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Geachte lezer,

Als u de achterkant van dit ECS Bulletin al heeft bekeken, heeft u gezien dat we als ECS een sterke groei doormaken. Het aantal medewerkers en aan ECS verbonden promovendi, trainees, assistenten en gasten is de veertig gepasseerd.

ECST

Een belangrijke ontwikkeling binnen de leerstoelgroep is dat het vaardighedenonderwijs wordt samengevoegd in een onderdeel van de leerstoelgroep dat we 'Expertise Centrum Skills Training' gaan noemen. We gaan dat afkorten tot ECST. De bedoeling is ECST te versterken door het vaardighedenonderwijs nog breder onder de aandacht te brengen van de opleidingen, en door leerlijnen aan te bieden aan de hand van assessments in vakken, zodat studenten hun vaardigheden continue en op maat kunnen ontwikkelen. Het portfolio van ECST zal primair gericht zijn op vaardighedenonderwijs aan de studenten van Wageningen Universiteit. In de toekomst kan het ECST wellicht ook worden benaderd voor trainingen op maat, advies aan scholen, en workshops voor docenten en onderwijsontwikkelaars.

Promovendi

Een tweede belangrijk punt is dat er hard is gewerkt aan het uitbreiden van het aantal promovendi. Dit is aardig gelukt; er zijn momenteel twee AIO's, een reguliere PhD, twee stafleden, vier externe promovendi en één gastmedewerker bezig met de voorbereiding van een proefschrift. Mijn verwachting is dat dit aantal de komende jaren verder zal uitbreiden. ECS streeft naar het realiseren van twee promoties per jaar. Dat is ongeveer het gemiddelde van het Departement Maatschappijwetenschappen. Misschien kan er over enkele jaren nog een schepje bovenop, maar dit aantal is voorlopig naar wens.

Drie recent gepromoveerden zijn nog verbonden aan de leerstoelgroep. Mostafa Karbasioun verblijft om privé-redenen nog in Nederland en werkt aan het Journal of Agricultural Education and Extension (JAEE) en aan artikelen; Hossein Mahdizadeh is terug naar zijn land en werkt ook nog aan verdere publicaties; Doris Kakuru is ook al geruime tijd terug in haar land, en werkt van daaruit als journal review editor van het JAEE. Omid Noroozi is een nieuwe PhD student uit Iran. Er is een discussie geweest over het al dan niet toelaten van PhD-studenten uit Iran, maar binnen ECS heb ik het standpunt ingenomen dat een onderwijsinstelling geen studenten moet weigeren uit welk land dan ook,

omdat een internationale onderwijsinstelling als Wageningen (er studeren studenten uit meer dan honderd landen in Wageningen) het levende bewijs is van vreedzame coëxistentie.

Publicaties

ECS heeft het vorige jaar goed gewerkt aan wetenschappelijke publicaties. Was het in voorgaande jaren soms wat minder, 2007 is een prima jaar geweest. Het aantal internationale peer reviewed wetenschappelijke artikelen is behoorlijk toegenomen. Doordat ook de input in onderzoek is teruggebracht, door de capaciteit van docenten zonder expliciete onderzoekstaakstelling niet meer mee te tellen, zullen de productiviteitscijfers van ECS er in de komende jaren beter uitzien dan voorheen. Nu nog het realiseren van een aantal A-publicaties. Daarbij wordt de aandacht voor de onderwijspraktijk echter niet uit het oog verloren. Nog steeds geldt het adagium dat een groot deel van de projecten van ECS worden gedaan voor, met en in de praktijk.

Nieuws uit Wageningen UR en de SSG

Voor de alumni van ECS is het wellicht goed om te weten dat Prof. Ruud Huirne algemeen directeur is geworden van de Social Sciences Group. Ruud was hiervoor algemeen directeur van de Animal Sciences Group en wetenschappelijk directeur (met Prof. Cees van Woerkum) van de toenmalige Kenniseenheid Maatschappij.

Zoals misschien bekend is, is Van Hall-Larenstein (VHL) onderdeel van de grote Wageningen UR familie. Erica Schaper is vertrokken en Ellen Marks (voormalig directeur van de School of Economics Alkmaar/Zaanstad) van de hogeschool INHOLLAND is benoemd als nieuwe directeur van VHL.

Prof. Ekko van Ierland was kort directeur van de Mansholt Graduate School for the Social Sciences (MG3S) maar is inmiddels teruggetreden. Er wordt een opvolger voor hem gezocht, maar Prof. Em. Van Kuyvenhoven is tijdelijk terug als vervanger. MG3S is sterk betrokken bij de ontwikkeling van de Research Master Variant (RMV). Dat is een MSc-opleiding die selectief is en waarin sterk het accent ligt op onderzoek. Het idee is dat een dergelijke opleiding een betere voorbereiding biedt op een

Noteer in uw agenda:

9e Lustrum ECS

12 maart 2009, Wageningen

Overdag: conferentie 'Onderwijs en ontwikkeling'

Avond: Reünie (oud) ECS-medewerkers en alumni



PhD-traject. Vakken voor de RMV en courses voor MG3S zullen goed op elkaar worden afgestemd, en bepaalde RMV-courses zullen ook (deels) indalen in het MSc-onderwijs. De RMV start in het collegejaar 2008-2009.

Op 7 maart heeft Wageningen Universiteit haar 90^e verjaardag gevierd, met een interessant symposium over 'Science and Governance' onder voorzitterschap van Prof. Ekko van Ierland, en met een Dies Natalis programma met als thema 'Food or Fuel'. Sprekers tijdens de Dies Natalis waren mw. Gerda Verburg, minister van LNV, Prof. André van der Zande, secretaris-generaal LNV, Prof. Martin Kropff, Rector-Magnificus van Wageningen Universiteit en Prof. Arthur Mol, hoogleraar milieu-beleid. Eredocoraten zijn uitgereikt aan Prof. David Baulcombe en Prof. Daniel Pauly.

Gezien de grote aantallen promovendi in Wageningen (er zijn meer dan 250 verdedigingen per jaar) moest het College voor Promoties worden uitgebreid met een aantal hoogleraren dat als waarnemend rector promotieplechtigheden kan voorzitten. Tot dat ambt ben ik ook geroepen en inmiddels heb ik een aantal promoties in deze hoedanigheid voorgezeten.

Sabbatical leave Arjen Wals

Sinds een paar jaar biedt Wageningen Universiteit haar medewerkers de mogelijkheid om te sparen voor een sabbatical van een paar maanden. Het doel van een sabbatical is tweeledig. Enerzijds kan een medewerker in een andere omgeving tijd vrijmaken om geconcentreerd aan die dingen te werken die er gedurende de dagelijkse werkzaamheden bij inschieten of slechts mondjesmaat en versnipperd aan bod komen. Anderzijds biedt een sabbatical gelegenheid inspiratie op te doen in een stimulerend academisch klimaat waar internationale toppers werken op ons vakgebied. Arjen Wals is dit voorjaar uitgenodigd door Professor Marianne Krasny (Chair Department of Natural Resources) en zal als Visiting Scholar verbonden zijn aan Cornell University. Cornell is één van de prestigieuze Amerikaanse Ivy-League universiteiten. Arjen houdt zich daar vooral bezig met het schrijven van hoofdstukken en artikelen op het terrein van sociaal leren en duurzame ontwikkeling. Daarnaast geeft hij lezingen en draagt hij bij aan een aantal symposia.

Nieuwe medewerkers

Wie zijn er verder aan de staf toegevoegd? Allereerst Dr. Hilde Tobi, expert in de methodenleer en statistiek. Zij is een oude bekende van mij, omdat ze aan de Universiteit Twente Toegepaste Onderwijskunde heeft gestudeerd. Mocht u het niet weten; ik heb zestien jaar gewerkt bij de Faculteit der Toegepaste Onderwijskunde (nu opgenomen in de Faculteit Gedragswetenschappen, met Prof. Hubert Coonen als decaan). Hilde is voor een kleine deeltijdfunctie gedetacheerd vanuit de leerstoelgroep Milieubeleid, die onder leiding staat van collega Prof. Arthur Mol. Hilde zal onderzoekers van ECS met raad en daad bijstaan.

Ir. Hansje Eppink is trainee geworden op het terrein van onderwijs in ontwikkelingslanden. Ze zal intensief samenwerken met Ir. Corine van der Heide, die weer teruggekeerd is van haar reis naar het Midden-Oosten. Corine werkt aan projecten in Oeganda en Ethiopië. Het streven is het groepje medewerkers dat werkt aan de implementatie van competentiegericht onderwijs in ontwikkelingslanden uit te breiden.

Het contract met Jifke Sol is verlengd. Zij werkt in het cluster Kennis aan nieuwe kennisarrangementen. Drs. Ir. Marlon van

der Waal is nieuw bij ECS. Ze vervangt Arjen Wals voor een aantal taken. Drs. Marjan van der Wel is ook nieuw, en zij verricht werkzaamheden ten behoeve van het groen onderwijs. Ir. Bas Bolman heeft de website van ECS opgepoetst en zal aan ECS verbonden blijven om de website te onderhouden.

Tot slot

De tijd gaat snel. Dit jaar zal ik tien jaar verbonden zijn aan Wageningen Universiteit. Het waren tropenjaren. Eerst figuurlijk, maar nu ook letterlijk, omdat ik zelf vrij actief ben in de projecten in Oeganda en Ethiopië. Daarbij heb ik gemerkt dat de inzichten vanuit het vakgebied van de human resource development hier uitstekend toegepast kunnen worden, maar dat de scope daarvan sterk moet worden opgerekt. Het gaat bij het ontwikkelen van human resources in de derde wereld niet om corporate human resource development, maar om comprehensive human resource development. Dat wil zeggen dat het initiële formele onderwijs, het non-formele onderwijs, het informele leren en community development ook in ogenschouw moeten worden genomen. Daarnaast is er een integrale benadering nodig van sociaal-economische en rurale ontwikkeling binnen de formele en informele economie.

Zoals gezegd, 'de tijd gaat snel'; om die reden vermelden we alvast dat ECS op 12 maart 2009 het 45-jarig bestaan van de leerstoelgroep viert. Interessant, half zo oud als Wageningen Universiteit nu is. Overdag zal er een symposium zijn over Onderwijs en Ontwikkeling, en 's avonds een feest voor medewerkers, oud-medewerkers en alumni van de leerstoelgroep.

Ik wens u wederom veel leesplezier met dit ECS Bulletin.

Martin Mulder ◀

Onderzoek

Descending the Ivory Tower and re-making Higher Education in the Era of (un)sustainability 2015 & Beyond

Paul Kibwiki & Arjen Wals

Higher education and the sustainability challenge

The 19th century model of higher education with which we are most familiar is inadequate for the very different conditions and challenges of the 21st century. These challenges include issues of poverty, sustainability and democracy arising from the complex interaction of many social, political and technological elements. We live in an essentially 'systemic world' characterised by multiple causation and complex feedback, yet the dominant educational structures are based on fragmentation rather than connection, relationship and synergy (Sterling, 2000).

The university of the future must therefore not only rediscover and share indigenous and ancient ways of knowing and acting, but must also generate new concepts and practices that will help create a world that is more sustainable than the one currently in prospect. In order to do so, academics must be willing to abandon the Ivory Tower and universities must



Table 1. Some distinctions between different traditions of knowledge and knowing (Adapted from: Bawden and Macadam, 1991, p. 4)

	Scientia	Techne	Praxis
Focus	Learning for knowing	Learning for doing	Learning for being
Knowledge produced	Propositional	Practical	Experiential
Structure	Subject disciplines	Crafts/Skills	Issues/Competences
Teacher's role	Expert	Master	Facilitator
Teaching strategies	Lectures on theory	Practical instruction Demonstrations	Real-world Projects
Research style	Basic (Experimental)	Applied (Developmental)	Action (Participative)
Research goals	Abstract-universal knowledge	Workplace Solutions	Contextual knowledge / Action for change
Basic philosophy	Positivism	Utilitarianism	Constructivism
Focus of reflection	What do I now know?	What can I now do?	Who am I becoming?

become an integral part of the communities that support them. Hence, a challenge to higher education is to reconsider its disciplines, its institutional practices, and, indeed, its mission to account for economic and human development that is sustainable. From an emancipatory perspective, education is a means for people to become self-actualized members of society, seeking meaning, developing their own potential and jointly creating solutions. A sustainable world cannot be created without the full and democratic involvement of all members of society; a sustainable world without participation and democracy is improbable, and perhaps even impossible (Wals & Jickling, 2002). The university of the future will engage students not so much in learning for knowing, but rather in learning for doing and, indeed, learning for being (Table 1).

The complexity of development problems requires universities to develop a different form of learning. Universities themselves need to learn to influence change in a complex environment. Most critical is the issue of their competence to provide training, research and outreach services that appropriately address real-life problems. The struggle to find integrated solutions through participatory, multi-disciplinary, innovation systems seems important, but universities have not yet been very effective in developing the corresponding competences neither within their own staff nor within their students. The university of the future is able to take on societal and developmental functions, in addition to their academic functions. This means that faculty and students will have to become more capable in responding to sustainable development challenges.

Developing innovation competence

The university of the 21st century enhances the capacity of professionals to activate and strengthen social learning in communities, and skilfully identifies competence gaps affecting both agricultural professionals and farmers when they engage in collaborative learning for change. It is such engagement that results into innovations that are likely to, for instance, liberate farmers from poverty trap – an alternative to the failed technology transfer model of the last century. This new role calls for the development of so-called innovation competences. In the university of the 21st century lecturers have come down from the ‘pulpit’ for lecturing in order to facilitate learning for development. Doing so requires the linking and strengthening of competences at various levels: university, development service

providers and the grass-roots community (i.e. small-scale farmers). Figure 1 provides the key elements, functions and relationships that, when holistically considered, make up innovation competence.

The competences of the agricultural professionals, that the university of the future seeks to develop, are based on their expected functions in a social learning context. In a sense, they are cross-cutting competences for influencing change in society. Development and access to facilitating and communication tools demands practical engagement and can be enhanced by peer-coaching. Unlike academics, who communicate primarily with peers, practitioners find themselves at the interface of many different worlds – researchers, donors, governments, multi-lateral agencies, activists, NGOs, and poor communities, and thus need to be able to operate in multiple communicative modalities (Woolcock, 2006).

Communication is the tool that integrates professionals in society and allows them effectively to influence change from within as members of that social system. This means that the university of the future can no longer train students as if they all are destined to become academics who largely communicate with peers. The essential communication skills for interacting with communities of, for instance, farmers and poor people are acquired through practice and not by just studying them. The modern university engages in interactive learning approaches that invite both the lecturers and students to exchange knowledge, or to co-create knowledge through communicative processes. Interaction between the university and the community enhances the development of communication and facilitation competences for both the students and lecturers in real-life situations that are existentially relevant. The university of the future realizes that the acquisition of such competences requires a reasonable class size to allow for practical and meaningful engagement. In the future a ‘bloated’ student intake as a source of revenue without corresponding increase in facilities and staff at the university is out of the question as it will undoubtedly curtail access to such critical competences.

Emerging strands of research

Solution-oriented thinking and commitment to undertake change in the community will be a key element of the mainstream of academia in the university of the future. No longer, the primary

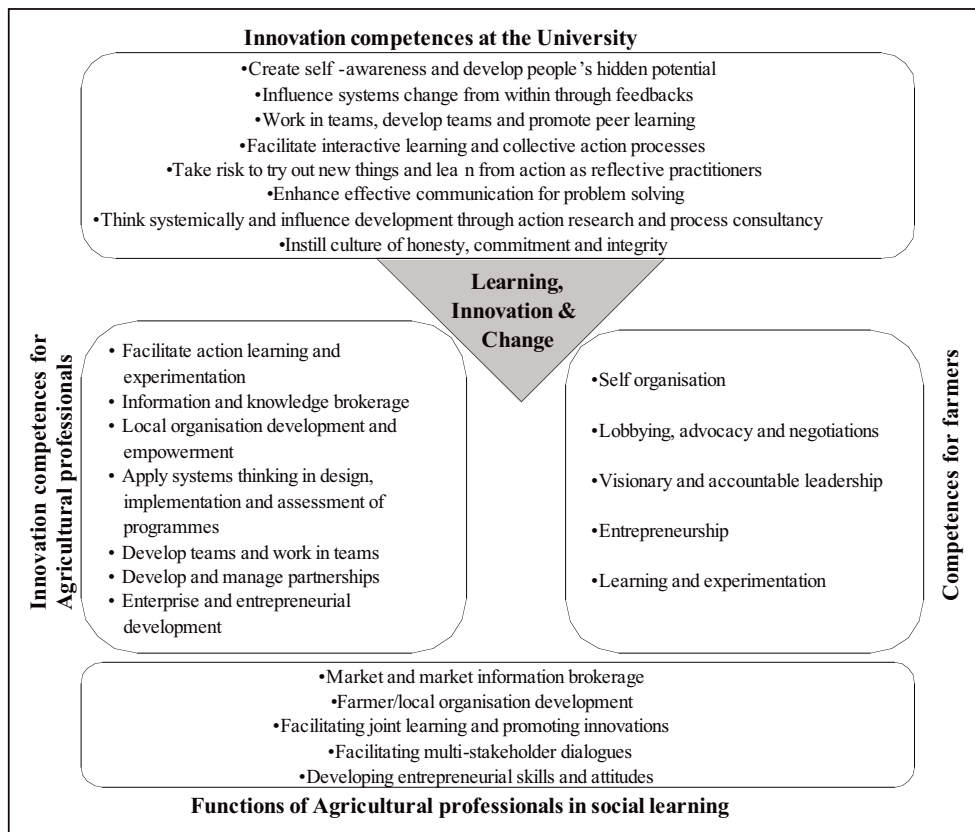


Figure 1: Constructing innovation competence through higher agriculture education (source: Kibwika, 2006)

objective of developing a research project by university staff members is publication in peer-refereed journals, because that is what counts most in their career development. Instead more sustainable development and personal development oriented criteria and indicators will be used to assess progress and to promote continuous learning of individuals, organizations, communities and networks.

The scientists of the future are able to break out of routines that reinforce the status quo and explore creative and unorthodox ways of solving complex problems. Through such engagement creativity will be unleashed, as scientists begin to rise to and relish the challenge of solving neglected and complex problems drawn to their attention through community engagement. This will imply much risk taking. But taking a risk and trying out new things will depend on building up the ability of researchers to reflect on their actions, draw lessons and adapt accordingly – in short, they must become reflective practitioners. In addition to technical “experts” the university of the future will also have to produce “change makers”, if it is at all to adapt itself to current development challenges. ‘Research as mining’ will stay the prevailing mode of research but will be complemented with ‘research as learning’ and, even more radical perhaps, ‘research as activism’ (Table 2).

Entrepreneurship

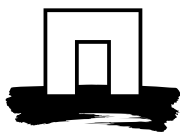
When people find solutions that work for them they take charge of their own development and become entrepreneurial think-

ers and doers: i.e. people who can cope with and take advantage of uncertainty and complexity. The university of the future develops entrepreneurs rather than bureaucrats. But entrepreneurship is not acquired by proclaiming it, or by teaching its theory. In the modern university entrepreneurship is an emergent property of practical engagement in solution finding. To develop entrepreneurs university lecturers must also become entrepreneurs, in the sense that they must also find workable solutions to problems in diverse contexts. Action research and process consultancy provide mechanisms for enabling lecturers to become educational or research entrepreneurs. In this type of engagement, the focus shifts from getting tasks done to getting a problem solved, which involves a lot of creativity and adaptation

Didactical implications

Integrating aspects of sustainability cannot be realised without thinking very critically about the re-structuring of didactical arrangements. This re-orientation requires ample opportunity for staff members and students to embark on new ways of teaching and learning. The university of the future provides ample opportunity to explore new ways of teaching and learning and to re-think and to re-shape their mutual relationships. These new didactical arrangements pre-suppose a problem orientation, experiential learning and lifelong learning and are likely to trigger the following shifts in educational orientation:

- from consumptive learning to discovery learning in open-



	Research as mining	Research as learning	Research as activism
Modus of understanding	Empirical analytical Reductionist Objective	Hermeneutic-interpretive Holistic-descriptive (inter)Subjective	Socially-critical Contextual-transformative
Nature of inquire	Universal	Trans-contextual	Dynamic-intersubjective
Roles of researcher	Good tester Passive-detached Neutral-Expert	Good listener Active-detached or passive engaged Explicitly biased Learner	Good ally Active-committed Explicitly partisan Co-learner
Role of 'participant'	Passive source of data	Active informant	Participant - learner
Noble purpose	Improved efficiency, models, predictability, 'truth'	Improved understanding Pre-hypothesizing Mirroring	Transformation, systemic change
'Real' purpose	Status, career development, publications	Status, career development, publications	Genuine transformation, systemic change?
Language used	Exclusive, scientific – but simple and clear towards 'target groups'	Exclusive, scientific	Contextual – co-created

Table 2 Different kinds of research

- source environments
- from teacher-centred to learner-centred arrangements
- from individual learning to collaborative learning
- from theory dominated learning to praxis-oriented learning
- from sheer knowledge accumulation to problematic issue orientation
- from content-oriented learning to self-regulative learning
- from institutional staff-based learning to learning with and from outsiders
- from low level cognitive learning to higher level cognitive learning

Learning for being (Table 1) suggests learning that is not of a transmissive nature (i.e. teaching as reproduction) but rather of a transformative nature. The latter requires permeability between disciplines, university and the wider community, and between cultures, along with the competence to integrate, connect, confront and reconcile multiple ways of looking at the world. The university of the future is the place in society where cutting edge new thinking is generated that can break the cycle of unsustainable knowledge creation and transfer, unsustainable technological development and unsustainable consumption patterns tied to unsustainable economic principles. At present most of our universities are still leading the way in advancing the kind of thinking, teaching and research that only accelerates un-sustainability. The university of the 21st century constantly questions and reforms deeply entrenched unsustainable routines, structures and practices by taking advantage of the privileged position universities have in our society and utilizing some of the brightest minds on the planet in finding ways to preserve, rather than to destroy, that very same planet.

References

Bawden, R. and Macadam, R. (1991). *Action Researching Systems: Extension Reconstructed*. Paper prepared for the workshop 'Agricultural Knowledge Systems and the Role of Extension' held at the University of Hohenheim, Stuttgart, Germany. 21-25 May, 1991.

Dillon, J. and Wals, A.E.J. (2006). On the dangers of blurring methods, methodologies and ideologies in environmental education research. *Environmental Education Research*, 12, 3/4, 549 - 558.

Kibwika, P. (2006). *Learning to make change: Developing innovation competence for recreating the African university of the 21st century*. Published PhD-Thesis. Wageningen: Wageningen Academic Publishers.

Sterling, S. (2001). *Sustainable Education: Re-visioning and Change*. Schumacher Briefing No. 6. Green Books Ltd.

Wals, A.E.J. and Jickling, B. (2002). "Sustainability" in Higher Education from doublethink and newspeak to critical thinking and meaningful learning. *Higher Education Policy*, 15, 121-131.

Wals, A.E.J. and Bawden, R. (2000) *Integrating sustainability into agricultural education: dealing with complexity, uncertainty and diverging worldviews*. Gent: ICA.

Woolcock, M. (2006) "Higher Education, Policy Schools, and Development Studies: What Should Masters Degree Students be Taught?". *Journal of International Development*, 19, 1, 55 - 73.▲

Learning and innovation processes in smallholder agriculture in East Africa

André de Jager, Agricultural Economics Institute

The shift towards participatory, discovery- and learning-based theories has triggered development and implementation of vari-



ous innovation, research and extension approaches such as Farming Systems Research and Extension (FSR&E), Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA), Participatory Technology Development (PTD), Participatory Learning and Action Research (PLAR), Farmer Research Groups (FRG) and Farmer Field Schools (FFS). Initially, the innovative aspects of the Nutrient Monitoring approach (NUTMON; participatory monitoring of nutrient flows; www.nutmon.org) focused on studying actual farm management practices (conceptualised from the perspective of theories on farming systems) as a basis for better understanding of existing constraints, and identifying potentials for solutions. At that time, participation was limited to farmers supplying information. Limited attention was paid to providing feedback to farm households for learning or participatory action. This resulted in better insight in smallholder farm management practices, but not in an actual process of change. The aspect of farm household participation gained momentum when the application of NUTMON was embedded in other diagnostic tools, such as PRA and participatory nutrient flow mapping, and linking this diagnostic phase to action research. The NUTMON results were actively used in a process of participatory learning and understanding the impact of current farm management practices on soil fertility, and were a starting point for involving farm households in identifying and prioritising solutions. The farmers' active participation in diagnosis and experimentation was a major step in further developing their capacity to innovate and implement changes in their farming systems, and marked a radical change in the relation of farm households with researchers, extension agents and NGO-staff. Although most of the activities were implemented with groups of farmers, little attention was paid to the group organisational aspects. The focus was on individual learning and capacity building, which was conveniently implemented in groups of individuals. Only in the most recent projects, organisation of farmers was considered not only as a structured platform of learning and innovation, but also as a vehicle to address other aspects of farmers empowerment.

Tools and methodologies

With the increased focus on action research, more attention was given to tools and methodologies to develop the observation, experimentation, evaluation and reflection skills of farmers. On the one hand, this is a desirable development, since it forces scientists to involve farmers in all aspects of the research process, facilitates research priority setting to smallholder real problems and introduces the notion of accountability of research to the community to show results and bring about actual change in smallholder agriculture. On the other hand, there is a risk of underestimating the role of fundamental and empirical research in these new participative innovation systems. It is a rather romantic and unrealistic view that most of the innovations can be generated by farmers themselves. Smallholders also need to be inspired and triggered by innovations developed by (both, publicly- and privately-funded) research, which in turn can be inspired by the interaction with farmers to create innovations to solve problems smallholders are facing. New agricultural innovation systems should therefore be characterised by methodological pluralism, making use of the relative strengths of the different approaches. The Farmer Field School (FFS) approach

described in this thesis is a successful example, integrating:

- Empirical research for problem identification, understanding and identifying opportunities with a crucial role for the NUTMON approach;
- Participatory action learning, to address problems through interactive cycles of diagnosing, actions, observations, reflections and re-planning, with action research superimposed to synthesize higher-level lessons (the FFS process);
- Empirical research to assess the impact of participatory processes through impact assessment.

Pitfalls

However, the approach is not without pitfalls. Many examples in Eastern Uganda and Kenya have been observed where participatory learning processes tended to focus on the process, while achieving few innovative results and actual (technical) improvements in farm management practices or farm household livelihoods. Moreover, in on-farm experimentation, scientifically sound procedures should be used, in the participatory learning process, to ensure adequate innovative capacity building, as well as preventing misinforming smallholders.

Flow-supporting mechanisms

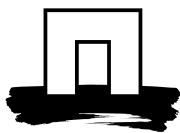
Key to the well-functioning of the innovation system is the existence of effective mechanisms that arrange the flow of knowledge, information and products between the different configurations. The participation of knowledge organisations in consultative platforms and implementation coalitions engages knowledge organisations in learning alliances with stakeholders in processes of innovation and research and will guide the research agenda in the science networks. Transforming the innovation systems in learning alliances with stakeholders should lead to increased effectiveness of the activities, demand-driven research and appropriate products.

Farmer Field Schools

Farmer Field Schools are an effective, relatively well-established, and in some countries institutionalised, form of an implementation coalition. The agricultural science networks are relatively well-established in East Africa and are gradually becoming involved in implementation coalitions such as FFS and increasing the influence of stakeholders on the research agenda. Institutionalised consultative platforms are yet the major bottleneck. Often, only ad-hoc and temporary multi-stakeholder platforms are established around projects and programmes. Always, there is a need for continuous prioritisation, monitoring and evaluation of the performance of the innovation system by stakeholders.

Role of smallholders

The experiences described in this thesis and elsewhere, indicate that such new coalitions work best in circumstances where smallholders are well integrated in, or can easily be linked to local, regional and/or international markets. The financial incentives for technology development, value addition within the chain and strengthening of bargaining power in established groups are driving forces for smallholders, service providers and private sector parties to invest time and resources in such new innovation systems. In more marginal areas with a higher degree of subsistence-oriented agriculture, initiation of such



a process may be more difficult, but not less relevant. It will be more difficult, since technical margins for improvement are small and financial incentives often limited or uncertain, while the interest of the private sector to participate in this process is limited. But given this more difficult situation, especially in these areas the need exists for a client-oriented, region-specific approach to innovation.

This contribution is based on the PhD Thesis of the author: *Practice makes perfect: Participatory innovation in soil fertility management to improve rural livelihoods in East Africa*. (2007, PhD thesis Wageningen University, Wageningen, The Netherlands) ◀

Toegepast onderzoek

Labour Market Developments in the Agri-Food Sector in the European Union

Martin Mulder

Purpose of this study

As reported in the ECS Bulletin 4-2 (April 2007), a study was conducted for Skillsnet of Cedefop regarding the skill needs in the agri-food sector. In February 2008 a Skillsnet conference was held about the future skill needs in Europe, and the study on agri-food was presented there in a parallel workshop. The purpose of the study in the field of agri-food, and the presentation, was to review new future skill needs in the agri-food sector in the European Union. The objective of this contribution is to indicate the labour market developments in the agri-food sector in the EU.

Methodology

For the study, a secondary analysis of European labour market data (of Eurostat) was performed, literature on developments in the agri-food sectors was analysed, ten international key experts in this field were consulted by asking them to review and present the developments in the sectors and to formulate consequences for new skill needs, and an interactive workshop was organised to exchange views on the developments and skill needs.

Diversity in the agri-food sector

As was already mentioned in former publications in the ECS Bulletin, there appeared to be huge differences in the agri-food sector. On the one hand we have the individual smallholder who uses traditional production methods, and on the other hand there are the multinational food companies who employ tens of thousands of employees around the globe. Furthermore, the agri-sector is also referred to as the agri-food complex, indicating that it goes beyond primary production (farming), and includes trade, industry (such as food and feed manufacturers), private services (such as banks, insurance companies, sectoral organisations and associations) and public services (legislation and regulation regarding product quality and public health). And finally, the workers in this complex have very diverse occupations at very different levels, from the low educated subsistence farmer to the PhD in bio-nanotechnology or geo-information systems. The multitude of occupations which exists within these

sectors is visible in the International Standard Classification of Occupations, which lists over 100 occupations that exist in the agri-food sector.

Employment in agriculture

Despite the huge diversity mentioned, general employment trends and prospects in the sectors are presented. First of all it can be noted that the total employment in agriculture in the EU 15 in 1995 was 7,3 million persons, whereas in 2005 this was 9,5 million persons in the EU27. This can largely be attributed to the fact that in Romania and Poland employment in agriculture is much higher than in the member states of the EU 15 (see Figure 1). In general, employment in agriculture is decreasing. For the EU15, the decrease in employment in agriculture between 1995 (7.263.500) and 2003 (6.325.030) is 13%. The decrease in the EU25 between 2003 (9.859.320) and 2005 (9.490.820) is 4%. It is expected that because of restructuring, much of the subsistence farming in Romania and Poland will also be decreasing, and that many current job holders in agriculture will leave that sector to start a new livelihood, for instance in entrepreneurship in other sectors.

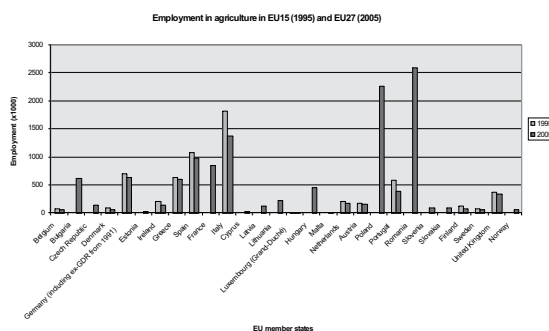


Figure 1 Employment in agriculture in the EU 15 (1995) and the EU 27 (2005) and Norway (Source: Eurostat EURO-FARM data, last updated 19 June 2006). (Note: For 1995, data for BG (Bulgaria), CZ (Czech Republic), ES (Estonia), FR (France), CY (Cyprus), LV (Latvia), LT (Lithuania), HU (Hungary), MT (Malta), PL (Poland), RO (Romania), SI (Slovenia), SK (Slovakia) and NO (Norway) are not available; Luxemburg: data for 1995: 5,33; Malta: data for 2005: 4,06).

Regarding the food industry, employment figures show that in 2004 4,7 million persons were working in this sector in the EU27. For the EU25 this figure was 4,4 million persons. In 1999 this figure for the EU25 was 4,6 million persons. So there is a slight decrease in employment in the food sector in the EU25.

Employment in the food sector

Figure 2 shows that the highest employment in the food sector is in Germany, France, and the United Kingdom. Poland, Italy and Spain also have relatively large numbers of employment in the food industry.

Some remarks about Figure 2 must be made as many data is missing. For Denmark: data for 2004 is confidential; data for 2002: 85133. For Estonia: data for 1999 is not available; data for 2000: 20307. For Ireland: data for 2004 is confidential; data for 2003:



49438. For Cyprus: data for 1999 is not available; data for 1998: 9884. For Latvia: data for 1999 is confidential. For Lithuania: data for 2004 is confidential; no data for previous years either. For Austria: data for 2004 is confidential; data for 2001: 77965. For Poland: data for 1999 is confidential; data for 1998: 467255. For Luxembourg: data for 1999 and 2004 is confidential. For Greece: data is not available for 1999 and 2004. For Sweden: data is confidential for 1999 and 2004. For the Czech Republic: data is confidential for 1999 and 2004. For Slovakia: data for 1999 is not available; data for 2004 is confidential; data for 2002: 46936. For Slovenia: data for 1999 is not available; data for 2004 is confidential. For Malta: data for 1999 is confidential; data for 2004 is not available.

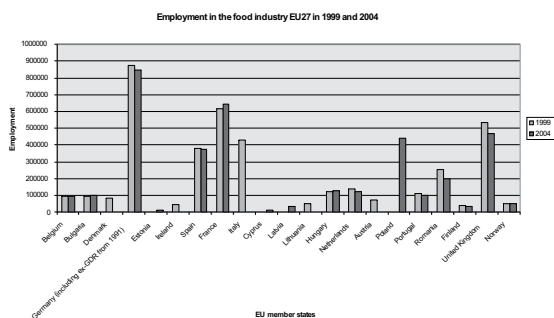


Figure 2 Employment in the food industry in the EU 27 and Norway (1999 and 2004) (Source: Eurostat, NACE Division 15: Manufacture of food products and beverages - Input indicators)

In total it can be concluded that the employment trends and prospects in the sectors are such that further decline in employment is expected. In the primary sector, the need for quality improvement, cost reduction and food security result in scale enlargements. In the food production industry expensive labour costs are being cut by automated production processes. The developments in the primary sector as well as in manufacturing are similar: process innovation leads to decreasing employment, and many of the remaining jobs become more knowledge intensive.

Qualification levels of workers in the agri-food sector

Further data are available about the qualification levels of workers in the agriculture and food sector. First of all, the qualification level of workers in agriculture can be compared with those of the industry and services sectors (see Figure 3). It can be seen that the percentage of employed persons with a low qualification level is highest in the agriculture sector (47%), whereas it is less than half in the services sector (21%). The industry sector is in between with 29% of the employed persons with low qualification. The percentage of persons with a high qualification employed in the agriculture sector is 6%, whereas this is 33% in the services sector. Again, the industry sector is in between with 17% of the employed persons with a high qualification. It is remarkable that the percentages of medium-skilled employees in the three sectors do not differ a lot: they vary from 47% in the agriculture and services sectors, to 54% in the industry sector. So, in all three sectors about half of the employed persons have a qualification at medium level, which makes this the largest group.

This picture confirms the double qualification strategy in the European labour market in a certain way. This qualification strat-

egy states that there is parallel growth of and need for higher and lower level educated workers, and not just up-skilling. However, Figure 3 indicates a slightly modified meaning of this double qualification strategy, which is that higher versus intermediate qualification strategy is becoming prevalent, and needed.

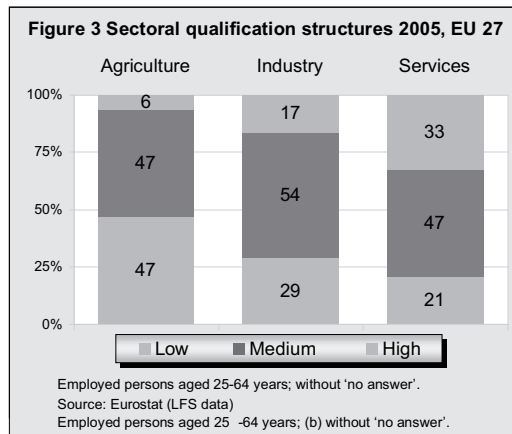


Figure 3 Qualification level of workers in agriculture, industry and service sectors

The breakdown in percentages of the qualification structure in manufacture of food products and beverages (NACE 15, EU 27, 2005) by education level is as follows: 31.6% has a low qualification, 55.1% an intermediate qualification, and 13.1% a high qualification. For this sector thus, the general education level is higher than in agriculture, but lower than in industry.

Skill levels

A breakdown of the skills levels in the agricultural and fisheries sector across the EU25 in terms of low (Isced 0-2), medium (Isced 3-4) and high skills (Isced 5-6) (based on Eurostat data on 2006 shows a wide variation of the distribution of skills levels between member states (see Figure 4).

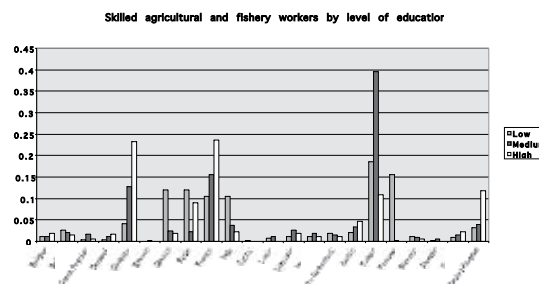


Figure 4 Employment by level of education of skilled agricultural and fishery workers EU27 2006 (Source: Eurostat, LFS; date of extraction: Fri, 27 Apr 07)

Lifelong learning in terms of participation in continuing education (also based on Eurostat data regarding 2002) in the agriculture sector is relatively low if compared with participation in industry and services. It is highest in Finland, the United Kingdom and Denmark, and lowest in Poland, Spain and Italy.



Conclusions

The main conclusion is that the labour market in the agri-food sector is decreasing, but the complexity of the work is increasing. The general skills level of workers in the agriculture and food sector is a concern, and that the future economy requires workers with higher initial vocational education levels, who are also active in the field of LLL. The practical implications of the study are that educational institutions, but also organisations in the agri-food sector themselves, can use the overview of new skill needs to create new training and development programs. No sector skill needs study at European level has been done before. Further research is needed to get more specific information which is relevant for the various subsectors and countries in the EU. ◀

Capacity Building for Sustainable Development of Horticulture in Ethiopia

Corine van der Heide

Capacity building for sustainable development in horticulture in Ethiopia as a Nuffic project that started in February 2008, ECS is cooperating with the Agricultural Economic Institute (LEI) in The Hague, the Practical Training Centre (PTC+) in Ede (Dutch partners), and Jimma University College of Agriculture and Veterinary Medicine, Department of Horticulture (JUCAVM, Ethiopian partner). The overall objective of the project is to contribute to the development of the Ethiopian horticulture industry towards becoming more profitable, sustainable, dynamic, reputable and compliant with national and international markets and legal requirements, by creating a sufficient supply of educated and practically trained staff for all required levels in the horticulture industry. ECS is mainly concerned with the development of a competence-based curriculum at the BSc and MSc-levels, as well as Diploma/Certificate course curricula, and practical short courses. Besides this ECS will play a role in integrating this research in the programs at JUCAVM.

Curriculum redesign

In September 2008 a redesigned competence-based MSc program in Horticulture will start, to be followed by a redesigned BSc program in Horticulture in September 2009. Seven Ethiopians were in Ede following a Training for Trainers. Apart from the technical training in horticultural education provided by PTC+, colleagues of ECS trained the staff of JUCAVM in competence-based education and assessment and curriculum development.

Together with the participants ECS is working on a new curriculum structure that is both competence-based and suited to the educational situation in Ethiopia. The basis for the revised curriculum is the input from the needs analysis among the multiple stakeholders from the labour market and the outcomes of the evaluation of the current MSc program in Horticulture.

The MSc program consists of two years, each divided in two semesters. The second year is fully dedicated to the master thesis. The basic idea of the new set-up is that during the two semesters in the first year four core assignments are central. These core assignments are a result of the deliberation following the needs assessment. They follow from four different roles that MSc-graduates may fulfil, being a researcher, a teacher/trainer, an entrepreneur, and a manager. The courses in the semesters

will add input to these core assignments. Both the courses and the core assignments will be assessed, using various methods in line with the concept of competence-based assessment.

Course profile

To strengthen the linkage between the required competencies and the lesson content a course profile is designed in which the origin of the lesson content is obvious. From tasks and competencies that are being addressed by the course, learning objectives follow, after which outputs can be identified. The division between practice and theory is next, then content is formulated, followed finally by the assessment methods. This course profile will provide a broad base for the teacher guides that need to be developed afterwards.

After the Training of Trainers (ToT) courses have been put in a course format and teacher guides will be designed as well. But first of all the ToT participants need to train their colleagues of JUCAVM, so that they understand the steps that are made and are willing to work together on the revision of the MSc curriculum in Horticulture.

Curriculum validation

In July a curriculum validation conference will take place for all stakeholders, being representatives of the sector, the labour market, students, teaching staff, JUCAVM management, researchers, and government officials. The feedback from this conference will be processed, the curriculum will be amended where needed, and after that the curriculum will be submitted for formal approval. ◀

Promotie-onderzoek

Localized Curriculum and Teacher Education in Zambia

Peter Lindhoud

In the past fifteen years the interest in and importance of indigenous knowledge in the discussion about sustainable development have grown. Because of its localized character indigenous knowledge is seen as an important contributing factor in the involvement of the local community. This fits in the policy of decentralisation which has been implemented in a many developing countries. In the poverty reduction and development plans of these countries, education about the effects of human development on economic development has a prominent place.

The localized curriculum

Zambia, one of the poorest countries in Sub-Saharan Africa, has from the beginning of the 1990s, in line with international educational developments, implemented a number of educational reforms focusing at human development and poverty reduction. Of these reforms one of the most recent is the development of a localized curriculum. The goal of the localized curriculum is to incorporate local indigenous knowledge in the formal school curriculum. In this way the five learning areas are complemented with community studies of which indigenous local knowledge is the core component, because it is accepted that local knowledge and experience can make an important contribution to education. The localized curriculum focuses on developing the



kind of teaching, learning and assessment that will bring about benefits to the local community and produce citizens who will be able to contribute to the social, economic and political life of the community. Moreover, it is seen as a possibility of teaching those students for whom basic education is the final education knowledge, positive attitudes and values and train them in the skills necessary to make a living and to escape poverty.

Community studies

Community studies comprise 20% of the whole curriculum. Each local community should draw activities from the five core components of society: socio-cultural, economic, aesthetic, health and environment. These are the activities on which people in a particular locality or community have based their livelihoods from generation to generation, in response to their particular needs and resources related to the possibilities of the environment. It is important to state that the localized curriculum is not only meant to preserve the indigenous local knowledge but also to make sure that it will integrate with modern knowledge.

Competence in teaching the localized curriculum

The intentions and ideas outlined in the documents are clear. But on the basis of interviews and discussions with officials from the Curriculum Development Centre and Teacher Education in Lusaka it becomes clear that there are differences in focus, implementation strategies and expectations. This is because of the fact that the implementation of the localized curriculum was started without first ensuring that all the relevant stakeholders were sharing the same vision and ideas about content and implementation strategies. What all agreed on is that it is of vital importance to train the teachers, pre-service and in-service, and make them competent to teach this localized curriculum. Therefore teachers have to be trained at teacher education centres in the relevant competencies to realize the set objectives of the localized curriculum and with it the hybridization of both, indigenous and modern, knowledge systems. The same holds for those teachers that are already teaching and for which in-service training sessions have to be developed.

On the basis of the relevant literature and the study of policy documents and interviews a PhD thesis project was started with the following problem definition: in what way can local indigenous knowledge play a role in the curriculum for the training of teachers for basic education in Zambia in such a way that it contributes to the objectives of poverty reduction and sustainable livelihood. ◀

Afstudeervak

Drivers and Barriers of Curriculum Innovation at the University of Zululand, South Africa

Marlies P. Willemen

The 21st century marks itself by an increasing complexity. Our world seems to become more 'systemic': causes are multiple and responses are complex. To stimulate change in societies,

universities should generate graduates who are able to deal with systemic problems and the complex characteristics of urgent themes (Sterling, 2000). Unfortunately, current learning methods at universities still focus on the narrow transmission of knowledge which does not seem to enhance the abilities of students to deal with urgent themes (Kibwika, 2006 & this issue). Problem Based Learning (PBL) could be one of the learning methods that enables students to practice and gain experience with problematic and complex issues through problem solving processes (Benjamin & Keenan, 2006). One of the most important adjustments for the introduction of PBL is to overcome the deeply rooted belief that a lecturer transmits the subject matter as an expert to the students (Benjamin & Keenan, 2006). Within PBL, students themselves are responsible for their learning process and the knowledge they need to obtain. In that sense it is of vital importance that the relation between lecturers and students change to ensure students can put the new responsibilities into practice.

The introduction of PBL was proposed at the University of Zululand (UZ) to increase the relevancy of curricula. However, it was questionable if such a transformative educational method could succeed considering current social relations between lecturers and students. Therefore these social relations were investigated as well as the structures that influenced and shaped them.

Types of students and lecturers

Several types of students and lecturers at UZ were distinguished, who in their own way dealt with the existing structures and displayed their own kind of conduct. The encounters of these types created three different classroom cultures. Firstly the 'we-can-do-it' culture which was characterized by the equal relationship between lecturers and students and the large amount of interaction on the exploration and understanding of knowledge. A second classroom culture that was distinguished was the 'quietly-getting-on' culture. These classroom encounters were characterized by the attempts from students to undermine the authority of the lecturer. Often lecturers reacted on this by lecturing only those students that were willing to participate. The lecturers seemed to ignore existing problems and quietly continued their class. Thirdly there was the 'don't-disappoint-me' culture wherein the atmosphere was often tense and tied up. Lecturers did not want to be disappointed by their students, and therefore the students were afraid to fail and did not dare to interact. This last classroom culture does not seem to be very conducive to learning.

Variation in strategies needed

These classroom cultures shaped the possibilities for the introduction of PBL at UZ. Due to its learning atmosphere especially the 'we-can-do-it' culture seems to be conducive for PBL. Nevertheless, considering the different classroom cultures, one strategy for the successful implementation of PBL will not fit all. When UZ succeeds in creating the right infrastructure for PBL and guarantees developments of the necessary skills for PBL, it is possible that PBL will succeed within those 'we-can-do-it' cultures.

Another strategy for curriculum innovation at UZ can be to bring lecturers and students, who are actors in the 'we-can-do-it'



culture, together and co-create other educational methods that improve education at UZ. Such an approach could lead to the development and implementation of innovations that are possibly more relevant and suitable for the educational culture at the University of Zululand.

Project cooperation

This research was conducted under the auspices of the Education and Competence Studies Group and the Rural Development Sociology Group of Wageningen University and executed on demand of the WUZULU project. This project is a cooperation between Wageningen University and the University of Zululand. Its main aim is to improve the capacity of staff in the development and implementation of career-focused programs and to strengthen the research culture and capacity at the University of Zululand.

References

- Benjamin, C. and C. Keenan (2006). Implications of introducing problem-based learning in a traditionally taught course, *Engineering Education*, 1, 1, 2-7.
- Kibwika, P. (2006). *Learning to make change: Developing innovation competence for recreating the African university of the 21st century*. Thesis. Wageningen University.
- Sterling, S. (2000) The significance of systems thinking to environmental education, health education and beyond. B. Jensen, K. Schnack, and V. Simovska. *Critical Environmental and Health Education*. Copenhagen: The Danish University of Education.
- Jensen, B.B., K. Schnack and V. Simovska (Eds), *Critical environmental and health education: Research issues and challenges*. The Danish University of Education: Research Centre for Environmental and Health Education, pp. 251-270. ◀

Onderwijs

HRM Onderwijs – een leuke Casus!

Renate Wesselink en Thomas Lans

Samenlevingen veranderen ingrijpend. De wereld wordt een 'global village', en tegelijkertijd ontwikkelen de regionale economieën zich om de regionale gemeenschap te onderhouden. Concurrentie wordt steeds heviger, vooral in stagnerende economieën. Werk is meer en meer kennisintensief, waardoor hogere kwaliteitseisen worden gesteld. Organisaties zijn steeds meer gericht op innovatie, outsourcing, internationalisering en maatschappelijk verantwoord ondernemen. Het bereiken van organisatorische doelen staat of valt met de input van mensen, ofwel human resources. Vooral in diensten- en kennis-economieën wordt het economische succes van organisaties steeds meer afhankelijk van de medewerkers in organisaties. Deze ontwikkelingen hebben belangrijke implicaties voor het beheer en de ontwikkeling van human resources, van menselijk talent. Management van human resources, ook wel HUMAN RESOURCE MANAGEMENT (HRM) genoemd, is van cruciaal belang voor het behalen van de gewenste resultaten. Hoewel elke Wageningse

alumnus te maken zal krijgen met het managen van mensen in teams, als leidinggevende of zelfs in een P&O-functie, is dit voor de meeste studenten van Wageningen UR een onbekend vakgebied. In het vak HRM maken de studenten voor de eerste keer kennis met human resources en het managen daarvan.

Onderwerpen in het vak

In het vak HRM komen ontwikkelingen in arbeidsorganisaties, die een steeds groter beroep doen op het menselijk talent, uitgebreid aan bod. Ook maakt de student kennis met de verschillende aspecten van HRM waarmee hij of zij in de loop van de eigen carrière in aanraking komt, zoals werving en selectie, functionerings- of beoordelingsgesprekken, kennismanagement en het ontwikkelen van zichzelf of anderen. Omdat dit vakgebied vrij nieuw is voor studenten, wordt er gewerkt met een authentieke casus. Hierdoor krijgen ze meer gevoel voor het vakgebied en de daarin voorkomende problemen en uitdagingen. In de casus wordt een HRM-probleem van een organisatie behandeld. De casus is concreet, heeft betrekking op mensen ofwel medewerkers in de organisatie en er wordt een duidelijk probleem geïdentificeerd. Verder wordt in de casus geprobeerd de verschillende aspecten van het werkveld HRM te bestrijken, zodat de studenten hier breed mee kennismaken en goed kunnen ervaren hoe deze aspecten samenhangen.

Casusbiedende organisaties

Voorbeelden van organisaties waar de laatste jaren intensief mee is samengewerkt zijn NUON, Cehave en Aequor. De casussen die door deze organisaties zijn aangedragen lagen onder meer op het gebied van het motiveren en belonen van medewerkers, het opstellen van internationaal bruikbare indicatoren voor HRM en het ontwerpen van een intake. Organisaties die een casus aanleveren moeten bereid zijn er enige tijd in te investeren. Vertegenwoordigers van de casusbiedende organisaties komen één of tweemaal naar Wageningen (in een tijdsbestek van 8 weken) om de casus toe te lichten en om vragen van studenten te beantwoorden. Studenten gaan in groepjes met de casus aan de slag om een passende oplossing te vinden. In de eerste weken wordt het studiegebied verkend. In de vijfde of de zesde week van de periode worden de studenten blootgesteld aan de 'pressure cooker'. Bij deze werkvorm gaan de groepjes een hele middag aan de slag, met de belangrijkste HRM-boeken, internet en andere praktische materialen binnen handbereik, en doorlopen zij stap voor stap de casus. De studenten werken toe naar een conceptpresentatie voor de opdrachtgever. De ervaring leert dat studenten in het nieuwe vakgebied moeilijk tot concrete oplossingen komen. Als de studenten worden 'gedwongen' op één middag met het hele groepje aan de hand van concrete stappen over de casus na te denken en tot beslissingen te komen, komen ze tot betere resultaten dan wanneer ze worden 'losgelaten'. In de 'pressure cooker' komen de volgende stappen aan bod:

1. Definieer het probleem en/of baken het probleem af tot een overzichtelijk probleem.
2. Bedenk mogelijke oplossingen voor het probleem en werk er een drietal uit.
3. Kies de beste oplossing of kom met een combinatie-oplossing.



4. Bepaal welke condities belangrijk zijn om de gekozen oplossing te implementeren.
5. Bepaal een wijze waarop de oplossing kan worden geïmplementeerd.

Deze middagen zijn erg vermoeiend, maar zeer effectief gebleken om tot concrete oplossingen voor de gesignaleerde problemen te komen. Veelal wordt op deze middag ook nog een brede HRM-expert uitgenodigd, die de groepjes kunnen consulteren. Studenten ervaren het concreet toepassen van de kennis die zij aangereikt krijgen als zeer waardevol en zij leren veel van het contact met het bedrijfsleven. Voor de meeste studenten is het ook een eerste kijkje achter de schermen van de HRM-praktijk in het echte bedrijfsleven. ◀

'Global Educators' – a new ICT-supported course

Natalia Ernstman

With today's world facing complex issues like globalization, international conflicts and global warming, there is a definite need to equip teachers with the competencies to tackle these 'global challenges' in their education. At the same time, teachers should be able to effectively use ICT as a teaching tool. In an attempt to combine these two needs, ECS is developing an ICT-based course in cooperation with iEARN, which is a global network that enables teachers and youth to use the Internet and other technologies to collaborate on projects that enhance learning and make a difference in the world.

Open Educational Resource Model

The main goal of the course is to empower teachers to integrate global challenges in their future teaching by employing innovative teaching and learning methods, such as action and problem-based learning. This is done through an innovative Open Educational Resource (OER) model, with 21st century educators encouraging students and each other to learn *in and for*, rather than just *about* the world. This course provides opportunities for future teachers to develop the attitudes, knowledge and skills necessary to take action to address global issues in their own classrooms. The *wiki*, which forms the learning environment of the course, allows participants to create, edit, and link pages together. They explore literature and links that have been posted by the facilitators while at the same time posting their own information, exchanging experiences and giving feedback on the discussion board. Thereby the content of the course is developed from within, with participants learning collaboratively.

Course review

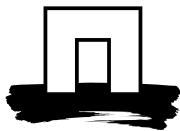
From March to May 2008 staff from ECS is going to review the course through a pilot: twenty students from six countries (currently there are participants from Lebanon, the Netherlands, the USA, the UK, Slovenia and Argentina) are following the course while critically looking at the content and the workability of the *wiki* and evaluating it through a survey. In September 2008 the course will be officially launched.

For further information or participation in the course, connect to <http://globalcourse.wetpaint.com/>
<http://www.iearn.org/>
or contact: natalia.eerstman@wur.nl ◀

Conferentie

Conferentie 'Onderwijs en ontwikkeling' – 12 maart 2009

Het thema 'Onderwijs en ontwikkeling' is van toenemend belang voor ECS. Er lopen diverse projecten in het buitenland op het terrein van onderwijs. Zo is er een onderzoek uitgevoerd naar de competentieprofielen van landbouwconsultants in Korea en van instructeurs in dienst van de landbouwvoorlichting in Esfahan. In Oeganda helpt de leerstoelgroep mee om curricula te ontwikkelen op het gebied van de bloemencultuur. In Ethiopië loopt een project waarin ECS adviseert over de curriculumontwikkeling voor bloemen, groente en fruit. In Tanzania heeft de leerstoelgroep geadviseerd over de kwaliteit van het hoger onderwijs. In Benin was ECS betrokken bij de afstemming van het onderwijs op de regionale ontwikkelingsbehoefte. Verder heeft ECS verschillende promotieonderzoeken begeleid. Zo is er onderzoek gedaan naar de deelname van meisjes aan het universeel primair onderwijs op het platteland, naar de noodzaak tot het verrichten van werkzaamheden thuis, naar de effecten van HIV/Aids, en naar de herstructurering van het hoger onderwijs in Oeganda. In Zambia loopt een promotieonderzoek over de rol van inheemse kennis in het locale curriculum, en in verschillende Afrikaanse landen wordt onderzoek gedaan naar de implementatie van het competentiegerichte onderwijs. Er heeft een project gelopen over de competenties van landbouwadviseurs en HIV/Aids in Midden- en Oost-Afrika. Binnen Europa is een studie uitgevoerd naar *skill needs* op het gebied van landbouw en voeding. Tenslotte is er een internationaal onderzoek uitgevoerd naar de voortgang op het gebied van het leren voor duurzaamheid. De belangstelling van de leerstoelgroep voor onderwijs in ontwikkelingslanden is niet nieuw. Ruim 30 jaar geleden, op 9 maart 1976, sprak Prof. dr. F.W. Prins, de toenmalige hoogleraar van de vakgroep Pedagogiek en Didactiek een rede uit ter gelegenheid van de 58^e Dies Natalis van de toenmalige Landbouwhogeschool, onder de titel: 'Onwetendheid: een educatieve uitdaging. Over het onderwijs in ontwikkelingslanden'. De titel zou anno 2008 de vraag oproepen wie er onwetend is in wat, en welke de rol is van westerse kennis en waardenkaders in de ontwikkeling van niet-westerse samenlevingen, maar dat terzijde. Vandaar dat ECS op **12 maart 2009**, ter gelegenheid van het 45-jarig bestaan van de leerstoelgroep, een conferentie organiseert (in Wageningen) over onderwijs en ontwikkeling. Tijdens deze conferentie zullen prominente sprekers hun licht laten schijnen over deze problematiek, toegespitst op de internationale ontwikkeling van het life sciences onderwijs, inclusief landbouw, rurale ontwikkeling en armoedebestrijding. Medewerkers, promovendi en collega's van ECS zullen in workshops hun projecten presenteren en op interactieve wijze ervaringen uitwisselen met de deelnemers. Geïnteresseerde collega's en instellingen kunnen contact opnemen met Marja Boerrigter



(marja.boerrigter@wur.nl). Op de website van de leerstoelgroep vindt u nadere informatie over de conferentie (www.ecs.wur.nl). 's Avonds is er voor medewerkers, oud-medewerkers en alumni een reünie. ◀

Recente publicaties

Kupper, H., T. Lans & A.E.J. Wals (2007). Dynamisering van kennis: uitgangspunten voor kennisarrangementen tussen onderwijs, onderzoek en bedrijfsleven. *Tijdschrift voor Hoger Onderwijs*, 25, 1, 16-31.

Het hoger beroepsonderwijs vervult twee fylogenetische kennisfuncties: het voorbereiden van studenten op kennisintensieve beroepen en het ondersteunen van het bedrijfsleven bij het benutten van innovatieve kennis. Daarnaast heeft het beroepsonderwijs een ontogenetische kennisfunctie in het ontwikkelproces van individuele studenten. De eerste twee kennisfuncties behoren volgens beleidsmakers meer nadruk te krijgen omdat er in Nederland een zogenoemde "kennisparadox" bestaat: veel hoogwaardige kennis maar geringe benutting.

Welke kennis wordt bedoeld en op welke wijze kan het beroepsonderwijs zijn kennisfunctie vervullen? In het artikel voor het *Tijdschrift voor Hoger Onderwijs* gaan we nader op deze vragen in. We maken daarbij gebruik van de inzichten van drie wetenschappers:

- Bereiter: in de school wordt op een heel andere manier met kennis omgegaan dan daarbuiten. Onderwijsprogramma's zijn ingericht om de studenten kritisch en logisch te leren denken en om waarheidsclaims van uitspraken te laten onderzoeken. Studenten leren doorgaans niet om vragen te stellen over de bruikbaarheid van een concept.
- Mokyr: er is een brede kennisbasis nodig voor het ontstaan en in stand houden van de moderne economie. Elke samenleving heeft toegang tot een soort metaverzameling van kennis, kiest als het ware de technieken daaruit die gebruikt worden en moet er dan voor zorgen dat de kennis van de ene op de andere generatie wordt overgedragen.
- Leydesdorff: triple helix is de naam voor de samenhang tussen de kennisfunctie van overheid, onderzoek en bedrijven. De traditionele positie van een onderwijsinstituut als beheerder en doorgever van kennis verandert naar een situatie waarin zo'n instituut wordt beoordeeld op het economisch en sociaal nut van de activiteiten die er worden uitgevoerd.

Deze drie groepen van inzichten op het gebied van kennis worden in het artikel toegepast op samenwerking tussen onderwijs, onderzoek en bedrijfsleven in het groene kennissysteem.

Karbasioun, M., M. Mulder, & H.J.A. Biemans (2007). Course Experiences and Perceptions of Farmers in Esfahan as a basis for a Competency Profile of Extension Instructors. *Journal of Agricultural Education*, 48, 2, 79-91.

The purpose of this study was to analyze experiences and perceptions of farmers regarding courses and instructors provided by the Extension Service in the province of Esfahan. This study

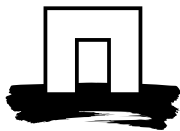
was part of a larger project on the development of a competency profile of instructors. The study was conducted in various villages of 17 out of 20 different townships in the province. An exploratory study was implemented with 27 farmers; next, 102 farmers who had participated in courses were interviewed. The questionnaires were completed during personal field interviews in the villages of the farmers, interviewers visited their farms or homes. Data were collected about the following factors: motives for course attendance, course appreciation, topics for future courses, and the competence of the instructors. The relationships between farmer and farm characteristics, and the factors mentioned above were tested. Given the results of this study, the main motives for farmer participation are knowledge and skill acquisition, personal interest and socializing, whereas other incentives, such as receiving a certificate or spending free time are not crucial. Additionally, it was seen that the courses were helpful, but needed to be re-designed in some aspects such as the examination methods and the use of instructional technology. Respondents believed that there is also room for improvement as to strategies for registering participants and the length of the courses. In their opinion, the instructors were adequate, but their competencies can be improved in various areas such as the way in which farmers can be encouraged and stimulated, the examination methods, post-course follow-up and instructional technology. A general competency profile for instructors in the Extension Service was developed. It appeared that variation is needed as to the age, gender, educational level, and learning motives of farmers. To do so, target group stratification and internal differentiation in courses should be included in the competency profile.

Jickling, B. and A. E. J. Wals (2008). Globalization and environmental education: looking beyond sustainable development, *Journal of Curriculum Studies*, 2008, 40, 1, 1-21.

This study contends that environmental education is being significantly altered by globalizing forces, witnessing the effort to convert environmental education into education for sustainable development. This internationally propagated conversion can be challenged from many vantage points. This study identifies anomalies that have arisen as international organizations such as UNESCO have championed this conversion, and discusses issues arising from these anomalies in light of the nature and purposes of education. This study presents heuristics that has helped one to support a better understanding of the relationships between sustainable development, environmental thought, democracy, and education.

Biemans, H. & Van Mil, M. (in press, 2008). Learning styles of Chinese and Dutch students compared within the context of Dutch higher education in life sciences. *The Journal of Agricultural Education and Extension*, 14.

This study investigated the extent to which the learning styles of Chinese students differ from those of Dutch students. The study was conducted within the context of English-language BSc programmes that Wageningen University offers together with China Agricultural University to Dutch and Chinese students. Sixteen Dutch students and 25 Chinese students completed the Inventory



of Learning Styles (ILS). The Chinese students had several of the characteristics that reflected a reproduction-directed and an undirected learning style, while the Dutch students as a group did not demonstrate any one particular learning style. It would be useful and desirable to show the Chinese students, by means of specific instructions and exercises, how to use strategies directed toward deep processing and how to guide their own learning processes more in the direction of deep processing. ◀

Even voorstellen

Peter Lindhoud werkt als consultant internationalisering bij de Chr. Hogeschool Windesheim in Zwolle. Hij zet momenteel multidisciplinaire studentenprojecten op in Suriname en Zambia. Als voormalig docent geschiedenis in het middelbaar onderwijs in Zambia en projectleider van een tweetal onderwijsprojecten voor het bijscholen van lerarenopleiders in Zambia en Zuid Afrika heeft hij veel belangstelling voor onderwijsontwikkeling in Afrika. Vanuit die belangstelling richt zijn PhD onderzoek (zie dit issue) zich op de manier waarop lokale kennis een rol kan spelen in het curriculum voor onderwijsgeevenden in het basisonderwijs in Zambia zodat het een bijdrage kan leveren aan de doelen van armoedebestrijding en een duurzaam bestaan.

Ester Alaké-Tuenter werkt als senior docent onderwijskunde/pedagogiek en coördinator internationalisering bij Iselinge Hogeschool. Ze studeerde PABO en daarna pedagogische wetenschappen richting onderwijskunde en de universitaire lerarenopleiding aan de Katholieke Universiteit van Leuven (België). Vervolgens heeft zij gewerkt als leerkracht en remedial teacher in een LOM/MLK school (1998-1999) en als docent en onderzoeker bij Educatie- en Competentiestudies (1998-2000). Sinds 2007 is zij als promovendus verbonden aan ECS. Haar onderzoek richt zich op ontwerp en implementatie van leerlijnen wetenschap en techniek in basisscholen. Ze heeft zich gespecialiseerd in professionele ontwikkeling van leerkrachten, met de nadruk op samenwerking.

Wybe van Halsema werkt als docent, onderwijscoördinator en internationaal projectmedewerker bij de opleiding Land- en watermanagement van Hogeschool Larenstein in Velp. Hij begon daar ook zijn HBO-opleiding 'Cultuurtechniek' (1978-1982) en rondde in 1999 een masteropleiding in Ontwikkelingsstudies af in Zuid-Afrika. In 2005 haalde hij een eerstegraads onderwijsbevoegdheid bij de RUN.

Hij is vele jaren werkzaam geweest in Afrika, en verblijft daar nog vaak voor Nuffic-projecten. Sinds medio 2007 is hij als PhD-kandidaat verbonden aan ECS. Zijn onderzoek gaat over de invoering van competentiegericht onderwijs binnen het hoger landbouwonderwijs in Sub-Sahara Afrika.

Petra Cremers is in januari 2008 gestart als promovendus bij ECS. Haar promotie-onderzoek richt zich op de vraag hoe mensen met verschillende rollen en vanuit verschillende disciplines gezamenlijk succesvol kunnen leren en kennis creëren. Dit sluit aan bij haar werk als adviseur onderwijsinnovatie bij de Hanze Hogeschool in Groningen. Momenteel werkt ze als adviseur/

onderzoeker mee aan het project 'Value in the Valley', een leerarrangement waarbij studenten van mbo- en hbo-opleidingen op het gebied van landbouw, milieu en techniek gezamenlijk opdrachten uitvoeren voor externe opdrachtgevers.

Hansje Eppink werkt sinds 1 februari 2008 als trainee bij ECS. Tijdens haar studietijd heeft zij iedere mogelijkheid aangegrepen om in oostelijk Afrika stage te lopen of onderzoek te doen. Zo is zij naar Kenia, Zambia en Zuid-Afrika geweest. Na het afronden van haar Master studie Management of Agri, Ecological Knowledge and Social Change in maart 2007, heeft zij drie maanden voor NGO Gender and Water Alliance gewerkt. Daar heeft zij een E-conference over gender, water en integriteit gefaciliteerd. Bij ECS ondersteunt zij Corine van der Heide bij de internationale projecten op het vlak van curriculumontwikkeling.

Geert Hurenkamp is sinds september 2007 voor één dag in de week werkzaam als vaardigheidendocent op de leerstoelgroep ECS. Hij is voornamelijk betrokken bij het practicum Didactiek & Communicatie en het Schoolpracticum en werkt daarbij samen met Ylvie Fros onder de hoede van Minny Kop en Dine Brinkman. Hij is in Wageningen afgestudeerd als moleculaire wetenschapper. Daarna is hij via de universitaire lerarenopleiding in Utrecht als leraar scheikunde aan het werk gegaan, momenteel voor vier dagen per week op het Marnix College Ede.

Marlon van der Waal heeft na haar studie Geschiedenis (specialisatie Oudheid en Antieke Culturen) in Utrecht de postdoctorale lerarenopleiding gevolgd. Vervolgens is zij niet het onderwijs, maar de reiswereld ingegaan en heeft jaren als reisbegeleider culturele reizen in het Midden-Oosten gewerkt. Teruggekeerd in Nederland heeft zij achtereenvolgens gewerkt bij de Dienst Sociale Zaken in Den Haag, het Leids Universiteits Fonds en het IVN Consulentenschap Zuid-Holland. Dit laatste spoorde haar aan om opnieuw te gaan studeren. In 2005 is zij de master Tourism, Leisure and Environment in Wageningen gaan volgen en is vorig jaar afgestudeerd. Bij ECS houdt zij zich bezig met de projecten Onderwijsstrategie Groene Thema's en Kennistransfer NME en verzorgt zij lessen binnen de cursussen Environmental Education en Environmental Communication. Daarnaast is zij lid van de Task Force van de Groene Kennis Coöperatie (GKC).

Ylvie Fros is als vaardigheidsdocent betrokken bij het Oriëntatieprogramma (het practicum Didactiek en Communicatie en het Schoolpracticum). Binnen het Oriëntatieprogramma verzorgt zij een gedeelte van het practicum Didactiek en Communicatie en daarnaast begeleidt zij studenten tijdens verdiepende opdrachten. Ylvie studeerde biologie in Wageningen, met een specialisatie in ecologie en diergedrag. Daarnaast verdiepte zij zich al tijdens haar studie in educatie; zij volgde het Oriëntatieprogramma en liep vier maanden stage bij een educatief programma van Earth Day Canada, een natuur- en milieuorganisatie in Toronto. In 2007 heeft zij de universitaire lerarenopleiding van het IVLOS in Utrecht afgerond en haar eerstegraads onderwijsbevoegdheid Biologie gehaald.

Naast haar werk voor ECS is Ylvie werkzaam als docente biologie aan de Regionale Scholengemeenschap Pantarijn en heeft zij haar eigen bedrijf waarmee ze onder andere communicatietrainingen en cursussen persoonlijke ontwikkeling verzorgt door middel van het werken met paarden. ◀



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