How Best to Obtain, Use and Communicate Knowledge – The CIEA Outlined Various Strategies

By Roland Stähli and Heidi Hürlimann [1]

At the end of August 2002 the 23rd CIEA seminar – an international course for experts in agricultural education and extension - took place at the Agricultural Institute of the canton Freibourg, in Grangeneuve (Switzerland). Roughly 80 participants from 35 countries, among which two large delegations from Germany and Switzerland, worked for two weeks on the topics of „knowledge-management" and „networks". The following text conveys some impressions of the seminar and of selected speeches.

What was the seminar about?

The programme summarised the central issues and ideas as follows: „How can we best obtain useful, profound knowledge? How do we deal with this knowledge, how do we organise and use it? How can already existing, acquired knowledge be communicated in an adequate form? These questions have assumed paramount importance for all those who work in the educational sector, because „learning societies" have to be able to deal with a huge amount of knowledge. Organisational and technical measures have to be taken accordingly; furthermore, didactic and methodical decisions have to be made as well as observations about how responsibility can be assumed in the educational sector." In the course of the seminar, the discussions focussed on the following questions:

- What is knowledge?
- How do I distinguish between useful and useless knowledge?
- How do I handle the knowledge available to me?
- How can I best communicate knowledge?

In connection with these four principal issues, the following five often quoted claims were critically discussed and disproved:

Claim and reply 1: Knowledge can be influenced directly! Wrong, it is not possible to influence knowledge directly, knowledge can not be forced.

Claim and reply 2: A lot of knowledge is always good! Wrong, in times where people are inundated with information, deliberate restrictions and intelligent choices are needed.

Claim and reply 3: Lack of knowledge is bad! Wrong, if one can admit one's lack of knowledge, then it is a good starting point for the search for solutions and therefore a prerequisite for creative processes.

Claim and reply 4: Knowledge is always true! Wrong, knowledge is artificial and has to prove its usefulness in application again and again.

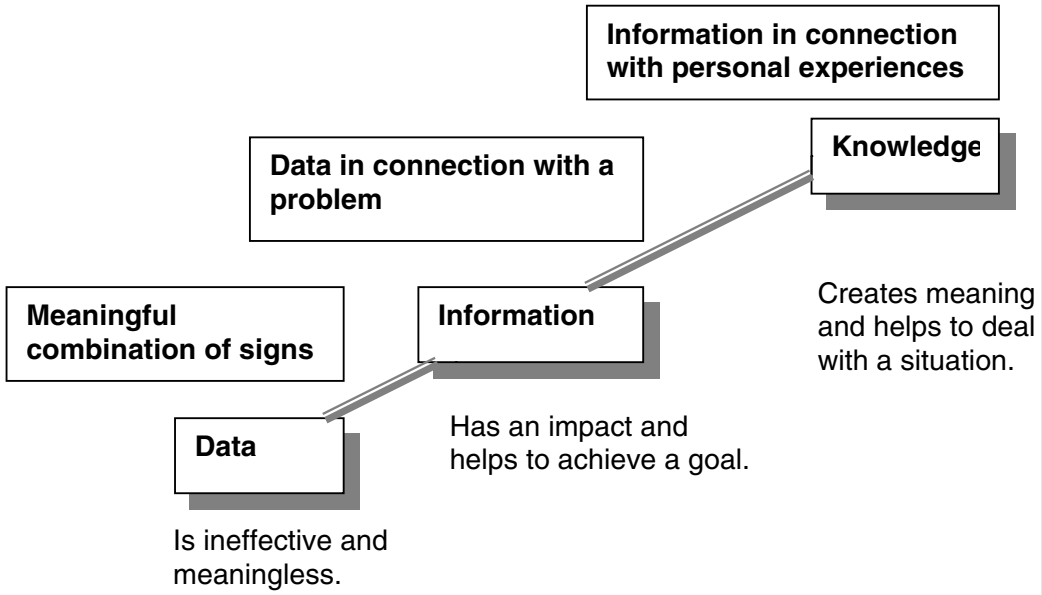
Claim and reply 5: Knowledge can easily be entered into computer memories! Wrong, information can be entered into computer memories, knowledge is tied to context and persons. (see box 1)

One additional objective of the seminar was that the participants should form a „ knowledge community". Kai Romhard from the University of St. Gallen described the idea of this knowledge community very vividly in various publications by stating: „Knowledge communities follow the model of ecology. They

[1] Roland Stähli, Swiss College of Agriculture, 85 Länggasse, CH-3052 Zollikofen (roland.staehli@shl.bfh.ch)

Heidi Hürlimann, Federal Office of Agriculture, 5 Mattenhofstrasse, CH-3003 Bern (heidi.huerlimann@blw.admin.ch)

Box 1. Knowledge has to be distinguished from information and data



- **Data** consist of a combination (by agreement) of signs (for example figures or letters) that does not yet serve a purpose and has no meaning on its own. It only turns into information when it is connected with a problem and serves the purpose of achieving a goal.
- This **information** is the raw material for the creation of knowledge, a process that requires the integration of information in a context of experiences.
- Meaningful **knowledge** is only created on condition that individuals choose, compare, judge, take the appropriate steps, make connections, negotiate and communicate. Knowledge is information judged according to its meaning.

Source: Reinmann-Rothmeier, Gabi: Wissensmanagement lernen. Weinheim und Basel, 2001, Beltz Verlag

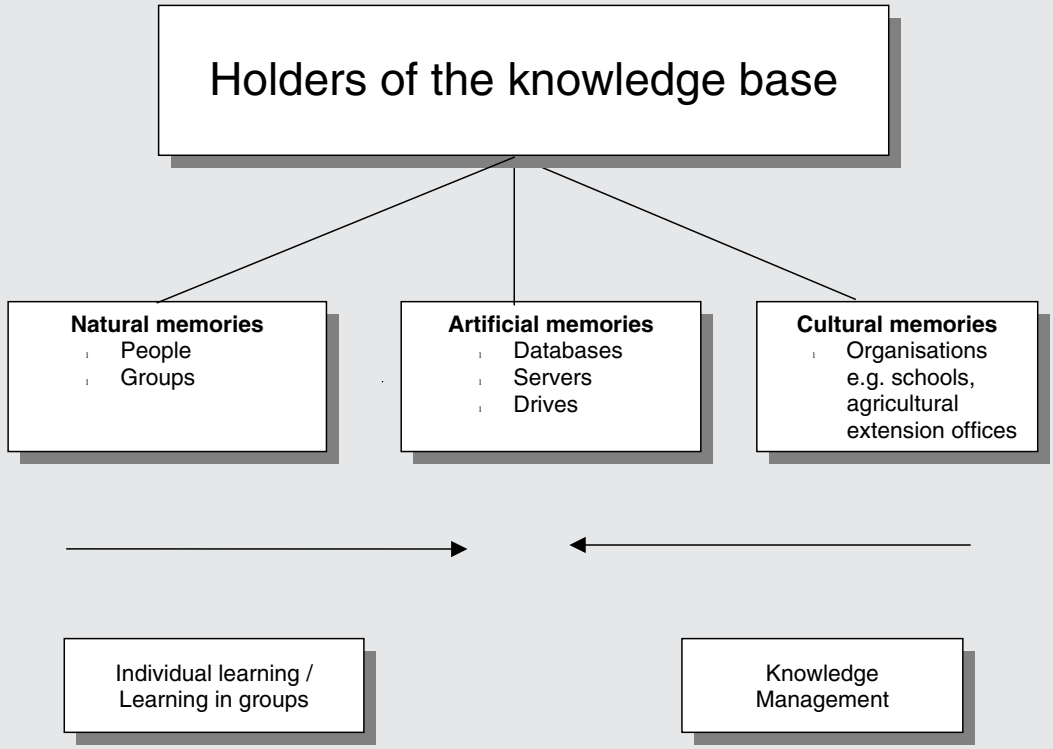
are like a garden whose plants need to be tended and looked after. If the conditions are favourable, new knowledge and insight grow by themselves. The (knowledge) gardener is economical and unassuming in his interventions and trusts in the force of nature, in life, or in the case of knowledge, in the curiosity and the creativity of the members. Each garden is different, has different flowers and a different soil. Simple solutions are not suited for knowledge communities."

Important principles and statements from the seminar

It would almost be presumptuous to make a selection from the variety of ideas, findings and experiences. For this reason, we only mention some extracts from various speeches. Those who are interested in more detailed information and in the original speeches, please look at the documents under www.ciea.ch.

We would like to mention the speech held by Prof. Rolf Dubs (University of St. Gallen, Switzerland). The topic of Prof. Dubs's speech „from information to knowledge – from knowledge to application" was based on two statements. He quoted a specialist in information technology who said: „In a few years' time, all information is going to be on the net, and it will no longer be necessary to communicate knowledge" and he phrased provocatively „ Why is a person capable of finding information on a computer quickly – because they know a lot!". Professor Dubs based his speech on three holders of the knowledge base (see box 2)

Box 2. The knowledge holders



Source: speech by Prof. R. Dubs, CIEA Seminar 2002

and showed with various examples and principles that experts in education can only make progress if they manage at the same time to use individually acquired knowledge and to make usable institutional knowledge in the spirit of knowledge-management. The concluding discussion was enriched by Professor Dubs's additional, very pointed remarks and comments, such as „There is no learning without practising!" and „There is no learning without exams!"

Quality development and knowledge-management – a connection?

This was the title of the speech held by Dr. Anton Strittmatter in which he dealt with particular aspects of quality. He claimed, among other things, that: „If the linkage between quality development and knowledge-management was made more often or even occurred as a general rule, much nonsense in the area of quality management would not happen, because there are quality management systems which lead directly towards total freezing or immobilising knowledge". In the course of his explanations, Anton Strittmatter broached in particular the following three topics:

1. Area of conflict: control versus development
2. Area of conflict: external accountability versus honouring of professional self-obligation
3. Challenge: serious self-evaluation

Anton Strittmatter adopted the following attitude:

- **Balance between control and renewal:** It is necessary to demand a carefully planned balance between control and development-orientated evaluation. The balance has to be critically examined regarding its actual effect.
- **Recognised control interests:** It must be recognised that there are legitimate control interests in the area of schooling too. All school partners have a

right to expect that their co-partners satisfy certain minimum performances or minimum qualities. The definition of such minimum qualities, which are subsequently exposed to performance control or at least some control of effort, must be, however, negotiated very carefully. Control processes that are broad and randomly laid down must be rejected because they would devaluate serious and effective control. Controls within the area of teaching qualities are quite difficult and demanding; they must, therefore, concentrate on a few core demands.

- **Distrust has a destructive effect:** In the area of education, quality evaluations and the steering of development-orientated quality have significant priority. It is possible to have both control and development-orientated evaluation but in reality there is tension within their relationship. Such a control often triggers defence reactions and reactions with the intention to cover up or gloss over and as a result, readiness for innovative thought and action is inhibited.

Based on this point of view, A. Strittmatter – together with various experts in education – developed a quality evaluation system which is offered and used under the registered trademark FQS ®.

Exceptional competences for knowledge-management

Ms Cathrine Favrod, consultant, worked on this topic with the participants of the seminar. Among other things she raised the question: „What does knowledge-management mean in practice?“ and answered: „In essence, the managers must continually update their knowledge without reinventing the wheel.“ This engages organisations in two kinds of knowledge activity:

First, they must find effective ways to translate their ongoing experience into usable knowledge. This is the **„act of creating“** what is called common knowledge.

Secondly, they have to transfer that knowledge across organisational borders. This is the **„act of leveraging“** common knowledge „across time and space“.

Common knowledge is the knowledge employees learn from doing the institution's or organisation's tasks. They know for example what experience a company has made with the introduction of a new drug into the market, how cost of materials on large-scale projects can be reduced and how the amount of pitch in wood pulp can be controlled. All these examples, as well as many others, involve knowledge-management, i.e. the generation of knowledge through external acquisition or internal creation, its codification and its transfer.

In this context, Ms C. Favrod drew the attention to two special features of knowledge, the so-called „stickiness“ and the „absorptive capacity“. Stickiness refers to the difficulty associated with codifying knowledge, i.e. turning it into explicit transmittable information. Readers will doubtlessly have encountered the problem of stickiness, on occasion, when they tried to put „thoughts down on paper“. In an organisation, in an educational institution too, internal stickiness often hinders efficient transfer of knowledge between individuals and departments. Whereas stickiness slows down the availability of knowledge, the absorptive capacity affects the way in which the recipient is able to understand knowledge. Foreknowledge on a particular subject area or topic makes it easier to understand new information that is related to this area or topic. The contrary is also true, as many companies and individuals have found at their own expenses, when venturing into new fields of knowledge.

Ms C. Favrod finally mentioned some basic principles of knowledge-management. She quoted the following principles according to Davenport and Prusak:

- Knowledge originates and resides in people's minds;
- Knowledge-sharing requires trust;
- Technology enables new knowledge behaviours;
- Knowledge-sharing must be encouraged and rewarded;
- Management support and resources are essential;
- Knowledge initiatives should begin with a pilot programme;
- Quantitative and qualitative measurements are needed to evaluate the initiative;
- Knowledge is creative and should be encouraged to develop in unexpected ways.

CODESSER – an exemplary case from Chile

Apart from the above mentioned basic principles, concrete examples and experiences were frequently provided in the course of the CIEA seminar. Dr. Mariana Martelli presented the Agricultural Education Corporation, CODESSER, from Chile. CODESSER is an education corporation founded by the National Society of Agriculture in Chile. In a global sense the abbreviation stands for: „Corporation for the social development of the rural sector". The aim of the organisation is to support the development of agriculture and forestry - in particular in rural areas - by means of basic training, further education and extension. The essential motivation for this commitment to the educational sector was described by the director of CODESSER: „The responsibility for education not only lies with the government but also with the society".

Specialists work in four different areas within CODESSER:

- Vocational training
- Seminars and in-service trainings
- Extension / extension projects / technology transfer
- Other services: management / accounting / administration

In all these four areas CODESSER tries to initiate or to support reform processes that are forward-looking.

One of the most important activities which are centrally managed by CODESSER at the moment is the co-operation on the reform of vocational training which has been put into action in Chile since 1998. The aim of this reform is that schools and extension offices which work within CODESSER not only fulfil the minimum requirements set by the government, but continue the reform process in their own best interest. Four main leading ideas are:

1. Schools and extension offices are systems of continuous learning.
2. Individuals should be encouraged in all matters.
3. The schools and extension offices do not work as an end in themselves, but in order to serve the (regional and national) community.
4. The management is influenced and supported in all areas by an advisory committee (managers and entrepreneurs from the region).

To translate this central ideas into action, the CODESSER organisation tackles in particular the following aspects:

- **Individual development of the curriculum:** The aim of this development is to create a closer link between the contents of the education and the regional setting (population, natural characteristics, focusses of production etc.).
- **„The classroom and the extension courses are a place of pedagogic innovation":** CODESSER above all wants to express the constructivistic approach which places the students in the focus of all learning activities and processes.
- **Broad and frequent evaluation of the students:** The students are assessed and evaluated on a regular basis during the courses but also during practical tasks and in connection with activities in the boarding school. The assessments are not only made by teachers, but also by students from upper semesters.
- **Education and further education of the teachers:** The aim is a varied, continuous, methodical-didactic further education of the teachers and extensionists.
- **Close contact within the CODESSER network:** These contacts are promoted to a different extent on the level of the management, the teachers and extensionists, the administration and the students (e.g. by joint meetings, further education, cultural and sporting events).

The efforts made within this reform process are considerable. The success achieved can be seen and encourages CODESSER to pursue its course consequently.

A variety of activities and results

During the course of and at the end of the seminar, the participants were questioned about important impressions and results. There was a wide range of answers: the various provocative speeches, the controversial group discussions and the memorable excursions

were mentioned in particular. Furthermore, the new or renewed knowledge in the field of psychology of learning, didactics and methodology as well as current experiences in the field of information and communication technology were referred to. It was very impressive to observe how colleagues from Kirgistan, Chile and Ireland discussed the organisation of their school or how teachers from Germany or Asia compared their knowledge about teaching. This attitude of „openness to other cultures, views, countries etc." was adopted with enthusiasm and dedication by many of the participants. During the course of the two weeks, the participants from more than 30 countries grew together and formed a real knowledge community. They have therefore fulfilled the vision initially formulated by the organisers of the seminar.

Outlook

The ultimate and uppermost aim of all work in the field of education has to be to obtain, use and communicate knowledge, competences and skills in the best possible way. The CIEA as an institution has this as its motto and it is going to continue its activities in the following years with a lot of enthusiasm. The direction of the CIEA is interested in getting in contact with international organisations/institutions that offer further education in agricultural education and extension and is happy to provide further information. (www.ciea.ch/ eMail: heidi.huerlimann@blw.admin.ch).

Brief information on the CIEA

The CIEA (Centre international d'études agricoles) is an international study centre for education and extension in agriculture and in the rural areas. The CIEA is based in Berne (Switzerland), at the Federal Office of Agriculture. It was founded in 1956 at the suggestion of the then Director of the Agriculture Department of the FAO in Rome, F. T. Wahlen. The CIEA organises seminars in Switzerland and abroad for professors, teachers and extensionists in agriculture. Since 1995 it is managed by the Swiss College of Agriculture in Zollikofen.

What participants is the CIEA seminar aimed at?

The CIEA seminar is aimed at experts in vocational agricultural training (directors, lecturers, teachers) who have a university or college degree and several years' experience in vocational agricultural training. The seminar also welcomes participants who are working in the administration and are responsible for the agricultural education.

What are the objectives of the CIEA seminar?

The primary objectives of the CIEA seminar are:

- To offer further education of superior quality for experts in agricultural education and extension, i.e. to polish and complete their knowledge as teachers and pedagogues;
- To explain current pedagogic-methodological developments in the educational system and in the educational science sector;
- To create a framework in order to promote an intense exchange of views and experiences in the field of pedagogy and didactics among teachers from various countries and backgrounds.

Besides the teachers from industrialised and developing countries, there was an increasing number of participants from Eastern European countries at the last CIEA seminar.