professions of teachers, advisers and consultants. One of the Bologna directives is to enhance European (or Worldwide) employability of young learners and even life-long learners. The system of definition of professional situations, with necessary competencies, and the criteria for

assessment is a adequate and relevant answer to meet the European aims for higher education to develop a transparent and transferable system.

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### **Appendix: Descriptors for Bachelor's degrees**

In the discussion around the Bologna Agreement on Bachelor and Master courses, a list of Descriptors for a Bachelor Degree is defined.

According to this list, a Bachelor graduate needs to show the following descriptors:

#### **Bachelor 's Degrees**

Bachelor's degrees are awarded to students who:

1. have demonstrated knowledge and understanding in a field of study that builds upon and supersedes their general secondary education, and it is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study;
2. can apply their knowledge and understanding in a manner that indicates a professional<sup>5</sup> approach to their work or vocation, and have competences<sup>6</sup> typically demonstrated through devising and sustaining arguments and solving problems within their field of study;

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<sup>5</sup> The word 'professional' is used in the descriptors in its broadest sense, relating to those attributes relevant to undertaking work or a vocation and that involves the application of some aspects of advanced learning. It is not used with regard to those specific requirements relating to regulated professions. The latter may be identified with the profile / specification.

<sup>6</sup> The word 'competence' is used in the descriptors in its broadest sense, allowing for gradation of abilities or skills. It is not used in the narrower sense identified solely on the basis of a 'yes/no' assessment.

3. have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues;
4. can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences;
5. have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

(Harris, Nick, 2002.)



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## **KNOWLEDGE, MEDIA AND CONSUMPTION**

**Pekka Kalli**

### Abstract

Classical definition of knowledge presumes that proposition is “knowledge” if it presents truth belief and we have good reasons for it.

Consuming presumes that we have something to consume: product.

Products can be things (goods) or immaterial products.

Media (Press, TV, Internet etc.) intermediates mostly immaterial products.

I have three questions:

First: Is it possible to product Knowledge?

Second: Is it possible to intermediate Knowledge via Media?

Third: Is it possible to consume Knowledge?

In consumer society they speak much of “content producing”. When we use terms like content producing, I think we are thinking that we have ready made “Media” witch is full of emptiness and we must produce content to this empty space. And so we think that this Media is pure form witch do not have any content.

But as we know in many things the form is the content, and more: in very many occasions the form (Media) determines the content.

So I argue that it is not possible to consume Knowledge, because you can’t produce Knowledge in Media. So if the transition from Consumer Society to Knowledge Society means that knowledge becomes a product, this means that if our society is more Media society there is no future to Knowledge.

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## **Knowledge, Media and Consumption**

### ***1 Knowledge***

The notion “Knowledge” refers in recent studies mostly to three things. For example Kaj U. Koskinen (Koskinen 2001) explains the term as follows:

First, the term “Knowledge” is used when we refer to knowing, which in this content means acquainted or familiar with something. This usage of “Knowledge” corresponds to what is referred to as “know about”.

Second, the term “Knowledge” is used when we refer to “capacity for action” (Senge 1990), by which is meant an understanding of facts, methods, principles and techniques. This usage of the term corresponds to what is referred to as “know how”.

Third, the term “Knowledge” is used when we refer to codified, captured, and accumulated facts. This usage of the term “Knowledge” corresponds to a body of Knowledge that has been articulated and captured in the form of books, papers, formulas, computer software, etc. (Koskinen 2001, 17)

The first question which I want to point out is what the meaning of knowledge when we speak about knowledge society is?

I think that it is evident that in the third meaning “knowledge” in form of books, papers etc. is in fact a cumulative process. It is for example estimated that nowadays Scientific Journals

alone publish almost one million scientific articles per year. On the Internet there are about 1440 scientific Journals with open access. (Niiniluoto 2005)

## ***2 Is Media the Relation between Knowledge and Consumption?***

I think the way we are speaking about Knowledge above does not catch the core of the thing. The core is, so I want to stress out, the relation which mediates the notion of knowledge to the socio-cultural practice of man. We can formulate this relation with a help of the so called classic definition of knowledge. It presumes that the proposition is “knowledge” if it presents truth belief and we have good reasons (justification) for it. Here we have the relation between the notion “truth belief” (a) and “good reasons” (b). - We can then describe this with formula:

aRb, in which:

a= truth belief

b= good reasons

R=relation.

This is a definition and it tells us what we mean with the notion “Knowledge”. Then we have another problem: How can we identify what is truth belief? The logical answer is that truth belief is an entity that has or could have “good reasons”. So, we can sketch another formula:

a=b.

We can see that R is identity between two things which means in this context that it isn't a constant situation. It is rather the process, which takes place in human actions, it is the socio-cultural process, the praxis of human culture.

Now when we have articulated the definition and the method how to use the term “Knowledge”, we can ask: Is it possible to produce “knowledge”? Or rather: Is it possible to produce Knowledge so you can consume it?

Consuming requires that we have something to consume: the product. Products can be goods or immaterial products. So we can variate our question:

What are the good reasons for the product? Do products we have in the (post)modern society have good reasons?

I am afraid, we must answer: No. The reason (Causa) for the product is not reason (Logos): it is money, the process of accumulation of the capital. The reason (causa) for knowledge is still reason (logos), not production of money.

Why do we have this question or maybe the program “from consuming society to knowledge society”? I believe that it is rather the question about transformation inside the consumer society than a transformation from the consumer society. Knowledge is becoming more and more a product. This is a very controversial process.

## ***3 Is it possible to produce or transform Knowledge via Media?***

Media (Press, TV, Internet etc.) is in the center of this process. Media intermediates immaterial products but is ideal because in it you can incorporate the immaterial content. It seems like the material thing but its content is immaterial.

So we can ask: Is it possible that Media would be a relevant relation between truth believes and good reasons?

Here I think we can answer: both this and that. Media can be the form, or there must be some form between these two things, but it is not automatically the one and the only form. Rather, I think that in modern society Media is more and more not only a neutral vehicle between human beings. Media is a message and it has more and more preassumptions regarding the form. This is one of the paradoxes in the (post)modern world: Media is more and more material, but content of material is immaterial (but not spiritual).

In consumer society, we speak much about “content producing”. When we use terms like content producing, it means that we think that we have ready made “Media” or “Format” that is full of emptiness and we must produce content to this empty space. Thus we think that the Media is pure form which does not have any content.

But as we know in many things the form is the content, and further: in very many occasions the form (Media) determines the content or the possibilities of the content.

Thus I argue that it is not possible to consume Knowledge, because you can't produce Knowledge in Media. You can produce “Information”, it could be a product, but you can not produce Knowledge because Knowledge includes also the process by which it is generated. We have more and more of information and also disinformation in Media, but less of the process which produces Knowledge.

So if the transition from Consumer Society to Knowledge Society means that knowledge becomes a product, this means that if our society is more Media society and there is no future to Knowledge. Or in other words: It is not the question of transforming from consumer society to knowledge society what really is happening today, it is rather about that consumer society penetrating to the core of cultural tradition. New Media society tries to pack Knowledge in so you can consume it. For most of the people, the society remains more as a Consumer Society and only minorities are producers. It's the same process that has taken place in agriculture – there are only few farmers, but there is still food industry. Cultural industry does the same to Knowledge.

#### ***4 Is Education the Future for Knowledge?***

I have a Dream that Knowledge society could be, in the true sense of the word, also an evolutionary way to fight against the consumer society. However I believe that it is only a idealistic view, not a realistic one. I am not a pessimist: if the consumer society develops itself freely, there are also rights for minorities: the people who want to produce their own heads, minds and thoughts. There is still space for arts, science and free humanistic projects. It is the same process where Knowledge is growing. I do not believe that the Consumer Society has come to its end. I think this is just the beginning of a new friendship of Information, Consumption and Media. Knowledge is going another way, it has Camel Boots. Maybe Knowledge is walking with Education, or maybe not. It mostly depends Education itself, Educators, Schools and Organizations. But first we must free ourselves from the illusion that more Information equals more Knowledge.

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## **DIFFERENCES IN USING INFORMATION SOURCES AT UNIVERSITY AND SECONDARY LEVEL OF EDUCATION**

**Pavel Krpálek**

### Abstract

Information sources are an important component of the didactic system, mainly concerning the content of education. They have a direct relation to information and communication technologies (ICT) and to the non-material means of the education. It is a challenge for creative teachers and strong mean for improving the educational quality and didactic effectiveness, too. All students at secondary and tertiary level of education should achieve information literacy, and teachers must be able to create conditions for this implementation. A good information infrastructure and teacher's ability and motivation for using ICT create basic conditions for a successful implementation of ICT. The paper submits concrete research results of the internal research activities and the VEGA project with the title "Pedagogical and Psychological Aspects of Using Information and Communication Technologies in Higher Education".

### Key words

information sources, computer, network, Internet, Information and communication technologies, information skills, learning and teaching, didactic effectiveness and quality, research, questionnaire search, teacher training

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### **Introduction**

One of the fundamental components of didactic system is the content of education. Its quality is dependent not only on availability and level of information sources, on teacher's ability to work with these information sources but mainly on teacher's talent to delegate information competence to students and to teach them how to work with information effectively and on their own. Information and communication technologies (ICT) are major instruments when working with information. Information competence is one of the priorities of the Government Information Policy in Education which also defines functional and information literacy. Lessons following the new conception should not focus only on information and knowledge but mainly on student's skills of an individual, independent and productive work with growing number of data. Students should know enough how to work with information, how to select relevant information and effectively use it. That is why there is a tendency to implement ICT into educational programmes of schools. From the point of teacher's work it does not mean only updating and innovation of curriculum but also changes in creation and application of educational goals, changes in methods of implementation of material and non-material didactic means and methods of teaching.

### **Methodological aspects of work with modern information sources**

Implementation of the work with information into the educational programmes of schools is primarily dealt in the conception of Government Information Policy in Education. Its goal is to establish basic system conditions to work with information on the ICT basis, which means to reach computer literacy of teachers and students, to provide material, technical and logistic conditions to implement ICT into lessons, to interconnect information systems of schools and

then connect them to the information infrastructure of society. To carry out these goals it is necessary to finalise a high-quality information infrastructure and to provide suitable conditions to ensure the availability of computer classrooms. Inevitably, the demands on didactic training of teachers, on their creativity and the skill of electronic presentation of a lecture will be growing (5). Then, the personality of teachers remains the major factor of ICT implementation into education (1). Professional competencies are still a necessary condition, however not a sufficient one. The great aspect is teachers' motivation, their openness and willingness to learn new facts not only in their specialisation but also in ICT and in the field of its didactic application which mainly means application of educational methods based on individual work of students, activating teaching methods and integrated forms of lessons (4). Modern trends in education emphasise those methods which are based on student's activity, on mutual communication and activity-based lessons (3). Integration of education and learning by doing are the most effective means to acquire and use knowledge and ICT is a useful mean to achieve it. Printed and electronic study materials, study syllabus and information published on the Intranet or on publicly available web pages of schools are gaining more significance. Other prospective ways are the system of electronic publishing (in the Czech education eg. SMEP – system of multimedia electronic publication) and its connection with other information sources (electronic libraries) and implementation of WebCT system which makes it possible to create educational background based on www technology.

### **Methodology and results of the research concerning application of information sources**

The research activities of the Department of Education of the Czech University of Agriculture in Prague (nowadays the Institute of Education and Communication) are extremely extensive – they cover a wide range of present actual tasks in the field of education and advisory and are mostly dealt on the level of international cooperation. One of these research activities is a research inquiry concerning implementation of ICT on university and secondary level of education. These are, firstly, the VEGA project named “Pedagogical and Psychological Aspects of Using Information and Communication Technologies in Higher Education” compiled by the Department of Education and Psychology at the Faculty of Economics and Management of the Slovak Agricultural University in Nitra, and secondly an internal grant of CUA which inquires into conditions of implementation of ICT and its usage by teachers at secondary schools. The methods used in the above named projects were a questionnaire and further specifying interviews.

The research concerning university staff took place in 2004. The research sample has included 52 university teachers of all faculties and other workplaces of CUA. The varied structure of respondents has been a guarantee of an unbiased opinion - professors from faculties of nature studies (Faculty of Agro-Biology and Natural and Food Resources, Faculty of Forestry and Environment), professors of technical studies (Faculty of Engineering) and of humanities (Faculty of Economics and Management, Department of Education as an independent educational and research unit). These were mainly experienced teachers with a rather long job engagement at university (65 % respondents have had more than 10 years of teaching experience).

The questionnaire answered by secondary school teachers was organised during the final pedagogical training at agricultural, horticultural and forestry schools in 2004 and 2005. The research sample has included 55 respondents. These were mainly experienced teachers of more than 10 years of teaching career (73 % respondents). The research sample has aimed at teachers of vocational subjects, however respecting the variety of subjects – 33 % teachers of subjects of plant production, 20 % teachers of subject of animal breeding, 16 % teachers of

technical subjects and 31 % teachers of economical subjects. Because of the fact that the teaching practice are still in progress, not all questionnaires have been completed. The two compiled samples (plant production and animal husbandry) cannot function as a final satisfactory statement and we must wait for the total completion.

All university teachers have their own computer. More than a half of secondary school teachers share a computer either in a study/cabinet or a staff room. All university teachers and a majority of secondary school teachers (86 %) have an access to the Internet. 85 % university teachers but only 58 % secondary school teachers were satisfied by the parameters, reliability and equipment of computers. 81 % respondents at university and 80 % respondents at secondary schools were satisfied with the access to the Internet. Unsatisfactory serviceability/capacity of computers, absence of CD burning, DVD facility and scanners have been the most common negative comments of respondents. The Internet users at the university campus at Suchdol have been, apart from a few exceptions, satisfied with the speed of the Internet connection, there have been only few comments regarding the reliability of Internet connection and insufficient firewall protection. Secondary school teachers have expressed their dissatisfaction quite often – mainly concerning the low speed of data transfer, the instability of Internet connection and the fact that through/via/because of the Internet the local computer network is extremely bugged. However, this is a common problem of the Internet users.

All teachers prefer in their pedagogical work the office software, mainly text and table processors, the difference is only in using software for presentation. Secondary school teachers do not use it enough – they mainly blame unsatisfactory PC and presentation facilities in the classrooms. 79 % university teachers but only 22 % secondary school teachers occasionally make use of electronic presentation (mainly Microsoft PowerPoint programme) in their teaching. Using the Internet is mainly practised in the form of web pages (90 % university respondents, 85 % secondary school respondents) and e-mail (85 % university respondents, 80 % secondary school respondents), scarcely data acquisition via FTP (4 % university respondents, 2 % secondary school respondents) and hardly any respondents communicate in discussion groups and electronic conferences.

Two thirds of university teachers consider ICT very useful in their pedagogical work and they say they use ICT in classes more often (57 % respondents use teachware in classes, 40 % respondents work in classes with the Internet). The number of ICT users at secondary schools is significantly lower, only 42 % respondents. They mainly make use of the teaching software (29 % respondents) and the Internet (11 % respondents).

46 % university respondents and 68 % secondary school respondents prefer printed information materials in their teaching. It is interesting that 19 % university respondents publicise/edit their complete study materials on web pages, available to all people interested in the topic discussed. 21 % respondents have published their study material for CUA students on the Intranet of the university and 23 % respondents have occasionally edited at least selected sections of study materials on the Internet or Intranet. It is quite surprising that even some secondary school teachers publish their study/teaching material on web pages (10 % respondents) or on the local network of the school (12 % respondents).

The results of further specifying interviews have proved that respondents consider the implementation of ICT as a challenge and are willing to act in this respect. The majority of university respondents have adjusted their pedagogical approaches and methods of teaching to the new possibilities brought by ICT, namely in the field of transfer and fixation the knowledge (67 % respondents) and students' work with emphasis on their activity and participation during lessons (52 % respondents). The type and content of the passed information is of lesser/lower importance (36 % respondents). However, some secondary school respondents exaggerate the importance of the content, with 62 % respondents claiming

that their pedagogical approaches and methods have been influenced by ICT mostly from the point of type and content of the passed information. It is a challenge and space for creating information and didactic competencies within the educational activities of the Department of Education. There are newly accredited bachelor study programmes, courses of additional pedagogical study for teaching vocational subjects and finally courses of further education.



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## **HISTORY, PRESENT AND PERSPECTIVES OF TEACHING PRACTICAL TRAINING**

**Emil Kříž**

### Abstract

Agriculture has a specific character of production. Thus, the role of agricultural vocational education is irreplaceable. As the history of agricultural education reveals, teachers at agricultural schools were firstly and mainly agricultural specialists.

However, the development of agricultural education proved the necessity of pedagogical training of these teachers. Pedagogical training of teachers of agricultural and forestry schools has a long tradition in the Czech republic. A part of the study programme – teachers of vocational subjects – at the Department of Education at the Czech University of Agriculture (CUA) is the didactics of practical training. Agricultural education will surely undergo changes in content, knowledge and sources of information, as well as changes in methods and forms of education. This results in trends and perspectives of teaching practical training at secondary schools.

Present society, new production technologies, modern material devices and raw material sources, as well as new thinking of students call for new approaches mainly of teaching vocational subjects but also in general education of students and their out-of-school activities.

### Key words

agricultural production, educational system, history of education, practical training, teachers, agricultural and forestry schools, teacher training, the Department of Education, perspectives of teaching practical training



## **1. Introduction**

Agriculture has a specific character of production. Workers are in a direct contact with life nature and results of their work are directly dependent on climatic conditions. This specification results in an irreplaceable role of agricultural vocational education.

The main task of various school institutions is to prepare qualified young people for their future jobs. It is expected that schools will employ teachers of vocational subjects and practical training who will be not only specialists in their subject but will also have necessary knowledge and skills in the field of pedagogy, psychology, didactics and other subjects. Czech agriculture is undergoing a dramatic period of development. Development of agriculture and agricultural education has shown how needful the pedagogical training of these teachers is.

Pedagogical training of teachers of secondary agricultural and forestry school has in the Czech republic a long tradition. A part of study programme – teachers of vocational subjects – at the Department of Education at CUA is the didactics of practical training.

Teachers' training comprises not only gaining knowledge but also acquiring special skills. These skills do not cover only the individual subject topic but also communication in relationships, mainly in the relation teacher – student.

Pedagogical training is a process undergoing permanent changes. However, the aim remains the same – to prepare teachers of agricultural and forestry schools. Agricultural and forestry education together with the training of teachers of vocational subjects should actively

participate in transformation and advance towards European traditions. They should also effectively respond to modern trends, not only of Europe but world wide.

## **2. History and traditions in the teachers' training**

Pedagogical training of teachers of agricultural and forestry school has in our country a long tradition. First traces of the suggestion that a teacher of agricultural school should have basic knowledge of pedagogy and didactics appear as early as in 1875 in the provisional examinatorial degree for teachers of these schools. However, the main step towards the systematic pedagogical education of teachers of agricultural schools was accomplished in 1930 by the foundation of the "State pedagogical seminar teacher qualifiers in agriculture" in Prague. The congress in Rome (1932) adopted a resolution that a teacher of farming school must have not only complete vocational qualification but also pedagogical education. After secondary and university graduation, a teacher should mature in vocational practice and enhance their pedagogical knowledge at pedagogical courses (seminars) organised at the training schools.

A well mastered vocational practice by teachers of vocational subjects and of practical training accounts for basic prerequisites of successful teaching at secondary agricultural and forestry schools. There are no doubts when discussing the enlistment, content and importance of the subject practical training at secondary apprenticeship schools. However, the opinion regarding the subject practical training at secondary vocational schools is rather disunited/heterogeneous.

It is evident that even in the past of agricultural education, erudite and qualified people inquired into education of practical subjects – e.g. lessons of agricultural practice at Masaryk state higher farming school in Opava. "Opava method" of "practical training" was at 4<sup>th</sup> international congress of agricultural education in Rome entitled as "Czechoslovak" method and was recommended as a model/scheme for the whole of Europe.

Not every teacher of vocational subject might be automatically a teacher of practical training. A part from the article "Agricultural practice at Masaryk state higher farming school in Opava" by Dr. Drahný demonstratively talks about teachers of practical training: "All teachers in Opava, apart from one, were from farming families and heartily mastered nearly all farming tasks. However, it might occur that a teacher did not have a perfect knowledge of some work. Anyway, this might happen even to a master. At our school, not knowing some grip or device did not reduce the authority of a teacher".

## **3. Lessons of practical training in present**

Lessons of practical training take place at schools and school institutions or workplaces of an individual or a corporate which all have a licence in the same field as the specialisation of the course and had entered with the school into an agreement concerning the content and range of practical training and the conditions of holding the lessons.

Students during the lessons of practical training are obliged to follow regulations of work code, which state working hours, safety and health protection at work, employee welfare and working conditions of women and young people and other directives concerning safety and health protection at work.

Organisational forms of practical training at secondary vocational schools

Teaching practical training at secondary vocational (agricultural) school is performed in the following organisational forms:

- A/ instructional training
- B/ individual practical training
- C/ practical training during holidays

Instructional and practical training take place at schools, school institutions and workplaces of an individual or a corporate in the amount stated in the frame educational programme.

Instructional and practical training at schools and school institutions are led by a teacher of practical training. At the workplaces of school institutions and of an individual or a corporate it is supervised by instructors.

The purpose of practical training is the mastering of basic skills, activities and habits and making products while executing jobs which have material value.

#### Organisational forms of teaching practical training at secondary apprenticeship schools

##### 1. Individual practical training

A student is assigned to a particular qualified worker (instructor) who has same competence and responsibility as a teacher of practical training.

##### 2. Group practical training

A group of students of the same specialisation is led during one school day by a teacher of practical training at one workplace (most often a school workshop).

There are the following types of lessons:

- frontal education
- education in teams
- individual education

#### **4. Future perspectives**

The reason of a two-level/degree curriculum is to give schools authority to create/design their own school educational programmes (SEP). SEP will be a fundamental document, following which the school will carry out lessons of particular specialisation. In order to successfully realise these tasks, it is necessary to create at school farms sufficient conditions for mastering required practical skills and activities in the form of seminars and instructional and practical training (both individual and holiday).

SEP must include a minimum of 630 lessons (for the whole course) of instructional and practical training. Practical training might be also carried out during summer holidays with maximum of 200 lessons (for the whole course) at workplaces of an individual or a corporate, which have a licence to practice jobs related to the course specialisation.

The lessons of practical training make it possible to students to check up theoretical knowledge acquired during lessons of plant production, animal breeding and ABC/basics of mechanisation. The aim of the lessons is to prepare students for the wide range of jobs in agricultural basic industry, services, commerce and other fields of agrarian sector. The function of the lesson is to learn by practice basic skills and to use theoretical knowledge in practice.

Practical training enable to build up the following basic skills of:

- plant production
- animal husbandry
- effective usage of agricultural machinery

- commerce and entrepreneur activities
- activities related to landscape creation and environment protection

The lessons of practical training at school farms or various agricultural enterprises enable students while meeting instructors and employees to gain personal and communicative skills. The subject Practical Training is taught in the form of instructional and practical training. During the instructional training, the class is divided into groups and each group works under a direct supervision of a teacher. Practical training is conducted in an individual or holiday form either at a school farm or various agricultural enterprises. In case of practical training conducted in agricultural enterprises, these companies must have entered into "Agreement of practical training". The training is organised by a designated teacher and the supervision is conducted by instructors of school farms or contracting/contractual institutions.

## **5. Conclusion**

Looking back into history, it is clear that agricultural education in the Czech republic has a long tradition. In spite of having a shorter history, training of teachers of vocational subjects for agricultural and forestry secondary and apprenticeship schools has been running for many years. The State pedagogical seminar and later the Department of Education of CUA in Prague has trained thousands of pedagogical workers, who have found jobs at secondary vocational schools and apprenticeship schools and other workplaces. They can apply their knowledge in communication with other people, at various staff training, seminars, lectures etc.

These days we commemorate 75<sup>th</sup> anniversary of commencement/introduction of an organised pedagogical training for specialists in agriculture and other related fields. In the course of several days the courses organised up to the present by the Department of Education of CUA in Prague will have new dimension. The Department of Education together with other two related departments will establish/form an Institute of Education and Communication. The new conception of the courses for teachers will partly reassume the above mentioned traditions but will inevitably implement new methods, approaches and forms of lessons by using modern media/didactic means. I hope that the lessons of teachers' training will even in future include/cover didactics of practical training and future teachers will understand the necessity of perfect mastering of practical skills.

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## **IMPLEMENTATION OF MODERN INFORMATION - AND COMMUNICATION TECHNOLOGIES (ICT) IN AGRARIAN VOCATIONAL INSTRUCTION**

**Michael Martin**

### Abstract

Self responsible learning while using new methods and medias should be expressed in form of “Cooperative Learning” or “Collective Learning”. By realising of modern teaching- and learning- arrangements in such a way, the learners will be supposed to open up elements of knowledge *self-responsible together with others* and build up new cognitions while working collaboratively, for example while working in groups. In this connection self responsibility means to bring responsibility for learning-process from teacher to learners increasingly.

Nowadays you barely find suitable didactical concepts for developing modern teaching- and learning arrangements, which supports learners to acquire self-responsible professional content at the same time with developing media literacy and methodological competences. In particular the aspect of student’s self-responsibility has to be developed step by step. This means to realise a mixture between instructional and constructional elements. The author developed two examples for that kind of teaching- and learning-arrangements, one for the subject “Photosynthesis”, the other for the subject “Green Gene Engineering”.

But how to evaluate such teaching- and learning- arrangements? This question should be – beside the introduction of the concrete teaching- and learning-arrangements – in the centre of discussion while workshop.

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### ***Teaching- and learning-arrangements including modern media for the topics “Green Genetic Engineering” and “Photosynthesis”***

The author developed and tested in connection with a Leonardo-II-Project and his doctoral thesis two teaching- and learning-arrangements (instruction-series) for the technical instruction in horticultural vocational schools. Learners should use modern media (ICT) themselves in their learning-process, that’s why it is necessary to create suitable teaching- and learning-arrangements. The topics “Green Genetic Engineering” and “Photosynthesis” are part of the subject “biological basics in horticulture”, both are well appropriated for using ICT in technical instruction. The developed instruction materials are quite extensive, therefore the following should give a short overview to the structure of the teaching- and learning-arrangements. Furthermore should be given an impression about the intentions of computer-supported instruction (CSI) and inform especially about the implementation of the materials in the technical instruction.

### ***Why implement modern ICT in horticultural vocational schools?***

„Information has become the fourth greatest economic factor – as important as raw materials, labour and capital [...]“. This illustration of the Federal Ministry of Economic Affairs emphasizes today’s importance of „New Media“ in the profession, because no other medium is able to provide information as quickly and descriptively as the computer. That is true for online information via the Internet as well as offline via the Intranet or respective programs. The declared goal here is the capability to gather such generally non-linear structured information, to be capable of oriented movement through them and to transfer the newly gained experiences and to integrate them into existing knowledge.

Computer operation has become a primary cultural technique in addition to reading, writing and calculating. Therefore it is indispensable to develop appropriate competency in the learners also in the school's vocational education. For this purpose the modern information and communication technologies are to be integrated into the technical instruction as well. The competency mediated in such instruction should also provide a contribution to the ability of life-long learning.

***Which conditions are to be fulfilled for this computer-supported instruction?***

In order to be able to sensibly implement the teaching-learning arrangements, the starting requirements should first be explained.

*The technical starting requirements:*

- Sufficient number of modern PCs with Internet access and the possibility to save data
- Internet browser (e.g. MS Internet-Explorer)
- Text processing program (e.g. MS WORD)
- Presentation program (e.g. MS PowerPoint)
- Projection equipment (e.g. beamer)

*Personnel starting requirements (for students **and** teachers!):*

It is certainly necessary for teachers to be familiar with these media to an appropriate extent in order to be able to perform a target-oriented, computer-supported instruction with the above-mentioned new media.

- Basic knowledge of EDP:
  - Secure handling in computer operation (keyboard, mouse etc.)
  - Secure handling in basic functions of the operating system (program starting, copy function, searching folders etc.)
  - Secure use of the standard vocabulary (what is a program, register, button etc.)
  - Basic knowledge in operating standard software (Internet browser, text processing program, presentation program)
- Basic knowledge in program routines:
  - Interpreting program surfaces
  - Executing display instructions
  - Navigating through program menus etc.

If these starting requirements haven't yet been taught to the students in the general educational school, the following path of basic competency development at the vocational school (region Berlin) is possible:

Imparting the required basic competency should be pre-positioned in the first educational year, which could be put into practice according to the framework curriculum in the learning

subject 1) in „*Basics of electronic data processing, information systems and devices*“. This could take place as a bloc presentation or as a year-long instruction.

*Formulating goals (must be fulfilled before starting with the teaching- and learning-arrangements):*

Students are secure in basic computer handling. They are also familiar with the basic functions of the operating system and of the standard software and are able to use and operate them in an expert fashion.

*Time frame for realising the teaching- and learning-arrangements:*

Depending on the student's knowledge the time expenditure needed to reach the instruction goal is naturally quite variable. Based on sufficiently fulfilled personnel and technical starting requirements, the instruction goals are to be achieved after three to four instruction blocs, using the developed materials. In the preliminary stages, according to the student's knowledge, however, additional time can be scheduled, in order to be able to close possible gaps in the subject-related basic knowledge.

*Methodical advice:*

Students should work to a great extent independently in groups (task-oriented) of 3-6 persons. Co-operative learning should be fostered, therefore the group formation is to be carried out according to the students' existing abilities / interests. To be able to perform the teaching-learning units, one computer for a maximum of two students would be ideal. A „computer pro“ in each group would be advantageous. Each group gets an information folder, in which they will find all necessary information materials. Copies of these materials are available there for every single student. By means of such a procedure different interests, types of learning and levels of knowledge can be taken into consideration and adjusted. Within such an action-oriented instruction („learning by doing“) the learner is at the event's focal point; the teacher takes the role of a learning advisor and / or moderator.

***Which materials are to be found in the concrete teaching-learning arrangements?***

To implement the teaching-learning arrangements (teaching-learning units) you should become familiar with their structure and intention. Therefore materials have been developed on the topics „Photosynthesis“ and „Green Genetic Engineering“, which are structured according to logical points of view such as follows.

- 1) Information on the development of the teaching-learning arrangement (Implementation of the strategy in using modern information and communication technologies in agrarian vocational school instruction)
- 2) Rough plan of the teaching-learning unit
- 3) Instruction goals in the teaching-learning arrangement
- 4) Instruction procedure planning (detailed planning for three instruction blocs)
- 5) Teaching-learning unit questionnaires for student pre- and post-inquiries
- 6) Entrance presentation to introduce the topic of the teaching-learning arrangement (to be done by the teacher at the beginning of the teaching-learning unit)
- 7) Cover sheet for the student information folders
- 8) Contents of the student information folders

- a. Group information (tasks / problem description for the work-oriented student groups)
  - b. Tips for students on Internet research / master copy to document the employed Internet addresses
  - c. Master copy to create a technical glossary / tips for students to publish and/ or present the gained results.
- 9) *Only for the teaching-learning arrangement "Green Genetic Engineering:"*
- a. Work sheet to gather results
  - b. Work sheet solutions
- 10) (9) Final presentation to secure results / as didactic reserve (to be done by the teacher at the end of the teaching-learning unit)
- 11) (10) Test work (to examine the students' gained technical competency after having finished the teaching-learning unit)

### ***Where can be found background information on the topic?***

The most current information on the topics modern information and communication technologies (ICT), computer-supported instruction or modern horticultural education can naturally be found in the Internet. A list of links follows; the mentioned sites often contain further links to other interesting and informative sites. You should forgo a classical list of literature, but you will find a great assortment of technical literature in specialized book stores.

<http://www.agrar.hu-berlin.de/wisola>

<http://home.t-online.de/home/peter-lenne-schule.cids/>

<http://www.lwg.bayern.de/>

[http://www.rrz.uni-hamburg.de/biologie/b\\_online/d00/inhalt.htm](http://www.rrz.uni-hamburg.de/biologie/b_online/d00/inhalt.htm)

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<http://www.dega.de/GHIZ2DHAAtAHAaEIZ2DH2tBX+p.HTML>

<http://www.learninglab.de/elan/kb3/index.php?id=243>

<http://www.teil4.de/info/>

[http://www.contentmanager.de/magazin/artikel\\_139\\_erfolgsfaktoren\\_e\\_learning.html](http://www.contentmanager.de/magazin/artikel_139_erfolgsfaktoren_e_learning.html)

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<http://www.iwm-kmrc.de/>

<http://www.iserp.lu/ch-max/cours1/konstruktiv/design.htm>

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<http://www.gerberonline.de/all.htm>

<http://www.biokurs.de/skripten/bkurse10.htm>

<http://www.olev.de/m/methodenkompetenz.htm>

<http://de.wikipedia.org/wiki/Photosynthese>

Should there be a need for further information especially on the developed teaching-learning arrangements, inquiries can also be addressed to michael.martin@rz.hu-berlin.de.

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field – cyberenvironment, as well as new professional needs – cybercommunication skills and competencies.

### **General background**

People have had more than 50,000 years' experience in the use of speech and gestures, 5,000 years' experience in writing, and more than 100 years' use of the telephone. This cultural history should not be taken lightly; the entire fabric of our society has been shaped in significant part by cultural accommodations to our means of communication. As individuals of the species, living within a particular culture, we have a particular massaging history. From birth we learn speaking roles and rules of conversation. By age four or five, some basic telephone habits are learned. By age of seven we are writing nontrivial messages. The average adult has accumulated hundreds, perhaps thousands, of rules of behaviour regarding telephone and written ethics and etiquette, from practical experiences with these tools since those early days. University graduates whose skills and experience are developed and enriched at the specialised university seminars and lectures, enters the world of business, the world of professional communication. Whether they are doing business on the telephone, at lunch, during a conference or by e-mail, they project an image that reflects their entire corporation, and the wrong image and attitude can be costly. In highly competitive markets where many companies offer similar services and products at similar, how you treat your customers may be as important to the company's success as the quality or price of the product. When you possess good manners, it puts your clients and customers at ease, increases customer satisfaction, and positively affects the company's bottom line. Therefore at this stage there is a need for experimentation to find what can be done and what gives the best results. This process itself affects the expectations of both student and teacher. If we are to fully understand the interrelationship between technology and learning, we have to investigate the broader context that affects learning in today's society, both inside and outside the classroom. This can be best accomplished if we expand our area of interest to engage in critical qualitative research, which attempts to take into account broad socio-cultural factors as well as questions of human agency, identity, and meaning.

### **New needs in engineering education**

Since e-mail has become the most advantageous tool of communication, there is an important task to introduce it not only as a communication technology, but also as a powerful professional tool influencing professional environment (company result, corporeal identity and culture, partners and customers' satisfaction, etc. Email is cheaper and faster than a letter, less intrusive than a phone call, less hassle than a FAX. Using e-mail, differences in location and time zone are less of an obstacle to communication. There is also evidence that email leads to a more egalitarian information structure. Electronic communication, because of its speed and broadcasting ability, is fundamentally different from paper-based communication. Because the turnaround time can be so fast, email is more conversational than traditional paper-based media. In a paper document, it is absolutely essential to make everything completely clear and unambiguous because your audience may not have a chance to ask for clarification. With email documents, your recipient can ask questions immediately. E-mail thus tends, like conversational speech, to be sloppier than communications on paper. This is not always bad. It makes little sense to slave over a message for hours, making sure that your spelling is faultless, your words eloquent, and your grammar beyond reproach, if the point of the message is to tell your co-worker that you are ready to go to lunch. However, your correspondent also won't have normal status cues such as dress, diction, or dialect, so may make assumptions based on your name, address, and - above all - facility with language. You need to be aware of when you can be sloppy and when you have to be meticulous. E-mail also

does not convey emotions nearly as well as face-to-face or even telephone conversations. It lacks vocal inflection, gestures, and a shared environment. Your correspondent may have difficulty telling if you are serious or kidding, happy or sad, frustrated or euphoric. Sarcasm is particularly dangerous to use in email. Another difference between email and older media is that what the sender sees when composing a message might not look like what the reader sees. Your vocal cords make sound waves that are perceived basically the same by both your ears as your audience's. The paper that you write your love note on is the same paper that the object of your affection sees. But with e-mail, the software and hardware that you use for composing, sending, storing, downloading, and reading may be completely different from what your correspondent uses. Your message's visual qualities may be quite different by the time it gets to someone else's screen. Thus e-mail compositions should be different from both the paper compositions and speech. Using internet for professional issues does not mean only e-mail use. There are much more rules to be kept. The world "etiquette" means "the forms required by good breeding or prescribed by authority to be required in social or official life". Etymologically, it comes from the French word for "ticket". If you know the etiquette for a particular group or society, you have a ticket for entry into it. What is Netiquette? Simply stated, it is network etiquette - that is, the etiquette of cyberspace. In other words, Netiquette is a set of rules for behaving properly online. When you enter any new culture - and cyberspace has its own culture - you are liable to commit a few social blunders. You might offend people without meaning to. Or you might misunderstand what others say and take offense when it is not intended. To make matters worse, something about cyberspace makes it easy to forget that you are interacting with other real people - no just ASCII characters on a screen, but live human characters. Newsgroups and discussions often refer to the vandalism or stalking or viruses that exist on the Internet. We are all aware of the questionable material that exists on the Internet even though we may not have accessed it ourselves. The "bad stuff" is out there ... and our job is to avoid it. Netiquette includes not only avoiding the questionable material, but also items such as citing Internet resources in papers and presentations, including greetings and closings on e-mails, being aware of high traffic times on the net and not trying to conduct large downloads. Netiquette includes the large and small issues and demands that we ask, "Is what I'm doing responsible behaviour?"

### **Conclusion**

Today more people are employed collecting, handling and distributing information than in any other occupation. Millions of computers inhabit the earth and many millions of miles of optical fiber, wire and air waves link people, their computers and the vast array of information handling devices together. Our society is truly an information society, our time an information age. There are many unique challenges we face. They stem from the nature of information itself. Information is the means through which the minds expand and increase its capacity to achieve its goals, often as the result of an input from another mind. Thus, information forms the intellectual capital from which human beings craft their lives and secure dignity. However, information has become a form of garbage. It comes indiscriminately, directed at no one in particular, disconnected from usefulness. We are swamped by information, have no control over it, and don't know what to do with it. We do not think any of us can do much about the rapid growth of new technology. A new technology helps to fuel the economy, and any discussion of slowing its growth has to take account of economic consequences. However, it is possible for us to learn how to control our own uses of technology. The "forum" that we think is best suited for this is educational system. If students get a sound education in the history, social effects, psychological and ethical biases of technology, they may grow to be adults who use technology rather than be used by it.

### **Acknowledgements**

The paper is published with a support of the 3/107803 National KEGA Grant Research Project.

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## KNOWLEDGE SOCIETY

**Monique Montagne**

### Abstract

*Knowledge society...* what a splendid plan! What a big challenge for the whole world! But let's consider what it means...

In many cases, *knowledge* means *Information*, and the topic of digital divide appears. What about relevance and wisdom?

The development of e-learning, the increasing number of websites, are considered as an objective improvement of knowledge. But who benefits from ICTs? What is the link between the use of computers and the clever selection and application of information?

Some economists were thinking that computers would be the new teachers, cheaper and less unpredictable...Does it mean that the teacher is no more compulsory in the learning process?

Of course, not at all! Obviously, teaching methods are changing, and taking into account the enormous possibilities of electronic and multimedia. However, the main role of the teacher remains to facilitate learning and appropriation of knowledge, to open the student's mind, and to arouse critical thinking and creativity.

The goal of teacher training may be to improve teaching skills not only in using new tools, but also in managing an intelligent and balanced use of them.

Nevertheless, though inequality between countries is growing with the digital divide, it would be silly to consider that knowledge is the privilege of electronic countries.

Therefore, let's find together how we can exchange our experience, communicate in networks, combine our research, and improve our common knowledge.

Teachers may be the guides of this new step in the learning process.

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### *... and what about wisdom?*

UNESCO, The World Bank, and other great international institutions have been planning for us the *Knowledge society...* what a splendid plan ! What a big challenge for the whole world, and far more motivating than *Consumers society*, for teachers! But let's consider what it means...

- My first trouble concerns the fact that most of the development of this topic is seen under the economic point of view, as you can check in the EU web pages, not under the educational or cultural one.
- In many cases, *knowledge* means *Information*, and the topic of digital divide appears. The development of e-learning, the increasing number of websites, are considered as an objective improvement of knowledge. But who benefits from ITC? Mostly, the teaching seems to be disseminated from digital countries to non-digital ones. Is it innocent?
- What is the link between the use of computers and the clever selection and application of information? What about relevance and wisdom?
- Some economists were thinking that computers would be the new teachers, cheaper and less unpredictable...Does it mean that the teacher is no more compulsory in the learning process?

Those are the questions I would like to debate with you.

### **Information and Digital divide???**

Most people would agree that, though our modern period surpasses all the previous centuries in technical knowledge, there has been no real improvement in wisdom...Nevertheless, the common feeling is that increasing the access to computers and to internet, will bring economic success. Then, many development projects have been focused on the bridging of the digital divide. So many skills and knowledge should be acquired by means of the new learning technologies!

However, some years later, this optimistic conviction has had to be modified. Even , according to an ambitious research project carried out by Stanford Institute, the “digital divide is a myth”. First, there is evidence that the divide has more to do with factors such as education and age, than any other difference. Second point, during a long time, this divide has not been analysed scientifically. According to this criteria, somebody who has not got time to send e-mails, and values his privacy so much he refuses to carry a mobile phone in order not to be called all the time, would be counted among the “information-poor”, while the person working all day long in front of a computer would be “information-rich”!!

The flaw in this argument is that there is no necessary relationship between owning ICT and the way in which people decide to use them.

Moreover, for ICT to have social benefits, many things have to be planned. Indeed, the knowledge society will inevitably become far more competitive than any society we have yet known, for the main reason that with knowledge being universally accessible, there are no excuses for non-performance. There will be no longer unlucky people, there will only be ignorant people.

We obviously have to improve ICTs use as investment in low-cost information, and easier access to learning, even for disadvantaged people or regions. However, it could be dangerous to have too much faith in digital solutions to the planet’s ills. Bill Gates himself offered the confession that he was naïve when he hoped to “*bring the benefits of connectivity and participation in the e-economy to all of the world’s six billion people*”, after travelling in Africa. Also Anne Pettifor, director of Jubilee 2000, speaking at a G8 summit in Japan declared: “*To the thousands of children in the poorest countries who die each day of hunger, IT training is irrelevant. They cannot eat cybbercake.*”

Well, I don’t want to insist more. ICTs are indeed wondrous things, but they are merely tools! And now, suppose you’ve got access to INFORMATION. What about KNOWLEDGE?

### **Knowledge...**

UNESCO, during the World Summit of the Information Society (2002) promoted the concept of knowledge societies rather than that of information society, explaining that a more complex, holistic, and comprehensive vision and a clearly developmental perspective are needed. They described four principles considered as essential for the development of equitable knowledge societies: cultural diversity, equal access to education, universal access to information, freedom of expression.

Because knowledge is not only collecting data from the web...I remember this English joke about a young boy asking to his father: “Oh Dad! What is this strange little laptop, without battery, so light, easy to carry in my pocket, and so cheap???” “It’s a book, my son!” Seriously speaking, many other sources exist, in formal or informal education. “*In addition to technological and theoretical skills, competencies in creativity, tolerance, appreciation of diversity and social skills form an important part of any high quality educational system*”, declared Noel Dempsey, Irish Minister of Education and Science, when taking the leadership of European Ministries of Education.

What happens if these principles are ignored? I'll tell you about an adventure reported last month in a seminar in France by a philosopher, Mohamed Taleb.

Around 1970, in Bangladesh, UNESCO was involved in a project about health and precisely the children dying because of the bad quality of the drinking water. They tried to convince people to drink water from the thousands of wells they had dug for them. But the old people didn't agree, saying that it was the devil's water. The scientists had to teach the population, and ten years later, everybody drank the water from the wells. What a success for knowledge, against ignorance and archaic thinking, wasn't it? Unfortunately, not! Because the children's mortality didn't decrease. And the World Health Organization decided to analyse this water...then they understood that the old people were right: in Bangladesh soils, there is one of the biggest lakes of natural arsenic in the world! And they closed the wells!

In this case, knowledge had remained in old people's minds, it didn't seem logical to listen to them; ancient Greeks used two words to describe the human word: *mutos*, which means the expression of collective mindness, linked with old legends, and faith, verbal or non-verbal; and *logos*, meaning the logical expression of the thinking and reasonable mind. With increasing scientific knowledge, only the *logos* survived, and we no longer trust the *mutos*. However, sometimes, we should check to see if we haven't missed something...

### **Wisdom**

This story could cast light on what I would call a lack of wisdom. I'm sincerely convinced that the previous conditions to get wisdom are learning with humility, tolerance, and listening to everybody, even before teaching.

So, the current scope of the digital countries taking the leadership of the global knowledge societies, and giving the model to less digital ones is terrifying! Even, some countries are legitimately afraid with this scope of losing their identity, their original thinking, in the storm of digital globalization.

It's necessary to collect and disseminate all the knowledge remaining in all the countries. Only this kind of empowerment has to be. Old civilisations, remote countries, traditional groups, have a lot of data to exchange, and to offer to new electronic states, so involved in modern processes that they sometimes forget the essential goals.

This could be the best challenge of ICTs: give the opportunity to share information, knowledge and wisdom, coming from all the partners of this connected world.

Two years ago, some of us were in Barcelona, with Milan Slavik, at the Polytechnic University, and we met some colleagues, involved in a splendid development project; they were creating electronic libraries in Mongolia, to help the migrant shepherds with their cattle. As the climate is changing, they couldn't find more grass for their sheep in the ways they traditionally used. So, with our Spanish colleagues' help, they built some houses with computers, giving the information about the weather, the grass, the best way to drive the cattle. And they trained the migrant shepherds to use them. And our colleague Adolfo from Barcelona was still impressed by all the knowledge he could get living with these people. He explained to us how they combined the technical structure, given by the Spanish experts, and the great sensitive and ancient knowledge of the earth, the animals, and the daily life of the Mongolians.

Because, education and wisdom are also built from sensitivity. If education must provide everyone with the opportunity to achieve his fullest potential, self-confidence and open-mindedness are mostly linked with sensitive perceptions. Do you want to know my country, France? I'll invite you to have a drink of some good Burgundy wine with a group of friends, to walk slowly in the streets of a small town, to read some pages by Flaubert... I guess you will understand better than looking at the French Embassy website..

And at the top of the list, I think the ethical scope is unforgettable if people want to declare “I know” French philosopher Montaigne wrote on the walls of his library: “que sais-je?” what means “what do I know?” This erudite was doubting about his knowledge in such a strange and complicated world. Fighting against the human rights divide can be a more enthusiastic goal than the digital one.

### **And what about teachers?**

So, dear colleagues, what is our role in this process? Well, I suppose that teachers, that you are more and more necessary. Previously, we were in charge of the students and teachers scientific training. We can now find a precious help with ICTs. But, at the same time, we have to train students to cleverly use these new tools, to manage an efficient process of analysis, selection, and synthesis.

We are living in a new world, as well. We have to learn and to teach how to assimilate in our own work specialized knowledge from other areas and other disciplines; pluridisciplinarity is now becoming compulsory. It’s a great challenge, and so interesting!

So, we must work in teams, and so much because ICTs could increase loneliness, with a lack of human relationship, and an obsessional use of digital tools.

How to integrate oneself into a team, how to switch from one kind of team to another, what to expect of a team, and what to contribute to a team, here are some of our compulsory topics in the training process.

In this framework, we ‘ll have to improve more and more exchanges between teachers, trainers, and students. We’ll have to find opportunities to organize these exchanges not only as optional ones, but as compulsory steps in the learning process. Our common Comenius projects of trainee exchanges must be enlarged and officially recognized.

But I’m not afraid of this challenge, we will work in teams, and networks, and use all our relationships in this enthusiastic scope. Knowledge and friendship are brothers...

And now, I would like to invite you to consider Bertrand Russell’s opinion:

*Even the best technicians should also be good citizens. And when I say citizens, I mean citizens of the world, and not of this or that sect or nation. With every increase of knowledge, and skill, wisdom becomes more necessary, for every such increase augments our capacity of realizing our purposes, and therefore augments our capacity for evil, if our purposes are unwise. The world needs wisdom as it has never needed it before; and if knowledge continues to increase, the world will need wisdom in the future even more than it does now.*



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## **SCHOOL ORGANISATION DEVELOPMENT IN THE PERSPECTIVE OF A KNOWLEDGE SOCIETY**

**Marie-Odile Nouvelot**

### Abstract

1. The school restructuring process around the concept of "Ethical Learning Community" is strictly linked to the perspective of the "Knowledge society".  
The school organization should be developed from this point of view around 3 axes: caring, inclusive and empowering strategies (Blase, 1993)
2. There are different way of questioning about the school's development strategies and the school educational policy:
  - Its way to manage its margin for autonomy in the national/ regional/ local context more or less opened with competition
  - The way, its values and missions are rooted in rural culture and environment: training offer, diversification of the activities; student support, anticipation new employment...)
  - Strategy of integration of the educational action
  - The way the school manages change, innovation and empowerment of all the stakeholders (M.Gather- Thurler, 2000, 2004)
  - The way the school system is monitored (Foundation Baudouin, 2004).
3. The purpose of the project Comenius 2 EPIDORGE which I coordinate is to question about the concomitant process of the student development and the school development around two key issues:
  - The process of organizational training of the students
  - The strategies of educational integration of the school activities

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Since 1996, we have made **the educational element of school policies our main subject of study**

The comparative study of educational tasks and roles makes it possible to question the method of dividing educational work, (Masson, 2000, p.245), the foundations of the daily organization of schools and especially their capacity to mobilize their margin of autonomy.

The work of reflection using concrete questions concerning educational instruction, "how it relates to rules, to justice, to citizenship, to democracy and to control" (Bouvier, 1999) seems to us to be a model for the work of negotiation and integration through which the school constructs its "individuality" (Ballion, 1991, p.59).

The updating of the processes through which the schools organize and implement their educational missions, was completed in two phases.

In this first phase (1997-98), we focused on an **anthropological and organizational approach to the daily organization of the school** by carrying out one or two case studies in each of the three countries being studied, France, Italy and England. We carried out several series of observations and interviews with all categories of staff and with student representatives so as to discover the norms, the perceptions of these norms and the living conditions which characterize the culture of each of the schools and to measure the level of integration and autonomy. These studies highlighted the small degree of integration of educational actions in the schools being studied, apart from in England, and the significant difference in France between the educational objectives proposed by the legislative texts

(example: educational framework law of 1989, modifying the agricultural educational law of 1984...) and how they are interpreted by the people directly concerned as individuals or in groups, in the absence of any internal or external evaluation of the situations or of the educational actions.

Next, from 1997 to 2000, we carried out a project of **European research-action** as part of the Socrates-Comenius program around these same issues, called PPePee, "Student's personal plan and the educational policy of the school". Fifteen associated schools used an inventory of practices and several surveys with students and staff. The assessment carried out made possible to be more familiar with the variety of initiatives developed in the extra-curricular area, particularly as regards initiation, support, preparation for integration into the world of work and the level of participation of the people concerned, notably the students, in the implementation of such initiatives.

Since October 2004, we carry out a new Comenius project, EPIDORGE, focused on the "Student empowerment in the daily school organization" in the perspective of an "Ethical Learning community".

In the previous Comenius project PPePee, we noticed that the schools gradually become aware of the necessity of implementing support actions for education and for training but it is difficult to make such change in the traditional approach to the teaching profession. This implies systematically and continuously reorganizing educational action to increase its effectiveness (Charpentier, 1994). If we consider the school as a professional bureaucracy, two methods of approach for making change, though uncertain, may be considered (Gather – Thurler, 2000, p.52).

A first possibility would involve, as in England, drawing up detailed conditions of contract for the school, in which it must clarify its procedures and the expected results. This bureaucratic method can only be effective if these tasks are evaluated as part of a regulatory procedure combining self-assessment and external assessment (Meuret, 2001).

Second possibility, count on the professionalism of the staff so that the future of the young person is considered as a sufficiently important issue and that this becomes the concern of each and everyone in the school.

In both cases, it involves making a radical change to the teachers' and the students roles, as P. Perrenoud mentions regarding "the skills approach" (1997, p.72-89).

To characterize the management of the school educational action after a first assessment in the partner schools of the Comenius project, we drafted in September 1997 a **theoretical and operational model of educational strategy** inspired by the self-analysis methods carried out in the schools, theories of learning by objectification of the action (D. Schon and C. Argyris, 1974) educational literature concerning student plan support and using our previous work with regard to the steps involved in a school plan (M.O. Nouvelot, 1992 p.11-20).

We called this integration model of educational action "M.S.E." since it is aimed at integrating in an organic way three logics of educational action; Monitoring, Support and tutorial system and Empowerment (Proceedings from the Study days in Quimper, 2000, p. 3,4,12,25-37).

### **A tool for measuring the level of integration of educational action**

To compare the level of integration of educational action of schools and their capacity to have an influence individually or collectively on the course of events, we developed four gradients by combining the three aspects of the ideal typical model of integration "M.S.E.", with the

three types of reflective rationality of Schon (1983) the typology of Posch (1987) on the attitude of schools faced with innovation regarding environmental education (1994, p.92).

### *1 First gradient: the degree of objectification of educational practices*

The objectification of practices that may be likened to the “production of local knowledge” (Posch, 1994, p.67), constitutes the foundation of the educational strategy developed in the name of the “M.S.E.” model. It is indispensable for formalizing, evaluating and integrating the various practices in coherent systems and for sharing responsibilities, redistributing power and knowledge between all the parties involved in the educational action.

In the Comenius research-action, the work undertaken using data collected from observations and from questionnaire surveys, enabled all the schools to become aware of a number of malfunctions, for example, the initiation period, and to solve them spontaneously. Most of the schools went further by testing new well-defined practices, with regard to information, careers advice, preparation for integration into the world of work, for example, and by periodically re-evaluating the impact of such practices, but none of the schools succeeded in implementing total objectification, with the exception of the English schools, which took a fresh look at and reorganized their support system (Tutorial system) by producing a new manual for the tutors.

### *2 Second gradient: the degree of coordination of educational practices*

The method of coordination is the main functional determining factor in the structure of an organization “the basic elements are the division of work and the means of finding coordination between the different tasks”. It is using this premise that Mintzberg (Human Sciences, 1998, H.S. No. 20) developed the seven models of organization, among which that of the professional bureaucracy, founded on the specialization and standardization of skills, which we consider more or less appropriate to describe the method of organization of an educational establishment. We share Gather Thurler’s point of view (2000, p.284).

In most schools, **a semi-professional logic is combined with the bureaucratic and hierarchic logic of organization and of division of work** and this is for two basic reasons outlined by M. Gather Thurler (2000, p.33)..

The professional logic, which makes it possible for the parties involved to “have a large margin of initiative to organize their work and to continuously decide on necessary regulations” remains limited to interactions between teachers and students, the environment, the timetable, (the curriculum being largely determined at another level of the system). Moreover, a lot of teachers “invent their professional gestures a lot less than they think, many are content with personal variations of a set of gestures generally determined by the organization, the professional culture and the subject”. M. Gather Thurler (2000, p.33).

To compare the level of coordination of educational practices, the gradient of organization may be simplified as follows, according to the capacity of the school to think about the transversalities and to form teams, which closely combine support for the learning process with support for the socialization of young people.

The research-action only had a limited effect on the coordination of activities.

It revealed some shortcomings, in supporting the relaxation and leisure activities for boarders, for example, or in implementing the preparation for professional integration. In some schools, reflection led the school to create special posts to coordinate the monitoring of personal work or work experience, to follow up the progress of past students and to provide preparation for entry into the world of work.

In the English school, this provided an opportunity to take a fresh look at the relationship between the teaching team, the tutorial team and “the welfare team”.

### *3 Third gradient: The degree of empowerment of the parties involved*

The notion of “**empowerment**” is difficult to translate; it is not exactly equivalent to that of responsibility and of involvement since it “calls to mind the idea of a complete devolvement of power and of responsibility”. “It is based on the belief that the greatest possible autonomy given to organizational units, to groups and to individuals is a means of making them efficient” (Brassard and Lessard quoted by M.Gather Thurler, 2000, p.171).

We integrated the notion of empowerment in our ideal typical model for educational strategy in 1997, by borrowing it from research on environmental education. In this strategy, the two functions of “**production** by the teachers and the students, **of a local knowledge**” and “**active participation** of the teachers and the students in improving the environment” (Posch, 194, p.67) are very closely linked. We also draw inspiration from multilateral “self training co-evaluation” approach developed by M.Conan which we tested, to support the implementation of architectural restructuring program (Nouvelot, 1987).

Unlike the point of view of M. Gather Thurler, we do not limit this capacity to have an influence on the course of events only to teachers. Like Posch (1994) and Lahire (2001) previously mentioned, we think that **this capacity must be “ideally distributed to all and available to all”**.

To have tested it with regard to space organization, we know that in a favourable context, when the rules are clear (Nouvelot, 1992, pp.61-67) “the students can take charge of what was exclusively taken care of by adults”, (B.Lahire, 2001) and take part in decision-making processes concerning the medium and long-term organizational strategy of the school. This presupposes, which only happens in exceptional cases...unconditional recognition of the role that each member of staff and each student must play in order to fulfill the shared objectives of the school. This requires the contribution of each person to the objectification of information and of strategies and, to the work of questioning and developing new ways of thinking and of acting.

We tested this proposition in the Comenius research-action, with a small number of participants, by setting up thematic work groups “Focus Group” including students and staff in the analysis of the malfunctions highlighted by the data collected in the surveys or observations and by putting together suggestions for improvement of the educational activities.

We noticed that this small innovation raised some fears, even opposition when it was not integrated into the comparable usual practices, such as the “course review” and the English self-assessment authorities or strictly supervised by the Comenius teams when it concerned student welfare (initiation, clubs, school buildings...). In France and in Italy, when the themes dealt with concerned teaching practices, it caused some resistance. This makes it possible to assess the difficulties of this strategy to change ways of thinking and of acting even though it is “a powerful means of involving and benefiting the student” (B. Lahire).

To compare the degree of empowerment of the parties involved, we would have to measure the degree of “depersonalization of power and of knowledge”, in other words, the level of variation in the redistribution of power with regard to the practical and educational organization, time and space management, the school rules, the objectification of practices and finally evaluation.

*4 Fourth gradient: the level of integration of the logics of objectification, transversality and empowerment in the educational strategy of the school.*

The “M.S.E.” model only has real meaning, can only be effective, if it is implemented as an “organic system” without isolating or separating any of its three aspects “monitoring “M”, transversality “S” and “empowerment “E”. Taken in isolation, the monitoring system could become an omnipresent and unbearable system of control, the educational support system could greatly reduce the capacity for initiative and for taking risks and the development of empowerment could become similar to a deregulation, which would facilitate uncontrolled power taking. (Guerra – Proceedings from the Study days in Quimper, pp.28).

To measure the level of integration of the “M.S.E.” logics, we can draw inspiration from the levels of organizational learning proposed by Schon, (1983), from the typology of strategies for innovation developed by Posch (1987) and from the typology of the school projects that we carried out in 1992 (Nouvelot, p.19).

**Provisional conclusion ...**

The way in which the partner schools use the data collected to “make and deal with problems” throws light, as M. Gather – Thurler observes (2000, p.21) on their capacity to change their ways of thinking and of acting collectively and to situate the practices in relation to a given context.

Therefore, this leads us to draw up, by way of conclusion, **a few new lines of thought** to pursue our comparative research.

We were able to verify based on the way that the English school operates, that we had studied a strong correlation between the ability to objectify the practices and the rules and the ability to very quickly develop, according to the needs, the necessary links to fully comprehend the situations and the problems. Nevertheless, at this stage of our research we have not yet established a correlation with a noticeable development of student autonomy. As to the method of empowering the different categories of staff, it seems to us to be more similar to a system of “contractual relations between the individual and the company – school, than to the model for the redistribution of power and knowledge devised by Mary Parker Follet, called “proactive power” at the beginning of the 20<sup>th</sup> century.

Therefore, we need to go further into **the comparative analysis of the different situations of redistribution of power and of the capacity of the different categories of people, notably pupils and students**, to have influence on decisions relating to the educational organization of the school.

Second line of thought, **the respective impact of management tools and official rhetoric on behavioural patterns and on the modes of individual and collective reasoning.**

Once again, our case study in England enabled us to verify that the method of regulating school autonomy which includes inspections and regular self-assessment procedures resulted in the establishment within the school of a continuous collective process of objectification and of changes in practice, and therefore a real professional development like that advocated by M. Gather – Thurler (2000, p.187). In the absence of any regulatory method of this type in France, it seems that official rhetoric on the role of the student in the educational system, in the “school community” and in the school plan, has greatly contributed towards maintaining the confusion between what is stipulated and what is done. How can French schools develop a global approach to their educational action and deal with problems properly in the absence of a restricting method of regulation, without calling into question the balance of internal power? **A third line of thought could be a new form of educational strategy, close to the**

**“dynamic networks”** that Posch advocated for environmental education (1994, p.80) and which “presupposes the presence of an institution capable of self-organization and of controlling interactions with the environment”, in other words, a new model of “institutional development”.



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**GRADIENT 1 – THE DEGREE OF OBJECTIFICATION OF EDUCATIONAL PRACTICES**

<u>0 – anomy</u>	<u>1 - Spontaneous adjustment</u>	<u>2 - Partial monitoring</u>	<u>3 - Monitoring and partial testing</u>	<u>4 - Total and long-lasting objectification of educational strategies for cognitive purposes</u>
- Non analyzed isolated data	- Limited awareness of malfunctions	- Tools and systematic monitoring of a group, class or of a specific action	- Analysis of problems and adjustment of practices – Re-evaluation after testing a part of the educational action	- Systematic monitoring of all the students and of the impact of the different procedures – analysis, presentation of collective action skills in order to discuss and reorganize school order.

**GRADIENT 2 – THE DEGREE OF COORDINATION OF EDUCATIONAL PRACTICES**

<u>0 - Division</u>	<u>1 - Intra-categorical coordination</u>	<u>2 - Pluri-categorical isolated projects</u>	<u>3 - Shared productions</u>	<u>4 - Implementation of entire education action</u>
- Division, separation of teaching subjects and educational roles. Non teaching tasks combined with “facilitator” tasks and / or with a “dirty job” (Payet-1997)	- Linking of teaching skills and educational teams. - “Student welfare” team in charge of educational activities not pertaining to teaching.	- Development of educational action projects. Monitoring of students by pluri-categorical teams for certain groups-classes. Definition of special posts to ensure transversality.	- Definition of a minimum set of shared references. Creation of shared teaching aids to monitor and support the development of students from all classes.	- Systematic and long-lasting linking of objectified strategies for learning and socialization. Generalization of the support system for education and for training.

**GRADIENT 3: DEGREE OF EMPOWERMENT OF PARTIES INVOLVED**

<u>0 - Confiscated power</u>	<u>1 - Formal discussion</u>	<u>2 - Democratic debate</u>	<u>3 - Group mobilization</u>	<u>4 - “Coactive” power “Learning organization”</u>
- single-handed management, bureaucratic authority; changes required by management	- participation of school authorities in decision-making processes without real discussion of predefined solutions. Mere recording of opinions. Discussion of a general nature.	- preparation of decision. Definition of problem – Listening – formal discussion and debate. Support for measures by and with the representative authorities. Discussions focused on the means rather than the ends.	- Get everyone involved, not only the representatives. Thoroughly reformulate the problems. Develop alternative solutions. Allow as many people as possible to express themselves. Compare the points of view at all levels of responsibility. Get agreement on the values and the methods. Importance of negotiation and compromise. Try to find means according to jointly defined objectives.	- Question set habits, implied knowledge, “the obvious”. Have absolute confidence in the skills of each person. Manage the presence of power in human relationships. Negotiate. Allow each person to exercise a share of power on the school situation.

**GRADIENT 4**

<u>0. Indifference</u>	<u>1. Efforts to adapt</u>	<u>2. Isolated changes</u>	<u>3. Continous strategy for innovation</u>
– Avoidance of problems. No explanation of implied knowledge. No testing. Events decide. Spontaneous adjustment.	– Awareness of certain discrepancies between objectives and reality. Limited results to take stock of the school performances.	– Reflection on practices, rules, ideas – strengths and weaknesses. Awareness of the potential of internal resources and external support. Partial testing.	– Problems are dealt with in a structural way. Conversion of problems into objectives. Integration of the past and a clear vision of aspirations and desired results. Short, medium and long-term action plan. Readjustment. Try to find the necessary means.



development from a craft to an industry has occurred only during the past two centuries. There is much to admire in a craft. It is intrinsically rewarding to the craftsman or woman; it allows for individual variation and uniqueness; and it is ingenious in its use of resources and methods of production. However, in only exceptional cases it is economically rewarding for those involved; its variability may hamper interchange of components and outputs; and its resource base may be relatively narrow and limited.

At the end of the 17th century, a European farmer could feed about 2 consumers; in 1990 this had increased to about 68. In the UK, for example, the average yield of wheat in 1945-50 was about 2.4 t/ha; now 10 t/ha is not uncommon. Reliability of production and supply have greatly increased food security, even under adverse conditions of weather and disease. The adult working population has largely transferred out of production agriculture (though the food industry is a larger scale employer), and this process continues. There was a fall of 9% in the numbers employed in UK farming between 1995 and 2003. Currently less than 2% of the adult working population are employed on farms. The number of full-time holdings has continued to decline, and average farm sizes to increase. Net farm incomes in the UK declined by 57% between 1995 and 2003.

The original craft basis to farming (which lasted for thousands of years) was supplemented by the emergence of science and technology in the 19<sup>th</sup> century to allow for much higher outputs of food and fibre from farms. This was followed, in the 20<sup>th</sup> century, by the application of economics and management to achieve more profitability from higher productivity, involving enlargement and intensification of farms and farming. These developments created an agricultural industry in which farming systems are standardised, production processes are planned and organised and investment is attracted from sources other than the savings and access to credit available to farmers themselves.

Using only these few, approximate indicators, the overall situation as seen from the UK is of increasing economic efficiency in the agricultural industry, the release of land and labour resources for alternative uses, the ability to feed the existing European population with temperate foods and contribute if necessary to the anticipated global population of 9,000,000,000. However, agricultural incomes are at a lower level in comparison with other sectors in the economy, despite the support of subsidies, and there are concerns about the impact of the agricultural industry on society and on 'nature'.

Looking ahead to the next decades of the 21<sup>st</sup> century, we may anticipate an agriculture responding increasingly to public and consumer demands. These will focus on quality in food in terms of its impact on human nutrition and health, and a balance between locally marketed products and international trade in food. The former produces freshness and taste, and a reduction in the pollution costs of global transport ('food kilometres'). The latter will be expected to deliver variety of product and freedom from seasonal restrictions on availability. There is also demand for crops grown as sources of fuel ('green energy'), and pharmaceutical products. It is expected that bio-fuel production will increase to 5.7% of the UK national energy requirement by 2010 and some other European countries have higher targets.

However, the pressures likely to have the greatest impact on modern European agriculture are public perceptions that intensive agriculture leads to damaging effects on the environment, biodiversity, respect for 'nature' and farm animal welfare. These perceptions reflect the growing separation in values, aims and understanding between rural and urban societies, and their subcultures.

The outcome is, arguably, likely to be a three tier agriculture consisting, first, of large-scale, intensive production systems on farms with the best land in most favoured areas, able to produce reliable supplies of food at consumer-demanded low prices. Second, will be large-scale, extensive systems on landscape farms using livestock as the key to management (involving their use in conservation grazing). Third, and perhaps most interestingly, will be farms of various sizes involved in niche market production, added value, and visitor attraction enterprises.

### **The current situation**

There is now existing a rural sector or countryside no longer completely dominated by production-orientated agriculture but enriched by a number of rural economic activities consisting of adapted or highly innovative enterprises. These are inter-dependent both in terms of the individual activities and also the rural entrepreneurs who are engaged in them. We can designate the processes involved as those of rural development.

Within the EU policy area about 25% of the population live in rural areas. In some areas there is a movement of people from countryside to towns; in other areas the movement is reversed. In the UK, for example, some 100,000 are added each year to the rural population. It is intended to close the gap between the least favoured rural areas and the rest, to maintain viable communities with better levels of income, and greater access to services and culture. Natural rural environments also need sensitive management systems.

What we see is the convergence of farmer initiatives to solve economic problems, policy measures to support rural social renewal, and intervention by service agencies (such as education) to stimulate change. As our seminar reminds us, we are in a period of transition: as, indeed it has always been for rural areas in Europe.

The vision outlined above pre-supposes a strong expression of consumer preferences accompanied by (probably decreasing) support through single farm payments for environmental benefits. What do we now actually witness?

First, diversification is already strongly developed. In the UK, some 48% of farms are now involved in diversification, the income from which in 2004 was £300 million (about € 429 million). This represents 10% of national farm income and an average of £5,000 (about €7145) from diversification per farm. Much of this diversified activity on farms is dependent on visitor attraction aimed at urban people.

Second, consumer demand is strongly articulated, and often informed by travel to other countries. Media attention is drawn to problems (and crises) on farms such as outbreaks of disease, and to medical research which sometimes indicates possible links between food and human health or disease. The demand is for quality, nutrition-driven food chain, preserved landscape, access to land for leisure, protection of the environment and biodiversity, and higher regard for animal welfare.

Third the growth of large and expert retailing organisations (such as supermarkets) has led to globalised trade in food and thus to highly competitive conditions in which farmers must operate. As a reaction to this there is renewed interest in local supplies of freshly marketed produce especially for corporate consumption by schools or hospitals.

Finally, although there are probably few (if any) examples of completely separate rural or urban economies within EU countries, the linkages between them are often weak. Boundaries appear to exist between the aspirations of some urban people, those involved in farming and the objectives of numerous pressure groups with single interests and strongly held opinions. Conflict is not uncommon.

The response required by farmers is to change their orientation from ‘what shall I produce?’ to ‘what can I sell?’; and from ‘my resources are land, labour, capital and information’ (of which the last two are most important) to ‘I have a wider range of resources on farm and in related assets, from which primary products can be made and to which greater value can be added’.

### **Consumer products from rural resources**

As disposable incomes increase and economies become more responsive to effective consumer demand, the food products of agriculture have a diminished place in consumer society: higher income families may spend only 10% on food. This growth in consumerism (or conspicuous consumption) may be viewed as a pre-occupation of society with materialism and the acquisition of goods. Alternatively, and arguably more justifiable in terms of moral principles, it can also be conceived as the protection and promotion of the best interests of consumers. And the institution which can give the best protection and promotion to consumers, arguably, is education. We can now consider how these issues are expressed as resources and resourcefulness.

Seen as a component of rural development, farms can now be defined as land-based activities managed to optimise returns on all their usable resources. These can be conveniently classified into a potential to produce three kinds of goods.

#### 1. Market goods.

- primary products such as cereals, meat, fruit, vegetables, fibres.
- niche market products such as aromatics, herbs, pharmaceuticals, speciality foods.
- added value products such as processed food, direct sales at farmers’ markets.

#### 2. Public goods.

- service provision such as flood control, care of pets, conference centres, vehicle maintenance, nursing homes.
- landscape such as aesthetics, walking, painting.
- environment, biodiversity and wildlife such as nature trials, clean water, protected rare habitats and species.
- history and culture such as crafts, archaeology, disused technology.

#### 3. Recreation goods.

- tourism and holidays such as farm accommodation, caravan sites, chalets.
- visitor attraction events such as sheep trials, rare breeds of animals, exotic species.
- sport such as hunting, fishing, golf lessons, equestrian centres.

The development of this broader resource base has, of course, already started in many countries including the Czech Republic, where recent survey data (2003) give some indication of the progress of farm diversification. Among 15 kinds of enterprises, farm visitors, farm shops, and organic (ecological) products were most common at present, and camping sites, restaurants and local handicrafts were least common. In future (2-3 years) there was most interest in developing farm visitors, tourist accommodation, farm shops and horse riding. There was least interest in restaurants, alternative uses for surplus farm buildings and handicrafts. Most of the respondents (92%) expected that diversification would remain at the same level or increase in the next few years. The numbers of farmers with multiple diversification (3-4 enterprises) was expected to nearly double.

Cluster analysis shows that some forms of diversification are likely to be linked. Obvious examples are farm visitors, farm shops and pick-your-own crops; and tourist accommodation with horse riding. Others are perhaps less easily explained such as energy crops and food processing, or organic production with hunting.

Farmers currently involved in diversification were significantly younger (21-47 yrs) than the other farmers (over 48 yrs), but for future intentions this association was much weaker. The converse applies to the level of education of respondents; for the future, higher levels (Secondary, Vocational and University) of education were significantly associated with more diversification, but at present this correlation is weaker. Those with Apprenticeship School education were less likely to be involved in diversified enterprises, and those with University education to be most active.

It is clear that these innovations need high levels of business management and entrepreneurial skills if they are to be successfully developed by farmers whose previous expertise is likely to be firmly based on husbandry competencies. A broad spectrum of resourcefulness is needed. More specifically, the tasks for education at all levels are to:

- give a broad understanding of what is involved in rural development (socially, economically, technically, and politically) to those involved.
- develop the imaginative qualities (vision) of people to see new resource possibilities, and new ways of using them.
- develop the entrepreneurial and managerial skills needed to deal with risk and feasibility in a competitive market.

## **Conclusion**

Diverse activities in the rural areas involve whole farm families and communities. This raises issues of collaboration and consultation. Farmers, educators, planners and consultants are all involved in important ways. Conflicting needs and interests will require skilful solutions. In achieving these there is scope to link school education with continuing education for adults. Crucially, participation by all those involved locally is essential if resources are to be used responsibly, and if the human resourcefulness to use consumer products for rural development is to be encouraged.

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## **AGRICULTURAL EDUCATION IN CHANGES**

**Dagmar Škodová Parmová**

### Abstract

This study deals with the future role of the Faculty of Agriculture in education of students required in South Bohemian Region. The Faculty of Agriculture is celebrating its 45<sup>th</sup> anniversary this year. A retrospective together with present state analyses are necessary to prepare a new vision and strategy for a successful future development.

The Faculty was formerly a part of the Czech University of Agriculture and creates nowadays the second biggest part of the South Bohemian University. There are two main streams of education today – agriculture and economy, which are offered in 11 study programmes. The number of classical agricultural students is decreasing with an exception of Agricultural Ecology and Biotechnology, the number of students of economy programmes is growing, there are also some programmes offering a mixture of agriculture and economy with a stable number of students. But there occurs a new question, if two faculties should be founded for a better transparency to the public.

### Key words

education, Faculty of Agriculture, study programmes, South Bohemian University

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### **The Present State of the Faculty**

The Faculty of Agriculture offers programmes at all levels: Bachelor, Master and PhD studies. In full-time study course, all types of study programmes are accredited - Bachelor, Master, subsequent Master, and doctorate study programmes in different specializations.

The three-year bachelor programmes should supply students with basic knowledge necessary either for subsequent master studies or for practical professional employment. Students can choose from following programmes and studies:

- Fishery;
- Agricultural Biotechnology;
- Agricultural Ecology;
- Agricultural Machinery, Trade and Services;
- Accounting and Financial Management;
- Management of Commerce.

The “old” master programmes take five years and the Faculty offers four studies in the study programmes Agricultural Engineering and Livestock Breeding:

- General Agriculture;
- Operational Management;
- Land Adjustment and Real Estate;
- Livestock Breeding.

After the transformation according to the Bologna Process, there are also two-year master study programmes in following studies, too:

- Fishery;
- Plant Biotechnology;
- Animal Biotechnology;
- Agricultural Ecology;
- Accounting and Financial Management;
- Management of Commerce.

After finishing the master studies the students can join the doctorate study programmes, which are offered at the Faculty in a wide range:

Phytotechnology in specializations:

1. General Plant Production;
2. Specialised Plant Production;
3. Plant Protection.

Livestock Breeding in specializations:

1. General Livestock Breeding;
2. Specialised Livestock Breeding;
3. Hygiene and Prevention of Diseases of Farm Animals.

Ecology and Environmental Protection in one specialization:

Applied and Landscape Ecology.

Chemistry also in one specialization:

Agricultural Chemistry.

Doctorate study programmes are presented in full-time form. In the case the learner is a full-time faculty student, he or she gets a scholarship and becomes a member of the particular department. Another form is combined study programme which is used especially by those who are employed.

Combined study programmes in the bachelor or master studies are possible only in:

- Management of Commerce (Bachelor study);
- Accounting and Financial Management, specialization Accounting and Financial Management for Czech Firms (Bachelor study);
- Accounting and Financial Management, specialization Accounting and Financial Management for Czech firms (subsequent 2 year Master study);
- Operational Management (Master study).

This academic year there are over 2,400 students in all study programmes at the Faculty. The share of agriculture-oriented students is about 45 per cent. The second part creates the students of economics-oriented studies and applied management.

### **The Vision of Future**

In the structure of 10,000-student University of South Bohemia participate five faculties and three university institutes. But there is no faculty for economics of applied economy studies,

and no faculty of philosophy. The establishing of a new Faculty of Philosophy is already prepared and the second step should be the foundation of a new Faculty of Economy or Applied Economy thanks to splitting of the Faculty of Agriculture into two parts. This procedure is not as easy as the foundation of a brand new faculty and this process is very difficult for all participants. On the one hand there is the demand of engineers for the industry and services without a diploma from an agricultural school and on the other hand the cooperation of technological and economy departments inside one faculty is more effective and closer in comparison with the cooperation between two faculties.

During the transformation according to the Bologna Process there are changes in the study planes and there are also requirements for creating new studies held in foreign languages, which we could offer to foreign students. In the present state we are only able to teach students of the doctorate studies in English. But it is necessary to change this unfavourable situation. And there is cooperation between technological and economy oriented departments needed to offer competitive modules and study programmes for foreign students. If we would offer the same as the others, we were not able to meet the requirements of in-coming students.

The only way, how to solve the situation, is not to ask when a change will come but to act actively. We are now preparing a new modular study programme for students from Eastern Europe, which will be offered in English and Russian. We would like to offer some speciality, a study of European Integration, in which the knowledge of the economy, politics and agriculture are used together. The Ministry for Education finances this activity in the form of a development project number 167/2005.

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## **PRIVATIZATION OF ECONOMIC POLICY BACKGROUND OF AGRICULTURAL EXTENSION IN WESTERN EUROPEAN COUNTRIES**

**Krisztina Tóth, József Kozári**

### Abstract

International experiences show that the working of agricultural extension is provided by many kinds of sources. It is usually the state who undertakes the greatest role, and that, in the majority of the cases, can be as much as 100 per cent. In recent years, however, a process has started up in Western-European countries that aims at reducing government participation and the privatisation of extension systems. In the Hungarian extension system, the direction of reform year by year is opposite to this. What extent can we reach by going towards the extension supported by the State? When do those factors emerge in Hungary that is present in the Western European Countries run in the direction of privatisation?

In this paper we examine the sources utilised by extension and the reasons of the privatisation process.

### Key words

extension, agricultural extension, privatisation



### **1. Financial background of extension**

According to international experiences those countries of operating extension organisations, 0.5 to 1.5 per cent of agricultural income is spent on extension. The necessity of intellectual investment by the weight of agriculture cannot also become questionable in Hungary.

Any system relying on a single source of financing is vulnerable in case of an emergency. In the Western European countries the following potential monetary sources studied can be utilised by extension systems:

1) *Official sources* can be used in various forms:

- direct provision of advisory services through the ministries of agriculture,
- subsidies paid directly from the government budget for advisory services,
- covering services out of funds created for the purpose.

2) *Self-financing* is workable, mainly, in the case of such clearly defined services where it is obvious that the activity is profitable for those involved. In these cases the user pays for the services rendered.

3) *Financing systems connected to groups of products* collect the resources by way of taxes or dues on certain articles occasionally put into a communal fund. If this method is applied there may be problems with the compulsory nature of payments and the use of the amounts collected.

Extension can rely on various financial resources depending on whether it is a private enterprise or a system maintained by farmer organisations or it is a government supported network.

From this respect two types of private extension can be differentiated.

In the first group belong those machine, equipment and material producing enterprises and marketing units which provide advisory services in the course of selling their products. (A typical example is the advisory service connected to selling plant protection chemicals.) This kind of advice is usually free of charge. In certain cases, however, the expenses connected to advising are incorporated in the price of the product.

In the second group belong those private advisors and consulting enterprises which do the work for a fee, with profit making in view.

Both variants can be found in all Western-European countries.

Incomes of the farmer-organisation financed extension can derive from several areas. One of the most important items is government subsidy. For a long time income from government budget was a basic precondition of extension. The next, also very important source is membership fees. In most cases the farmer, paying the fee, is provided with a basic service. For other, usually non-verbal, services a fee is charged.

In Denmark, for example, the greater part of the budget of farmer-organisation financed networks is covered by membership fees. (Here farmers can afford these expenses out of government subsidised agricultural prices.) The network gets some more income after some services (book keeping, farm planning, preparing cropping-, animal production plans, etc.) as well as subsidies of co-operatives and the processing industry. Government, through the ministry of agriculture, provides 50 per cent of the salaries of advisors and assistants and, a considerable part of the costs of their refresher training. Local organisations cover the other half of the salaries of advisors, transport costs and the expenses of office maintenance.

## **2. Privatisation of extension networks**

Financing government subsidised extension networks is much more complicated and getting more so. Following formulating the network, up to the - 90s, extension was run and financed by governments or its authorised organisations. Currently, government extension systems are undergoing major changes in nearly all Western-European countries. Governments gradually withdraw support thus switching emphasis on sustainable services and privatised systems.

The main reasons for the trend pointing to self-financing are, in my opinion, the following:

- In most countries they are facing increasing budgetary problems, thus, national sources for agriculture (and extension within that) are continuously decreasing. Most governments are forced to take economic considerations into account in financing extension.
- In industrialised countries the number of the agricultural population and thus its political influence are decreasing.
- Fewer but better trained farmers, naturally, wish to take extension into their own hand.

There are Western-European countries where only one of above factors started privatising the government owned network but there are others where all three were in effect.

### **2.1. Methods of privatising extension networks**

Self-financing and steps taken toward privatisation, however, do not mean that governments give up support of extension entirely. Networks still receive considerable financial support.

Three ways of privatising extension can be observed:

- Only those services are financed out of government budget which concern a wider circle of farmers. For other services fees are charged.
- Fees are charged for such services that increase the income of farmers in a measurable way. In these cases different rates are applied for different situations and for target groups farming among unfavourable conditions.
- The fees of certain services are met from government budget and the common contribution of other (professional) organisations. Here belong the delayed recovery human inputs (e.g. refresher training of farmers and advisors), as well as the expenses of applied research.

The three versions of privatisation will be shown through three examples, the example of France, the United Kingdom and the Netherlands.

## **2.2. Privatisation of government extension in France**

In France the privatisation of agricultural extension was completed in 1966. Since then usually the term *agricultural development* has been used instead of extension.

At the beginning some of the services were offered free of charge. In this scope belonged general advisory service for the farming community, organisation of demonstrations, professional refresher training of farmers, and carrying out applied research. Later on several versions of further privatisation were tried out, but neither proved perfect. Finally the four large farmer organisations took up control of extension and similar services. About 70 per cent of the total of the resources used for the operation of the system is collected from the farms in the form of direct payments or through levies imposed by the Chambers of Agriculture. The remaining 30 per cent is provided by the National Fund for Development in Agriculture, controlled by the representatives of the government and farmer organisations.

## **2.3. Privatisation of government extension in the United Kingdom**

Privatisation of the government extension system was carried out in a rather peculiar way. The Agricultural Development and Advisory Service (ADAS) in England and the Scottish Extension Service remains in government ownership but about 75 per cent of their running expenses has to be paid by the farmers using them. Government subsidy was lowered to 25 per cent in three years.

## **2.4. Privatisation of government extension in the Netherlands**

The Dutch system, as compared to the previous two, represents a comparatively new approach. Here privatisation concerns about half of the staff of the extension network (DLV). The remaining 50 per cent remains on the Ministry of Agriculture's budget and under MOA control. Transfer concerns, first of all, advisors working in the field. Advisors to be transferred are retrained and are offered the possibility to work in the organisation controlled by Dutch farmer organisations. Applied research and regional co-ordination remains under government control and are accessible to advisors free of charge.

The fact that between 1993 and 2003 they intend to decrease government subsidies by a yearly 5 per cent means a conscious withdrawal of government from financing the extension system. Afterwards the government wishes to provide 50 per cent of the resources.

## **2.5 Financing extension in Hungary**

In Hungary, financing of extension differs significantly from those of Western European countries. In Hungary, this process runs in opposite directions, it runs from the private extension gradually towards the extension supported by the State. This is the result of the false policy run in the past decade.

In 1993, the Hungarian Government created a regulation that controlled the extension supported by the state, which made a difference between the inputs and services and the extension offered by various enterprises that give primarily defined technologies or services from interest groups. According to the regulation, independent natural persons with suitable education and experience and natural persons and corporations independent from interest groups could register in the Ministry of Agriculture and Rural Development.

From that time, extension supported by the state is given by advisers working as entrepreneurs, registered and controlled in the Ministry of Agriculture and Rural Development, who make connection with their clients. Registered advisers by the Ministry of Agriculture and Rural Development are found in the official journal of the Ministry.

Those farmers who make contracts with registered advisers can claim 25-75% of the amount of money laid down in the contract. For the moment, the number of registered advisers is 500 in Hungary.

So the ministry in Hungary regulated, in what way private advisers can give extension on commercial basis. Weak point of the system is that registration of advisers depends on which distribution of regions and which field of extension they are willing to be present, therefore distributional and professionally uncovered areas emerge in the country, so farmers in different regions gain different extension supported by the state.

Only those entrepreneurs are in the present extension system managed by private advisers, who have reached the income level of 3 million Ft and not exceeded the limit of 50 million Ft. Those farmers not reached the level of 3 million Ft cannot claim for this type of extension. In 1999 the Government aimed to support these entrepreneurs and established several regional extension centres in universities of 11 regions of the country. The task of these centres is to provide free extension courses to the target group in favour. Therefore, participating of the courses is free. Resources needed for implementing these programmes is provided by the Ministry of Agriculture and Rural Development through Regional Offices of Agriculture.

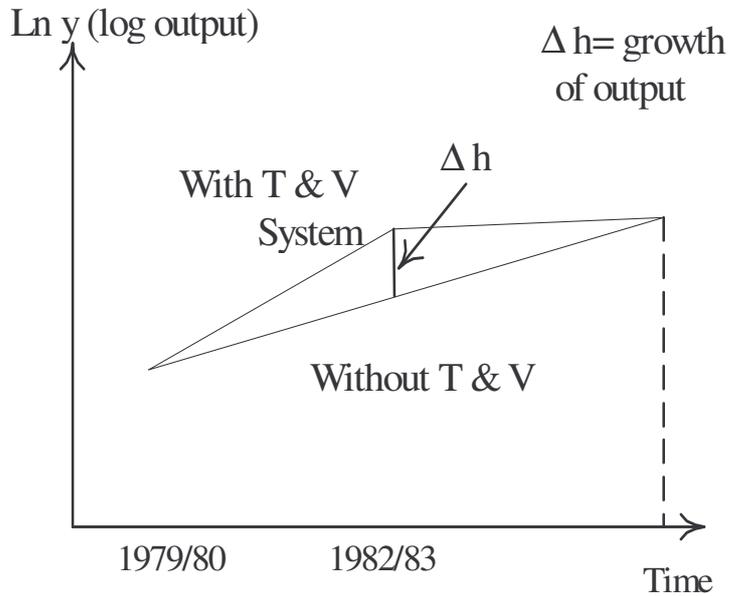
For the reason of moving towards extension provided by the State, Hungarian Academy of Sciences took the responsibility to establish harmonising negotiations in connection with the Hungarian system of extension. Agro-economic Committee of the Academy's Agricultural Department held extended emergency meetings in the year of 2003, where main topics of the agenda dealt with managing, scientific and practical questions concerning agricultural extension in the future. Within these topics establishing extension centres got significance, along with the questions to assign the tasks required by agricultural offices in various sub regions, methods for operating the system of extension, cooperation of high schools and universities working with model farms, where the method of practical extension occurs, moreover, the role of research institutes in the extension system.

For extension, 0.01 per cent is spent on the budget of Hungarian agriculture.

In many countries the problem is often presented by the fact that while the concept of the recovery of investments is entirely accepted, the long term savings that can be achieved by the interference are considered by only few.

So far very few examinations have been made on the recovery of extension expenses. In literature we have found only Feder's (1994) paper on the effects of introducing the Training and Visit (T&V) method.

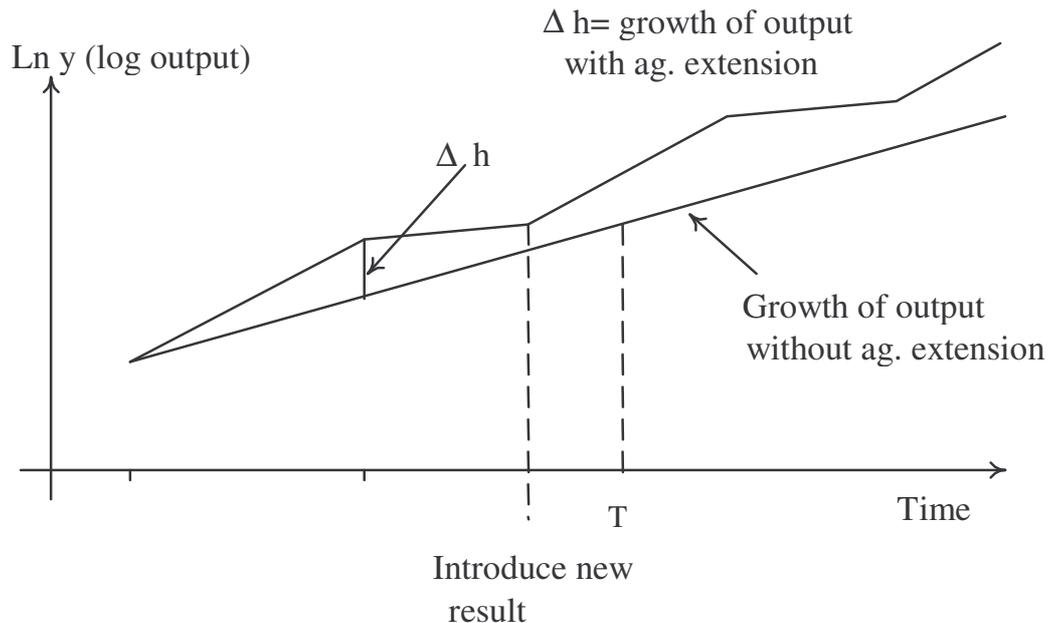
The trend of the increase of output following the introduction of the method is demonstrated in figure 1.



**Figure 1: Change of output by introducing T&V system**  
Source: Jones et al (1992)

The model shows that without the T&V system average output was growing at a continuous rate. The trend of this was calculated on the basis of an analysis previous to the project. Introducing T&V resulted, for a few years, great and then gradually less increase in output. Following the T period there is no significant difference between the two versions. On the basis of a cautious evaluation authors concluded that the effect of new results of research, disseminated through extension, affect a limited period of time. Gross output is positive only before the T period. A survey of FAO including 47 states shows that 14 per cent of extension inputs gave recovery more than 500 per cent.

We complement this train of thought with the remark that new research findings are reproduced time and time again and, transferring them to the user the increase in output can be maintained for a long period of time. On the basis of this idea I modify the increase of output in figure 1 according to figure 2.



**Figure 2. Effect of regular extension work on output**

Source: processed by the Institute

Time T is also shown at the end of the first period but as an effect of timely advice (adopting new knowledge) additional output will not decrease to the trend preceding the advice.

### 3. Conclusions, inferences

Examples above refer to the comprehensiveness of endeavours towards privatisation and their different effects according to various policies operating.

In France, the changes were not motivated by budgetary limits but by a change of policy. At policy level it is considered that self supporting agricultural services can be primary tools of introducing self-control in most of the farms. In other countries, budgetary limitations played a primary role. This is particularly so in the case of the United Kingdom. In Holland a system was developed which resulted in fewer but bigger and more competitive farms. Here farmers can afford to finance extension services.

The examples show unequivocally that provision of financial resources and general trend of policy are in close connection. Questions concerning financing extension services seemingly technical-fiscal, in reality, include important questions of agricultural policy.

Where the majority of the resources for extension is still provided by government budget, the interests of consumers are given preference over the immediate interests of farmers. This is proven by new legislation concerning e.g. limitations of production, quality control and environment control. Governments, in order to maintain a 'say' built limitations into the privatisation of extension. The Dutch, for example, will carry out privatisation of 50 per cent of the extension system in 14 years. The Brits were in a greater hurry but even nowadays, negative effects of this are being felt by the farmers. It is always a problem determining the fees for services rendered by various (trained) advisers. In theory all advisers use the same

table of charges but the quality of the services differs. Solving this conflict often presents problems in administrative control.

The basic questions are connected to the final aims of agricultural extension and answering them can lead to the revaluation of the aims. Questions arise like: What is the use of the services? Is the benefit in proportion with the cost? Will not extension cause such an increase in production that the market can not take it?

The real difficulty is in determining the threshold i.e. to what extent market may influence advisory activities, where small farmers with comparatively low income cannot afford the rather expensive services of the adviser.

In order to lower costs of extension efforts were made in three areas and are affecting the mobilisation and handling of resources. First, all countries endeavour to achieve the highest level of efficiency of the inputs. Second, they endeavour to achieve the best distribution, in time and space, of the limited financial and human resources. And finally they demand the harmonisation of the primary economic aims of the greatest possible number of farmers.

The extent of the contribution of society to technical progress is not really a specific question of extension, but the general problem of evaluating present costs on the basis of future recovery.

As a conclusion it can be stated that extension work can not be considered merely an activity for increasing output. These services should play a fundamental role in applying offer to the demands of the market and keeping agricultural income at an acceptable level. Money should be spent on this, even if we know that the effect of inputs will be felt only in the long run. Accordingly official financing of extension is indispensable.

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## **THE BEGINNING IN THE TEACHER'S JOB - HIS/HER SUBJECTIVE DIFFICULTIES**

**Jana Vernarcová**

### Abstract

The paper deals with the perception of subjective difficulties in the beginning of the teachers' job. We analyse some of the determinants with the accent on psychological characteristics. We also describe the possibilities of the implementation of special preparation for student teachers in the field of improving of their interpersonal and intrapersonal competencies. That is why the social-psychological training belongs to the disciplines of student teacher studying programme. Its aim is to support optimal development, eventually to correct personal, social and professional competencies of student teachers for their future profession.

### Key words

teacher's job, the beginning in the teacher's job, subjective difficulties, social - psychological preparation

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The teacher is considered to be the most important factor in the process of education. Especially actual topic in this field is the problematics of teacher beginners. Every year there are a lot of graduated students of pedagogical colleges who are worried about many questions: "Am I despite of my specialised competence really capable to cope with my first encounter with students, to prepare interesting lessons, to stimulate the desire for knowledge, to know all answers on their inquisitive questions, to react on unexpected situation or to keep the discipline? It is not easy to realise in the pedagogical practice all well intended plans.

The development of the teacher's professional career is the process which can be divided into these periods:

- the selection of teacher's profession
- to enter the profession
- first teaching years
- stabilisation in profession
- burn out in profession.

The profession of teacher begins with the decision to devote oneself to teaching and then by the getting through the appropriate studies. The basic aim of teaching studies at universities is to prepare qualified experts for the performance in such a difficult profession. We talk about "pedagogical competencies" or "professional competencies of teacher".

These consist of:

- achievement of specialised readiness
- psychodidactical competencies
- skills for organisation and management
- ability of selfreflection
- ability to diagnose
- communicative skills.

On the basis of critical view on the situation of teachers beginners it is possible to reach all of the required competencies. Also many of the experienced teachers mention that there are still some difficulties in the process of teaching. The most frequent are:

- guidance of meeting with parents
- dealing with poor results students/talented students
- administration of pedagogical documentation
- obtaining and keeping the authority.

The questionnaire for teachers beginners (36) consists of 22 questions from these areas:

- their motivation to the profession of teacher
- their vision about the profession of teacher
- preparation for lessons
- the knowledge of teaching methods and their correct using
- the evaluation of student's achievement
- administration of pedagogical documentation
- the ability of pedagogical influence
- selfeducation
- selfreflection
- the ability to communicate with students, parents and teachers (colleagues)
- the work with poor results students
- the flexibility in the process of teaching.

In this contribution we show only some chosen results of the questionnaire.

The question "Why did you decide to become a teacher?" the teachers answered like this:

interest in work with students	29	80.55%
influence of my family	0	0%
only possibility to find a job	2	5.55%
others	5	13.88%
	36	100%

In the next answer of the question the teachers say that just after beginning the teacher's profession they had to cope with problems in these areas:

bad organisation	0	0%
low interest of students in learning	15	41.66%
bad material conditions at schools	16	44.44%
teachers' staff, tom management	5	13.88%
	36	100%

In the most of professions the beginners are initiated into the profession step by step. In the profession of teacher he/she takes over all duties of "ordinary" teacher and he/she takes responsibility for his/her work and for its results. It often causes difficult adaptation on difficult situations and eventually leaving profession of teacher. There are various reasons of leaving the job.

The real motive for teacher's job and first days in the profession play significant role in the next attitude to his/her job. The person who can lower down the amount of unpleasant situations during the first year of teaching is the initiating teacher. The adaptation of teacher beginners for their profession is realised under the regulation of Ministry of Education of the Slovak Republic n. 42/1999 in their first year at school just after the graduation from the

teacher's college. Its aim is to obtain practical skills needed for the job and for adaptation in the real conditions.

21 (58.34%) of our teachers declared they had an initiating teacher, 10 (47%) were very satisfied with him/her, but unfortunately 15 (41.66%) started the job without any help.

Our teachers beginners declared that the things what help them in the process of teaching during the first year is the experience from their teaching practice during their studies and advice from other colleagues or their own feelings. The answers to the question " How much time do you need to prepare for your lessons for the next day? " were these:

more than 2 hours	5	13.88%
1 - 2 hours	25	69.44%
less than 1 hour	6	16.66%
	36	100%

Some other researchers show that teachers beginners devote to preparation for the lessons only minimum of their time. It can be also the cause of their next problems and difficulties. From the list of the teacher's activities they could choose those with the highest level of subjective difficulties:

- keeping of students attention
- motivation and activation of students
- work with poor results students
- ability to cope with unexpected situation
- keeping of students discipline
- objective evaluation and classification of students
- administration of pedagogical documentation
- arrangement of the lessons
- work with talented students
- dealing with parents.

How we can see from above the most difficult activities for teachers beginners are those connected with discipline.

In the research of B. Šramová (2002) the younger teachers compared with older teachers are less emotive by adapted, less prepared for their profession and with lower resistance against the stress. For women - teachers beginners the most stressing influence situation is bad atmosphere in the class.

The most important problem is the socio-psychological preparation ( SPP) for the coping with stress of teachers. The main task of SPP during the studies is the prevention of wrong psycho-hygienic mechanisms.

The SPP is also focused on:

- improving of social abilities ( expression of emotions, the change of unrequested stereotypes, interpersonal openness)
- deeping of self-knowing (knowing of own incentives)
- appropriation of the empathy (Vernarcová, J. - Vernarec, M., 2001)
- consciousness of reaction of own's engender on other people
- reaching the skills to solve interpersonal and grouping conflicts etc.

The SPP can be realized by the plays, exercises, model situations, experiments or role plays. There are a lot of researches (Hamranova 2002, Hamranova 2003, Šramová 2001, Šramová 2002) confirming the positive effect of SPP on the personality of student teachers.

The choosing of profession and preparation for it is not a single act, but a long

process. It is also one of the number of lifelong tasks, but the task on which the other can be built.

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## **TEACHERS' READINESS FOR COPING WITH STUDENTS WITH SPECIAL NEEDS IN THE SECONDARY AND TERTIARY EDUCATION**

**Jiří Votava**

### Abstract

Teachers at secondary and tertiary schools need to deal with many learning, personal and other difficulties. In this article we analyse one important group of such problems combined with students with special needs. The first aim of the article is to remind and redefine the concept of special needs. In the second step author would like to discuss what variables in teachers' side could influence the success of the school integration. We suppose that proper training and usage of necessary knowledge and skills could create more supportive and integrative environment and could predict the further students' achievement. In the end there are suggestions and plans for coming research activities.

### Key words

students with special needs, teachers' competences, school integration, secondary school

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This paper represents a part of the broader reflection and of the preparation of the research plan. Author have been investigating possibilities and limits of social and school integration of children and students with severe health impairment. The present day he is interested in what impacts influence the transition of students with special needs from upper secondary to tertiary schools.

Personal learning success on the beginning of the tertiary school could be predicted by different means. It has been pointed out that there is a relation between successes at the first year of the tertiary study and students' learning results achieved at upper secondary schools, results of the national educational testing or students' position in the entrance exam. The relation between social background and students' admission to tertiary education is also discussed.

In the case of students with special needs it is desirable for them to reach education and qualification on the level and that kind which would allow them to enhance their chance to be employed and to enjoy independent, valued and productive life. In statistics of The Institute for Information in Education (1) it is clear that the number of students with disadvantages is increasing during last 10 years. The similar trend could have been expected in continuous study programs but there are not common data available.

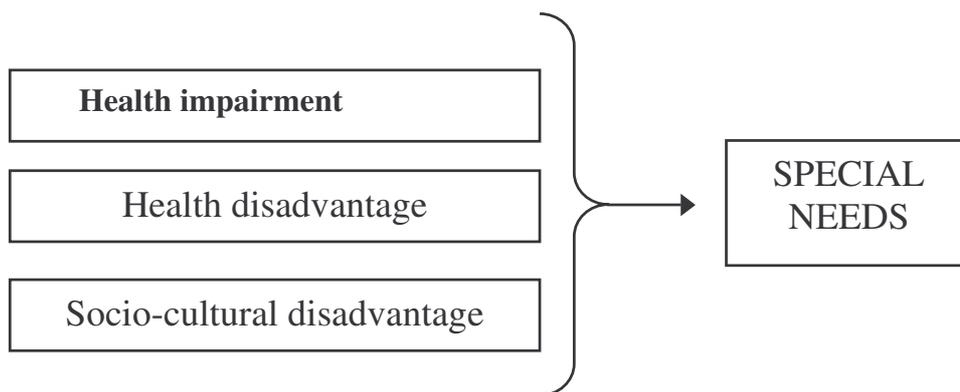
	1992	2002
Students at upper secondary schools	303 304	316 276
Students with SN at upper secondary schools	1587	5731
Students with SN at upper secondary schools	0,5 %	1,8 %

Table 1 – The portion of students with special needs at secondary schools

While thinking about the effective help for students with special needs the most practitioners know that there are other ways to successful transition to tertiary level. We could expect the stronger influence of the outer environment in particular family background, educational counselling system, school management, legislation and financing. Saying with circumspection we have to count into consideration also dispositions and skills of teachers. During next part of the paper author is going to analyse competences and emotional components in teachers' personality, especially teachers' attitudes.

First of all I would like to make few notes considering the integration of students with special needs at upper secondary schools. In correspondence with Czech pedagogical tradition we understand a particular special need as support that one student needs extra in comparison with other students in order to master learning tasks. There are three main reasons of appearance of special needs – they could be caused by health impairment, health disadvantage or social disadvantage. (2)

Health impairment is permanent and irreversible state which arise from loose or damage of whole organs, their parts or their functions. Health disadvantage is a long-lasting state very often connected with chronic disease. Social disadvantage is significant for students from adverse economical, socio-sociological conditions or different culture or ethnic environment. Impairments and disadvantages create social handicaps and – in schools – special educational needs.



Picture 1 – Special needs

The mission of the teacher is to support learning of students with special needs and lead them to achieve school objectives and proper curricula. They are not to suppose to deal with students with special needs just like with these unable or worse, but they are obliged to incorporate the approach of equality. Impairments don't cause just disadvantages and handicaps but also abilities and possibilities. Very often we face opinions such as the students with special needs are those who induce problems. On the contrary to this opinion we better to consider the system as problematic.

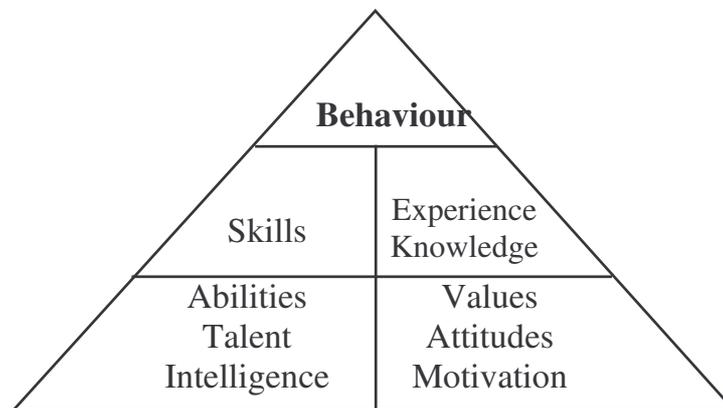
As mentioned above we have to remind the variety of factors influencing the process of successful school integration. Even if we do simplify the theoretical model of the complex reality we will in this artical pay much more ettention to teachers. Working with students with special needs educators are overloaded with meny diffucult problems that are to be overcome. The solutions need good coordination between teachers and the supportiv system and also demand many personal and social qualities of teachrs' presonality.

To cope with difficulties teachers are expected to acquire wide range of competences. The French term *compétence* was originally used in the context of the vocational training, referring to the ability to performance of a particular task. In recent decades the term is considered as a capacity to act efficiently in a number of given situations. (3) I would like to stress the complexity of the term. This concept consists of different kind of knowledge, skills and emotional reactions.

Much attention is usually paid to the issue of competences during last time. (4) Some authors describe the list of competences which is derived from well known Dolosr's concept of five pillars of Europe education. We will not revise this general information but we would like to adopt following classification of competences: (5)

1. Psycho-didactical
2. Pedagogical
3. ICT
4. Management
5. Diagnostic and evaluation
6. Social and communicative

The holistic view on the pedagogical competences is shown in the "competence triangle":



Picture 2 – "Competence triangle"

It is easier to imagine and to describe that competences that are bound with the concrete part of the classroom activity or with the proper phase of the learning process. I mean for example teacher's ability to choose correct methods or to organise classroom environment in the most effective way. (6) We could say it is more obtainable to lecture teacher so they acquire knowledge or to train them to develop skills demanded. But deeper we go in the competence triangle it is more difficult to influence the competence development. On other hand the lowest part of the competence triangle creates a ground that must be good fixed to support the top and of course the output of teachers' learning process – teachers' behaviour in everyday work.

Finally we could mention teachers' readiness as an important part of pedagogical competences. Readiness could be considered as a part of personal attitudes (next to it we could add an cognitive and affective part). The readiness is established through life experience and knowledge learned during school attendance. In special education we face a lot of problems that are solvable if there is willingness to find solutions. Many teachers complain about lack of information, many pupils in classrooms or obstacles in meeting different

students' abilities. Some of them facilitate students with special needs to enjoy supportable and positive learning climate.

In the end of the paper we would like to open two questions. First: how to develop the readiness of future teacher to be supportive and good educator of students with different special needs? Second: how to investigate teachers' readiness as an important factor interfering the success of school integration of students at both secondary and tertiary education?

We suppose there is a common answer to both questions. The readiness to cope with difficulties (not only with students with special needs) develops especially through observation of good examples and through the praxis. So if there is an attempt to measure readiness we have to analyse real life situations that are solved by teachers and we have to describe what are teachers ready to do and in which ways they can improve.

Of course we can branch these general statements to more precise questions, e.g. what are teachers' mental representations of students with special needs? What are teachers' attitudes to students with special needs? What are teachers really doing to support students with special needs? What are teachers supposed to do to support students with special needs? We hope these questions could be the beginning of future research.

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