

ECS Bulletin Social Sciences Group

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Woord vooraf

Na rijp beraad binnen de leerstoelgroep ECS is besloten het ECS Bulletin voort te zetten. Er was een moment dat werd gezegd dat een Bulletin rondsturen misschien niet meer van deze digitale tijd is, maar aan de andere kant, digitale nieuwsbrieven worden in veel gevallen nogal eens naar de virtuele prullenbak verwezen. Een nuchtere opmerking van een succesvolle ondernemer in de multifunctionele agrarische sector in de Achterhoek, waar ECS samen met de collega's van de sectie Business, Consumer and Competence Studies (BCCS) op bezoek was, gaf de doorslag: 'Nieuwsbrieven, Websites? Ze zijn niet belangrijk. Maar je moet ze wel hebben. Mond-op-mond reclame is belangrijk. Kwaliteit en tevreden klanten, daar gaat het om!' We hadden het niet pakkender kunnen zeggen. Maar serieus: we krijgen regelmatig reacties op het ECS Bulletin. Diverse oud-medewerkers, oud-promovendi en (oud)collega's in ons netwerk stellen het zeer op prijs om met enige regelmaat het laatste nieuws van ECS te ontvangen.

Wageningen University

Er is deze keer ook weer volop nieuws uit Wageningen. Vanuit de universiteit is inmiddels breed bekend dat Dr. Aalt Dijkhuizen komend voorjaar vertrekt als voorzitter van de Raad van Bestuur van Wageningen UR. Er wordt momenteel gewerkt aan een profielschets voor een opvolger. Prof. Martin Kropff en Dr. Thijs Breukink zijn voor een volgende periode herbenoemd. Dr. Frank Bakema is opvolger van Dr. Ab Groen als directeur Education, Research & Innovation. Ir. Ingrid Hijman is benoemd bij het Onderwijs Instituut (OWI) en wordt de rechterhand van OWI directeur Prof. Tiny van Boekel.

Wageningen University is weer nummer 1 in de Keuzegids Hoger Onderwijs. Het kleinschalige karakter van de universiteit, het persoonlijk contact, de actuele studieprogramma's en de moderne onderwijsfaciliteiten worden alom geprezen. Het aantal studenten is inmiddels zo sterk aan het stijgen dat sommige studies denken aan een numerus fixus. Het onderwijsgebouw Orion is geopend in bijzijn van H.M. Koningin Máxima, en de campus wordt nog verder uitgebreid met grote nieuwbouw. Naast de campus staat het markante ronde gebouw van Stoas Vilentum, de lerarenopleiding voor het groene onderwijs, dat inmiddels ook feestelijk is geopend. De fysieke nabijheid van Wageningen University biedt goede mogelijkheden om de samenwerking tussen Stoas en ECS verder te versterken.

Departement Maatschappijwetenschappen

Vanuit het Departement kan worden gemeld dat Dr. Dirk-Jan den Boer na een periode van slechts een jaar als Directeur Bedrijfsvoering afscheid heeft genomen. Dr. Rien Komen, een goede bekende van het Departement en tot voor kort werkzaam binnen het CvB van Van Hall Larenstein, is voor een korte periode in deze functie herbenoemd. Er wordt voor deze functie gezocht naar een opvolger.

Er loopt op dit moment binnen het Departement ook een bottom-up beleidsontwikkelingsproces onder de naam Joint-Movement. Er zijn twaalf thema's benoemd waaraan wordt gewerkt. Er is een strategiedag geweest met 80-90 deelnemers uit alle geledingen van het Departement, waarop open is gediscussieerd over de thema's. Aansluitend was er een feest. Het algemene gevoel was positief, en er wordt gewerkt aan het vervolg van dit proces. Wellicht dat dit leidt tot het combineren van een aantal thema's zodat daar voldoende energie op gezet kan worden. Visie en missie, positie, onderwijs, onderzoek en beheer zijn centrale onderwerpen.

Het Tenure Track systeem is een voortdurend onderwerp van aandacht. Zoals bekend kunnen universitair docenten in een traject van 12 jaren doorgroeien tot de functie van persoonlijk hoogleraar. Een Tenure Track BenoemingsAdviesCommissie (BAC) beoordeelt de kandidaten bij hun recruitment en na periodes van 3 jaren, en adviseert de Directie over benoeming en bevordering. Er zijn universiteitsbreed objectieve minimumeisen vastgesteld die ten doel hebben talentvolle en gepassioneerde wetenschappers te werven, te ontwikkelen en te behouden. Echter, bij de beoordeling speelt ook een subjectief element, en het behoort tot de discretionaire bevoegdheid van de BAC om daar ook uitspraken over te doen. Het betreft hier bijvoorbeeld de visie van de kandidaat, de focus van het onderzoek, publicatiestrategie, zijn of haar overtuigingskracht, bindend leiderschap en ontwikkelingspotentieel. Over deze criteria en over het vraagstuk kwaliteit wordt momenteel druk gediscussieerd, en er verschijnt binnenkort een concept-uitwerking van de bestaande TT-regeling die aanwijzingen geeft voor dit aspect van de beoordeling.

De Sectie BCCS en ECS

Zoals gezegd is de Sectie (of het Subdepartement) BCCS op excursie geweest. Er is aan integratie gedaan op een multifunctionele kaasboerderij in de Achterhoek, door een communicatiespel te spelen. Dat was buitengewoon leuk en leerzaam.



De inhoudelijke samenwerking gaat steeds verder. Er is een duidelijke link tussen de leerstoelgroep Management Studies en ECS in het onderwijs en onderzoek. Met de leerstoelgroep Marketing en Consumer Behaviour is een lerarenbeurs aangevraagd bij NWO, die het echter helaas niet heeft gehaald. Met de leerstoelgroep Law and Governance wordt een onderwijsinnovatieproject uitgevoerd in een vak waarbij een Amerikaanse universiteit is betrokken. In het vak worden verschillende systemen van voedingsrecht vergeleken. Er wordt gebruik gemaakt van een computerondersteund discussieplatform waarin studenten studietaken uitvoeren. Nagegaan wordt of scripts van deze taken leiden tot dieper leren en een betere kennisopbouw.

Binnen ECS

Binnen ECS zijn ook verschillende dingen vermeldenswaard. Zo heeft Ljiljana Rodic-Wiersma, die onderwijs verzorgt bij ECS op het terrein van duurzaamheid en leren, een Best Presentation Award ontvangen tijdens een conferentie in Davos. Vitaliy Popov heeft met succes zijn proefschrift verdedigd over intercultureel hoger onderwijs. Het judicium voor zijn proefschrift was zeer goed.

De leerstoelgroep heeft het grootste onderwijsvolume van het Departement, en heeft jaarlijks tussen de 3000 en 4000 studenten in haar vakken. Merkwaardig eigenlijk dat ECS nog steeds geen eigen opleiding heeft. Maar daar wordt aan gewerkt. Natuurlijk zijn er al de minoren Educatie (de tweedegraads lerarenopleiding) en Environmental Education, en er wordt gewerkt aan een Master Track Entrepreneurship. Voor dit traject had de leerstoelgroep een financiële impuls ontvangen uit de industrie. ECS had toegezegd de Master Track in te voeren in september 2013, maar door allerlei politieke en bureaucratische factoren konden we dat niet waarmaken. Prof. Ruud Huirne is gevraagd de budgetverantwoordelijkheid over te nemen voor genoemde impuls. ECS werkt verder aan de invoering van de Track, in goed overleg met alle partijen. Hopelijk wordt er voor het studiejaar 2014-2015 wel ruimte gecreëerd voor invoering van de track. Op het niveau van de huidige vakken die gericht zijn op ondernemerschap komen alleen maar positieve reacties. Ook de Baltic Summer School, gericht op ondernemerschap, was weer een daverend succes.

Maar er is meer mogelijk, en wel op het brede studiegebied Educatie en Leren. Iedereen weet van Wageningen dat er wordt gewerkt aan Educatie op het terrein van natuur-, milieu-, voedings- en gezondheid. Niet alleen binnen de universiteit, maar ook daarbuiten. Niet alleen voor studenten, scholieren en leerlingen, maar ook voor burgers en professionals, inclusief leraren. Voorbeelden zijn er te over: Smaaklessen voor het basisonderwijs, de Wageningen Academy voor post-hoger onderwijs, nascholing voor docenten in Natuur, Leven en Techniek, materialen voor profielwerkstukken, het Food Valley Scholennetwerk. Verder wordt het Nederlandse agrarische onderwijs wereldwijd genoemd en speelt de universiteit een belangrijke rol in het onderwijsontwikkelingswerk in de landbouwsector. Kortom, redenen genoeg om nader te onderzoeken of Wageningen University een programmaspecialisatie wil starten op het gebied van Education and Learning.

Zelf heb ik 3 maanden doorgebracht bij de Toulouse Business School. Het was een productieve tijd. Samen met collega Jonathan Winterton heb ik gewerkt aan twee nieuwe boekplannen. De realisatie van de plannen zal zeker twee tot drie jaar in beslag nemen.

2014 Jubileumjaar – Noteer alvast 14 november 2014

Dan nog een belangwekkende mededeling over volgend jaar: 2014 is een jubileumjaar. Dan bestaat ECS (inclusief haar voorgangers) 50-jaar. Ter gelegenheid daarvan zal een evenement worden georganiseerd. Als voorlopige datum is daarvoor vastgesteld: vrijdag 14 november 2014. (Oud)medewerkers, -studenten en -collega's zijn al vast van harte uitgenodigd. We verwachten een grote opkomst.

2015 AIAEE en ESEE in Wageningen

Het jaar daarop, van 28 april tot en met 1 mei 2015 vindt er nog ander evenement plaats, maar dat heeft een meer academisch karakter. Op die data zal ECS met anderen de conferenties organiseren van de Association of International Agricultural Extension and Education (AIAEE) en het European Seminar of Extension and Education (ESEE).

Over medewerkers

Er zijn inmiddels zoveel personeelsmutaties bij ECS dat ik hier volsta met het noemen van de namen van medewerkers die bij ECS zijn vertrokken en van degenen die bij ECS zijn gestart. Vertrokken zijn Hasse Cox, Elise Breekveldt, Marieke Mantje, Eline Roelofs, Nicolette Theunissen (TNO), Iris van Werven en Izumi Yamada. Ik bedank hen voor hun bijdrage aan ECS en wens hen alle goeds in hun verdere loopbaan. Nieuw zijn: Yvette Baggen, Machiel Boumans, Johan Braeken, Fannie Cobben, Nelly Njiru, Tineke Ridderhof, Ljiljana Rodic-Wiersma, Tim de Rooij, Anahuac Valero Haro, Aldrin Wiris, Ruud Zaalberg en Hildert Zoethout. Hen heet ik hartelijk welkom en wens ik veel succes bij ECS.

U wens ik mede namens alle medewerkers van ECS veel leesplezier met dit nummer van het ECS Bulletin en alvast Goede Feestdagen en een Gelukkig 2014.

Martin Mulder ◀

PhD Research

Scripting Intercultural Computer-Supported Collaborative Learning in Higher Education

Vitaliy Popov

The growing multicultural student population of universities today and the introduction of collaborative technologies in education, mirror the contemporary internet-based and intercultural workplace of many professionals in a range of fields. However, university graduates are very often ill-prepared for the challenges of working in geographically dispersed teams with members from different fields and cultural backgrounds collaborating in a virtual environment.

In response to this lack, many universities are introducing collaborative technologies and multicultural learning environments to better prepare their students for the world of work. The introduction of these technologies, specifically in an intercultural learning environment, creates both challenges and benefits. Among the challenges are the coordination of different attitudes,



styles of communication, and patterns of behaving. Among the benefits are the sharing of culturally diverse knowledge and hands-on preparation for working in an international climate.

Five empirical studies have been done as a basis for the dissertation with the title of this short summary. The aim was to identify and respond to the cultural issues influencing collaborative learning in both face-to-face (F2F) and online modes of communication. The ultimate goal was to develop an instructional script for fostering collaboration and bridging intercultural differences in culturally diverse groups who are engaged in computer-supported collaborative learning (CSCL). The total sample for the present research included over 500 students representing a total of 55 countries. Both quantitative and qualitative analyses were undertaken.

There were five studies in the project. The first two studies explored the challenges inherent to multicultural F2F and online collaboration in higher education and the ways in which culturally diverse students perceive these challenges. It was found that culturally diverse students can have conflicting expectations with respect to learning and the behavioral motives of others in groups, and that collaborating with a partner from a different cultural background can negatively affect the reported CSCL experiences. To try to overcome this situation, the other three studies involved the design, implementation, and evaluation of collaboration scripts to foster effective intercultural collaboration. However, the findings of the third study showed that the collaboration of mixed-culture groups was challenging and therefore needed more facilitation than that of same-culture groups. These results thus led us to the design of an external intercultural enriched collaboration script (IECS) — a script with special attention to the unique cultural backgrounds of the participants in a CSCL environment. The results from the last two studies showed that an IECS with instructions, which are specifically tailored to the individualist or collectivist cultural backgrounds of the students in a collaborative group, contributes to higher appreciation of online collaboration, more engagement in productive debates, and stronger convergence on critical collaborative learning activities.

The findings of this research have a number of theoretical and practical implications. They provide insight into the development and use of collaboration scripts to facilitate learning in international education. In addition, it helps to apply the script theory to guide CSCL in a multicultural education context. Departing from a script perspective, the attitudinal and behavioral insights provided by the results of the research also provides a solid basis for future studies on how students from different cultural backgrounds understand CSCL tasks and act in a CSCL environment. The instructional elements of the IECS can be used by teaching faculty to foster intercultural CSCL in a variety of contexts.

Source:

V. Popov (2013). *Scripting Intercultural Computer-Supported Collaborative Learning in Higher Education*. Dissertation. Wageningen: Wageningen University. ◀

Praktijkgericht onderzoek

Lopende WURKS-projecten bij ECS

Harm Biemans

De centrale doelstelling van het lopende WURKS-programma 2011-2015 van de leerstoelgroep Educatie- en competentiestudies (ECS) is dienstverlening aan instellingen in groen onderwijs in de vorm van toegepast en vraaggestuurd onderwijskundig onderzoek en daaraan gekoppelde didactische en onderwijskundige ondersteuning. WURKS staat voor *Wageningen UR Knowledge Sharing* oftewel voor het toepassen van Wageningse (onderwijskundige) kennis in het overige groene onderwijs.

Alle projecten in dit programma worden uitgevoerd voor, met en in de groene onderwijspraktijk. De projecten zijn tot stand gekomen op basis van een zorgvuldig proces van vraagarticulatie met betrokkenen uit het groene (vmbo-mbo-hbo) onderwijsveld. Met deze projecten wil ECS een antwoord geven op actuele vragen die leven in het groene onderwijs en een bijdrage leveren aan een verdere versterking van het groene kennisstelsel.

In het kader van het WURKS-onderzoeksprogramma 'Competenties voor het groene kennisstelsel' worden sinds maart 2013 de volgende projecten uitgevoerd.

Project 'Versterken transitiecompetenties managers in regionale kennis- en innovatieplatforms'

Onderwijs, ondernemers en overheden richten zich binnen kennis- en innovatieplatforms gezamenlijk op regionale vraagstukken. In dit krachtenveld zijn onafhankelijke en competente intermediairs nodig. Noodzakelijke (transitie) competenties van netwerkmanagers worden in kaart gebracht en op basis daarvan wordt een training voor deze doelgroep ontwikkeld en geëvalueerd.

Onderzoekers: Jifke Sol en Marjan van der Wel (ECS)

Project 'PvB als katalysator voor opbrengstgericht werken in het (beroepsgerichte) vmbo'

Dit project onderzoekt hoe proeven van bekwaamheid (PvB's), zoals ontwikkeld binnen Groen Proeven, ingezet kunnen worden binnen de context van Opbrengst Gericht Werken. Hiermee wordt een betere inbedding van beide onderwijsvernieuwingen beoogd. Het project is vooral gericht op de professionalisering van beroepsgerichte vmbo-docenten in het doelgericht inzetten van PvB's. Uiteindelijk doel is het verhogen van de opbrengst voor en de ontwikkeling van (individuele) leerlingen, hun voorbereiding op het CSPE en de inbedding in het toetsbeleid en de schoolcultuur.

Onderzoeker: Judith Gulikers (ECS) i.s.m. AOC Raad (Wilma Bredewold en Scilla van Cuijlenborg)

Project 'Grenzeloos leren in groene kennisarrangementen'

Binnen het groene onderwijs krijgt het sociaal-maatschappelijk ervaringsleren aan de hand van authentieke vraagstukken steeds meer aandacht. In dit project wordt onderzocht wat er nu precies geleerd wordt binnen dergelijke groene kennisarrangementen, hoe er geleerd wordt, door wie er geleerd wordt, hoe dat leren het beste kan worden ingebed



in de opleidingen van deelnemende studenten en, ten slotte, op welke wijze deze groene kennisarrangementen het beste kunnen worden ingericht.

Onderzoekers: Anne Remmerswaal en Arjen Wals (ECS)

Project 'Flankerend onderzoek Groene Lycea'

In dit project wordt onderzoek gedaan naar de relaties tussen leerlingkenmerken, inrichtingskenmerken, leerproces en rendement binnen de context van de Groene Lycea. In aanvulling hierop worden voormalige Groen Lyceum-leerlingen gevolgd in de beginfase van hun hbo-programma en vergeleken met leerlingen die afkomstig zijn uit meer traditionele routes (havo en regulier mbo). De opbrengsten van het onderzoek worden vertaald naar aanbevelingen voor beleid en instrumenten voor de deelnemende onderwijsinstellingen.

Onderzoekers: Harm Biemans (ECS), Hans Mariën (IVA) en Loek Nieuwenhuis (HAN)

Project 'De groene leeromgeving als katalysator II: op weg naar een innovatieve, evidence-based groene hybride onderwijspraktijk'

Dit project bouwt voort op inzichten verworven in het eerder verrichte onderzoek 'De groene leeromgeving als katalysator'. Samen met partijen uit het groene onderwijs zal op basis van deze inzichten een groene hybride onderwijspraktijk worden ontwikkeld, uitgevoerd en geëvalueerd waarbinnen gebruik wordt gemaakt van verschillende leeromgevingen binnen en buiten de school.

Onderzoekers: Stan Frijters en Rudy Richardson (Stoas Vilentum Hogeschool), Harm Biemans (ECS)

Naast de genoemde initiatieven worden nog aanvullende projecten voorbereid met betrekking tot internationale competenties en reguleren. ◀

Entrepreneurship Education

Baltic Entrepreneurial Summer School, the 2013 edition

Thomas Lans

Entrepreneurship and entrepreneurship education (EE) have gained popularity internationally. Historically, EE teaching and EE research are the domain of management and business economics teachers and scholars. Increasingly, other study domains like *life-sciences* or *health* acknowledge the added value of fostering entrepreneurial competence among their students; in the light of new career paradigms, lifelong learning, globalization, employability and a focus on innovation.

The Baltic Entrepreneurial Summer School (BESS) is a two-week programme aimed at Bachelor students that do not yet have experience with entrepreneurship. Students go through a compact, short hands-on programme that will stimulate and help them in designing of new innovative ideas with high-growth potentials, which they might want to develop and realize. BESS challenges students to articulate personal entrepreneurial goals

and ambitions, translate these into entrepreneurial projects and share these with other students via a wide range of learning activities.

What is truly innovative about this Summer School is that the focus is purely on the entrepreneurial process (from idea to project) and developing entrepreneurial competence in this process, rather than academic entrepreneurial knowledge (e.g. finance, marketing, etc.). What is also innovative is the cross-cultural and cross-disciplinary nature of the Summer School. Students work in groups which include students from engineering, life-sciences, pedagogy and general social sciences backgrounds. Furthermore they represent countries that have a completely different entrepreneurial history (e.g. communism).

At present universities are investing substantially in entrepreneurship education through national incentives like centres of entrepreneurship (e.g. DAFNE, GO). However, knowledge and experience with regard to entrepreneurial didactics gained by teachers in these initiatives often remain tacit and dissemination is limited; the outcomes of these projects tend to stay within a particular university, study-program or sometimes even a teacher. Therefore, the objective of the BESS is also to employ, exchange and develop (good) practices for developing entrepreneurial competence in non-business/management higher education.

BESS started in 2012 in Estonia with four partners from the Netherlands, Latvia and Estonia. ECS, as the organizing partner, is responsible for project management and attracting additional funding. The University of Latvia was responsible for hosting the 2013 Summer School. Moreover, two strong additional partner countries were added, namely the Czech Republic (IT students) and Germany (automotive engineers). In the 2013 Summer School, 42 selected professional and scientific bachelor students from the Netherlands, Latvia, Estonia, Germany and the Czech Republic participated, including 7 students from Wageningen University. The students were studying in a variety of disciplines: behavioral sciences, health, engineering and life sciences. Moreover, 11 teachers from all countries participated, including teachers from ECS, the Marketing and Consumer Behaviour Group and the Agricultural Economics Institute.

In the BESS students pass through all stages of activity which characterize a real enterprise. Starting with group formation and idea generation and finalizing the ideas they selected as products or services with a market demand together with the resources expected to be necessary in a business plan. More concretely the entrepreneurial opportunity development process in BESS contains four distinct phases: 1. the initial screening of ideas; 2. the selection of the final product or service for development; 3. drafting of the business plan; and 4. presentation of the final business plan.

The students were divided into seven interdisciplinary and intercultural groups. Each group was facilitated by a teacher. At the end of each phase in the entrepreneurial opportunity development process, the groups shared their findings with the facilitators and were given feedback and guidance with regard to the next steps to be taken. Traditional academic lecturing, is avoided during the BESS. An interactive pedagogy is adopted instead, with the inclusion of active business people, creative workshops, case studies, company visits and group projects. Such an approach can be expected to enhance deep learning. The participants in the Summer school thus visited business incubators and companies to



learn more about the challenges which entrepreneurs face and the ways in which they solve or attempt to solve these problems. For instance, the group visited Stenders cosmetics, the IT company Draugien.lv, Lõõi bakeries and Aerodium, a high-tech wind tunnel company. Moreover students visited the business incubator for the creative sector in Riga.

The final products the students developed were pitched in front of a professional jury, comprising of local entrepreneurs. StartLife sponsored the winning group with 1.000 Euro for further professional development of either the idea or the team. The winning 2013 idea involved a smart combination of new technology in tourist photography and old-fashioned post card services from holiday destinations. According to the jury this was the idea that was not only original but also feasible and realizable in a relatively short period of time. The jury also nominated two runner-ups: one idea in the field of sustainability (local energy production in flats higher than 7 meters) and one in the field of innovation (a portable application for high-tech cleaning of glasses).

Overall, the BESS 2013 evaluation showed very positive results. Student gave the summer school a 4.6 on a five-point scale. Next year this success will be continued in the BESS 2014, which will most likely be held in Estonia again. What will be different from the last two years is that we have the ambition to run BESS independent from EU subsidies. We think this is possible with only minor changes in the program. If you are interested, please do not hesitate to contact us! See for a further background the following publication: Lans, T., Oganisjana, K., Täks, M. and Popov, V. (2013). Learning for entrepreneurship in heterogeneous groups: experiences from an international, interdisciplinary higher education student programme. *TRAMES*, 17, 67/62, 4, 383–399. ◀

Research and Development Support

Digital Learning Projects in Courses of Wageningen University

Omid Noroozi

The Education Institute of Wageningen University has granted various chair groups projects for innovation of education and digital learning. Below is a short summary of four projects which were granted to ECS, in which various forms of digital learning are developed, implemented and studied.

The purpose of the first project is to help students formulate opinions on controversial issues in biotechnology through Argumentation-Based Computer-Supported Collaborative Learning (ABCSSL). This project is a joint cooperation between the chair groups ECS, Bioprocess Engineering, and Molecular Biology. This project has just been successfully carried out. Approximately 150 BSc students in the course 'Introduction Molecular Life Sciences and Biotechnology' participated in this digital learning module. Currently ECS is improving this module for future implementation together with the representative of the other two chair groups, Prof. Hans Tramper.

The purpose of the second project is to help students

with writing reflection reports on controversial issues in biotechnology. This project is a joint cooperation between the same chair groups. This project is expected to be carried out in March 2014 with approximately 150 students in the courses Biotechnology 1 and Biotechnology 2. We are currently busy designing an ABCSSL module in the same team of colleagues as in the first project. The module is aimed at helping students to learn how to write reflection reports – in a structured, collaborative, and argumentative approach – on controversial issues in biotechnology.

The purpose of the third project is to enhance the quality of reasoning and critical thinking in national and international food law. In this project we cooperate with Prof. Bernd van der Meulen of the chair group Law and Governance. This project is a joint cooperation between Wageningen University and Illinois University in the US. Approximately 140 MSc students from Wageningen University and 40 MSc/BSc students from Illinois University are currently participating in the course of Food Law and in the project. In the course, students formulate legal problem statements and conduct legal reasoning and analysis of food-related cases from national, European, and international perspectives. An ABCSSL module is developed to facilitate interactive argumentation and reasoning following a structured and scientifically sound approach that can help students to critically analyse various food safety issues from the perspectives of European and American law.

The purpose of the fourth project is to help students engage in critical thinking, reasoning, and argumentation with collaborative partners for learning various aspects of environmental education, communication and education for sustainable development. This project is a joint cooperation between the chair group ECS and the section Knowledge, Technology and Innovation. This project is expected to be carried out in March 2014 in the course of Applied Environmental Education and Communication. This will be done in collaborations with Prof. Arjen Wals. We will specifically design a digital dialogue game to enhance quality of students' reasoning, critical thinking, and argumentation with respect to complex and controversial environmental issues.

Chair groups and teaching staff within or outside Wageningen University are interested in conducting similar projects in the (near) future can contact the author. ◀

Education development cooperation

Building capacity of the Horticulture Practical Training Centre, Jomo Kenyatta University of Agriculture and Technology and Kenya Agricultural Research Institute

Hansje Eppink

Introduction

In Kenya, the horticulture industry has grown significantly over the past 15 years, providing employment to some 300,000 Kenyans. As a result of favourable climate, labour and infrastructure and the presence of good entrepreneurs the horticulture sector has developed without much support of R&D and training institutes. This has led to differences in profitability and knowledge



levels between small and large farms. The level of knowledge and entrepreneurship at the export-oriented farms are relatively advanced as compared with the small-scale farms. In order to reduce this gap and to further personalize the Kenyan horticultural sector, Kenya needs a well-embedded public knowledge and education base. The NUFFIC project NICHE/KEN/126 is trying to create this by building the capacity of the Horticulture Practical Training Centre (HPTC), Jomo Kenyatta University of Agriculture and Technology (JKUAT) and the Kenya Agricultural Research Institute (KARI). The idea of this project is to support the HPTC to become a Service Hub (figure 1) for the sector by

- 1) providing sector relevant curricula to train workers, staff and farmers;
- 2) establishing stronger linkages between HPTC, KARI and JKUAT, to create a knowledge infrastructure to provide learning support in agriculture, focussing on knowledge development and sharing of technology and agricultural information throughout the country.

The project runs from January 2012 till December 2015. The consortium consists of Stichting DLO (LEI-WUR and WUR Greenhouse Horticulture), Wageningen University, Aeres-PTC+, DLV plant B.V. and React Africa.

To be able to support our Kenyan partners it is a prerequisite to gain a sound understanding of the context of the education system. In the text box a very brief overview of the Kenyan education system is given.

The Kenyan education system

Kenyan education system consists of 8 years of primary school, 4 years of secondary school and 4 years of higher education. The curriculum focuses on a broad range of subjects aimed both at pupils who will complete only their primary education and then enter the labour market, and those pupils who plan to continue on to higher education. At the end of the eight year of primary education, pupils sit for an exam for the award of the Kenya Certificate of Primary Education (KCPE). Following completion of primary education, pupils have the option of following general secondary education or vocationally oriented study programmes as part of the artisan and trade programs at youth polytechnics. Following the general secondary education program, at the end of the fourth years, pupils take exams for the Kenya Certificate of Secondary Education (KCSE). To be accepted onto a bachelor's programme, students are required to have achieved the KCSE with a C+ average. The level of the vocationally oriented study programmes is comparable to the VMBO study programmes in the Dutch system. By completion of these programmes, which takes 2-3 years the student gets a craft certificate. With this certificate he or she can continue education at post-secondary school institutions. After 2-3 years of studying the students get a higher diploma or certificate and with this degree the student can enter BSc level. Although primary and secondary schools are offered for free, for many households the indirect costs (schools charge fees for assistant teachers, school facilities, electricity) still remain too high. And costs of learning material, transportation and/or uniforms are sometimes just too expensive for partners to pay. This results in a large number of children drop out of school at early age.

Role of ECS

The role of ECS in this project is to support the re-design of the Bsc and Msc Horticulture study at JKUAT and to design curricula for a series of Diploma and Certificate programmes offered by HPTC in partnership with JKUAT. By involving the labour market in the curriculum development process stronger linkages between the sector and the programs, and theory and practice are established.

Besides the support of ECS in the curriculum development process, the objective is to design a credit-transfer model that provides students the possibility to gain a diploma degree by collecting credits for certificate courses and prior learning activities. This model will be developed in close collaboration with JKUAT, HPTC and the Commission for Higher Education (CHE). CHE is responsible for the accreditation of programmes offered by higher education institutes in Kenya and currently spearheading the process of establishing a National Qualification Framework (NQF).

Project Activities

So far a course on competence-based curriculum development is given to colleagues of the partner institutes involved in the project by staff of ECS. In this course participants learned about competence-based education in relation to activating learning-approaches and assessment-strategies.

A Phd study is included within the larger NUFFIC project. This is aimed at doing a base-line measurement and monitoring regarding labour market relationships and employer-satisfaction with graduates as well as examining the extent to which principles of competence-based education are implemented.

A labour market study is conducted in January 2013. In this study we learned the importance of aligning the curricula with the industry which is quite problematic at the moment. The students are not learning the technologies used, nor do they get adequate information about the latest development in the sector. The curricula should also focus more on the learning needs of the graduates. The curricula are aimed at preparing students to become a researcher, although most of the graduates find a job as a consultant or an assistant farm-manager or they start their own business.

The implementation of the curriculum development process is going slower than expected. This is due to different perception of this process. The Kenyan partners from the training industry expect ready-made training programmes, while the ECS colleagues see this as a participatory and iterative process. Long discussions were needed to appreciate the various intentions, interests, viewpoints and resulting action plans.

In January 2014 a multi-stakeholder workshop will be organised to validate the curriculum documents. In May 2014, Kenyan partners will be in the Netherlands for a practical course which will include further training on competence-based education. ◀

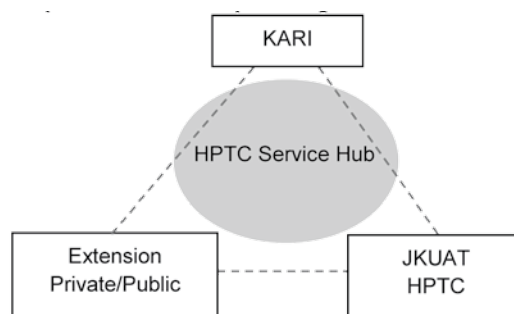


Figure 1: Horticulture Practical Training Centre Service hub



Keynote

Shaping the education for tomorrow: lessons learnt from 10 years of Education for Sustainable Development (ESD)

Key note held at The 6th Beijing International Forum on Education for Sustainable Development, Beijing China, 22nd-24th, October 2013

Arjen Wals

This was my first visit to China. I was honored to be a keynote speaker at a major event organized by the Beijing Academy of Educational Sciences, the City of Beijing, the Chinese UNESCO Commission and supported by the Chinese Ministry of Education. As the first non-Chinese speaker during the opening session, supported by music and dance, I followed a line of notable speakers like Niu Chunshan, Deputy Mayor, People's Government of Beijing Municipality, Xian Lianping, Director, Beijing Municipal Commission of Education, Liu Limin, Deputy Minister, Ministry of Education of the People's Republic of China and Abhimanyu Singh, Director, UNESCO Beijing office.

In my presentation I drew mostly from the second review (Wals, 2012) of the UN Decade for ESD that has been conducted as a part of its Global Monitoring and Evaluation Framework. Clearly there is world-wide recognition, also in China, that sustainability challenges cannot be solved only through technological advances, legislative measures and new policy frameworks. Such responses are necessary but will need to be accompanied by changes in mind-sets, values and lifestyles, as well as a strengthening of people's capacities to bring about change. This recognition explains the key role many governments, NGO's, UN Agencies, and, indeed, companies, are giving to learning and capacity building in the search for solutions to interrelated sustainability challenges such as: climate change, global food security, disaster risk management, biodiversity loss, sustainable production and consumption, and so on.

I concluded my talk by suggesting that in order to remain relevant in the years to come, ESD will need to position and develop itself as an education that can help citizens deal with complexity, controversy and uncertainty, while at the same time empowering them and equipping them with the capacities to transform themselves and others with the well-being of the Planet in mind. In this role ESD is not in competition with well-established educations like environmental education or with emerging ones like climate change education, but rather a supplier of methods, tools and learning processes that can strengthen all of them while recognizing that ESD itself can benefit from the lessons learnt in those other educations as well.

During the Forum we heard many contributions from China and Hong Kong that made it clear that the earlier referred to review I wrote for UNESCO, which has been translated into Chinese, has become one of the drivers of educational reform China which took me by surprise. ESD in China appears to be seen as a catalyst for educational renewal. This became particularly clear when we visited Beijing Secondary School number 55 where we attended several classes. We seemed to be attending, in my

view - and admittedly that is with a 'typical' Western, or should I say Dutch, classroom as a reference - rather conventional ways of teaching and learning: teacher introduces subject, students present their own research results in front of the class using powerpoint and the digiboard, teacher asks questions, students get to discuss in small groups, teacher wraps up the lesson, all in a very focused and structured manner. My colleague from the UK and I were wondering "where is the ESD?" in all this? But then it was explained to us that in the past there were little or no student presentations, own questions, student choices about what topic to investigate, small group conversations, etc. Introducing these elements for our Chinese colleagues was the core of ESD and indeed, perhaps it is. At the same time issues of air and water pollution and food safety issues are part of the curriculum as well but for now the 'E' in SD seems to be more important than the 'SD' in ESD. ◀

Reference:

Wals, A.E.J. (2012) *Shaping the Education of Tomorrow: 2012 Full-length Report on the UN Decade of Education for Sustainable Development - DESD Monitoring & Evaluation Report*. Paris: UNESCO. This report can be downloaded at: <http://unesdoc.unesco.org/images/0021/002164/216472e.pdf>

Education

Minor Environmental Education

Anne Remmerswaal

Students who want to make a connection between education and their own field of expertise (e.g. nature, environment, sustainability, climate) can now follow the BSc-minor Environmental Education. The minor attracts students who want to use education and communication to address sustainability challenges, to engage citizens in environmental issues and to reconnect people to nature. This year ten students chose the minor.

The minor consists of four courses, starting with a special version of the course Didactic Skills, taught by Ramona Laurentzen. In this course the students develop their didactic skills in the context of environmental education. Think for instance about going outdoors, using natural materials, working with animals, using all the senses. In 2012 the students practised their didactic skills in Ouwehands Zoo, giving demonstrations with the giant snail. This year the students took their fellow students outside to a place of their own choice: one of them gave a lesson in the forest teaching the others how to recognize trees, another gave a demonstration with a horse and a third organized a search in the forest using animal footprints. This course is followed by the courses Sustainable Development – Integrating Worldviews, Disciplines and Practices and the new course Life-Science Communication and Learning in the Digital Age, which is coordinated by PJ Beers. The last course is the cap-stone course Applied Environmental Education & Communication, which has attracted students for over 20 years now and in 2012-13 reached a peak enrolment of 50 students. In this



course students engage in the hands-on design of concrete environmental education and/or communication -activities for an audience of their own choice.

Quote from one of the students:

My name is Laura Decker and I did the Minor Environmental Education in 2013. It is a nice minor. I especially appreciated the module Didactic Skills; it requires creativity and you can use your own ideas and interests for the assignments. The minor is aimed at communication, sustainability and starting and creating education programmes and activities. During the minor I have learned a lot and noticed what you can do to make education an experience, away from the traditional form of education towards education with head, heart and hands.

Coaching Citizens towards Sustainability

Coaching Citizens towards Sustainability (ECS 59503) is a new course of 3 credits. For this course students design a strategy to stimulate households to change their behaviour towards a more sustainable use of energy. They implement their strategy among a selection of households. Afterwards they evaluate their strategy, formulate points of improvement and critically reflect on their personal functioning.

The course is a product of the cooperation between WUR and 'The Green Wheel', the local environmental education centre in Wageningen. Together we offer a combination of a training, theoretical underpinning and a competition (called 'Win with Energy'). This year 51 students participate. In September these students were trained by an external company to become an energy advisor. In addition to the training sessions the students followed lectures about the psychology of sustainable behaviour and learning. In teams of 3 the students acquired 10 households per team. From October to March they will advise and coach these households and stimulate them to diminish their energy consumption with at least 10%. In this way 170 households from the Wageningen neighbourhood North-West will receive tailored energy advice. Additionally there are prizes available for the teams with the highest reduction of energy use and for the teams with the most innovative ideas. ◀

Afstudeerverslagen

Efficiënter samenwerken met stakeholders – het ontwikkelen en testen van workshops voor studenten

Tim de Rooij en Carla Oonk

Van augustus 2013 tot en met januari 2014 werkt Tim de Rooij in opdracht van ECS aan een afstudeerproject over de samenwerking tussen studenten en stakeholders in regioleerprojecten. De aanleiding tot het project is het recent afgeronde WURKS-1 project 'Regioleren, methodieken en effecten. Uit dat project is gebleken dat er leerpotentieel schuilt in een actieve samenwerking tussen studenten en stakeholders in regioleerarrangementen. Echter, dit leerpotentieel wordt

nog niet altijd volop benut omdat een goede ondersteuning van de samenwerking tussen student en stakeholders vaak ontbreekt. ECS is nu bezig met het ontwikkelen en uittesten van workshops waarin regiolerende studenten zich voorbereiden op de samenwerking met stakeholders. Wie zijn de stakeholders eigenlijk? Hoe zijn ze onderling georganiseerd? Wat zijn hun belangen in het regioleerproject? Wie moet ik op welk moment tijdens het project benaderen? En, hoe doe ik dat dan? Welke activiteiten kan ik opzetten om stakeholders te betrekken bij het project? En, als het project straks is afgerond, hoe bouw ik dan verder aan mijn netwerk?

Tim de Rooij, vierdejaars student aan de opleiding Regional Development and Innovation van Van Hall Larenstein, werkt momenteel aan de ontwikkeling en uitvoering van de pilot-workshops over stakeholdersamenwerking. Hij is begonnen met het verzamelen van tools voor stakeholderidentificatie en -samenwerking. Vervolgens heeft hij vier workshops opgezet die in verschillende fasen van een regioleerproject kunnen worden ingezet om studenten voor die betreffende fase 'stakeholdersamenwerkings-proof' te maken. Tim heeft de workshops zelf verzorgd onder begeleiding van Carla Oonk, die vanuit haar onderzoek nauw betrokken is bij het project. Studenten hebben bijvoorbeeld gewerkt aan een regio-analyse, een stakeholder-tijdlijn van hun project, de PR van hun project in het gebied, aan rollenspellen 'lastige stakeholder-conversaties' en aan netwerkvaardigheden. Studenten en docenten reageren enthousiast. ECS hoopt de succesvolle pilots te kunnen voortzetten in vervolgprojecten.

Tim over zijn project: 'Als student die eenzelfde traject heeft doorlopen, is het zeer interessant om dit keer in de rol van 'docent' met studenten te werken en een lopend studentproject met externe stakeholders in de regio te kunnen volgen en te analyseren. Ik bereid workshops voor en voer die uit met studenten. De tools waarmee studenten in de workshops oefenen, kunnen hen ondersteunen in het uitvoeren van een succesvol project. Ik krijg goed inzicht in hoe waardevol en leerzaam samenwerking met externe professionals is, iets wat ik in mijn rol als student nog niet altijd even goed begreep. Dit maakt het voor mij extra motiverend om goede workshops te geven waarin de bruikbaarheid van de tools centraal staat. Daarbij probeer ik de tools op een creatieve en innovatieve manier over te brengen in een leuke, interactieve workshop. Ik denk dat er veel potentie zit in de samenwerking tussen studenten en stakeholders, maar dat de voordelen die beide partijen kunnen behalen voor betrokkenen nog onvoldoende duidelijk zijn en worden onderschat. Het onderzoeksproject van ECS is goed op weg om deze leerpotentie van regioleren in een helder daglicht te zetten. Het leidt ook tot een betere ondersteuning van studenten. Ik ben blij dat ik daar in samenwerking met Carla aan kan bijdragen en hopelijk zo het onderwijs kan verbeteren of in ieder geval kan aanscherpen.'

The influence of student characteristics on perceived learning activities and the learning environment in the context of entrepreneurship education

Rosaline van Hien

How do student characteristics influence the way that students



perceive their entrepreneurial learning activities and environment? That is the main question of my minor thesis at ECS. I am doing an MSc in Animal Sciences, where my main focus is on animal nutrition. Because I wanted to broaden my horizon, I opted to take courses and perform a minor thesis at the chair group of ECS. My minor thesis is part of a larger study regarding entrepreneurship education within higher education in The Netherlands. The last couple of years, a questionnaire was conducted at the university of applied sciences Van Hall Larenstein (VHL). Two locations (Leeuwarden and Wageningen) participate in this study and every year several students are asked to complete the questionnaire.

In The Netherlands, the Ministries of Economic Affairs and Education, Culture and Science, and the former Ministry of Agriculture, Nature and Food Quality, have been favouring entrepreneurship education since the year 2000. Through different programs, the Dutch government offers specific subsidies to educational institutions to assist in integrating entrepreneurship into their educational programmes. The objective of the government is to increase students' entrepreneurial mind-set and behaviour, and by that raise the number of new business start-ups within five years after graduation. Similarly, the European Union (EU) has set up the 2020 strategy which also shows the importance of creativity, innovation and entrepreneurship within education.

Within Van Hall Larenstein, entrepreneurial learning is part of the curriculum. It is meant as a stimulus to think about an entrepreneurial future and to increase the entrepreneurial intentions of the students. The demand for entrepreneurs is rising rapidly, there is a scarcity of young capable entrepreneurs. Entrepreneurs, who create new means to develop environmental, social and financial value, are needed to increase sustainable economic and social development in the EU. The EU also acknowledges the need for these entrepreneurs and promotes entrepreneurial learning in all the EU member states.

What entrepreneurship education really entails, is difficult to phrase, because there is no strong agreement among researchers and teachers on this issue. For this study we use the definition of Fayolle et al. (2006): 'Any pedagogical program or process of education for entrepreneurial attitudes and skills, which involves developing certain personal qualities'. Important to acknowledge also is the fact that entrepreneurship is not merely about creating a new business, but that it is about creativity, innovation, risk-taking and about creating solutions.

For this study the student characteristics are divided into general student characteristics (gender, study programme and entrepreneurial parents) and specific student characteristics (entrepreneurial attitude, social norm and self-efficacy). The relations that are studied are between these student characteristics and specific learning activities and learning environments. The learning activities were clustered from one of the questions within the survey to 'entrepreneurial lifestyle learning activities' and 'authentic learning activities'. For learning environment the same procedure was followed and the two components are 'creativity and new ideas' and 'authentic learning environment'.

Furthermore, we use De Corte's (1990) theoretical notion of powerful learning environments. Powerful learning environments are environments which focus on achieving the development of

complex skills and understanding. From this theory, authenticity is the key concept that is used in this study to gain more insight into the factors that influence entrepreneurial learning.

We hope that these insights and a better understanding of entrepreneurship education can help adapt entrepreneurship education within VHL so that the entrepreneurial outcomes of the program can be increased. ◀

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Conferentieverlagen

ECS op de EARLI/JURE Biennial Conference 2013

Niek van Benthum, Judith Gulikers en Carla Oonk

Niek van Benthum, Judith Gulikers en Carla Oonk vertegenwoordigden ECS eind augustus op de EARLI en JURE conferentie 2013 in München. De EARLI conferentie is de tweejaarlijkse bijeenkomst van de European Association for Research on Learning and Instruction (EARLI). De JURE gaat aan de EARLI vooraf en is bedoeld als uitwisselingsplatform voor jonge onderzoekers.

In totaal 2240 deelnemers bediscussieerden de state of art van het onderwijskundig onderzoek over de hele breedte van het vakgebied: van primair onderwijs tot professioneel en lifelong leren; van wiskunde en geschiedenis tot multistakeholder-leren; van onderwijsontwerp en -inrichting tot toetsing; van leerling en student tot docent, team en management; alles kwam aan bod. Tweeduizend bijdragen gepresenteerd in paper- en postersessies, round tables, ICT demonstraties en keynotes, vormden de basis voor discussie. De prettige ambiance stimuleerde veel vervolggesprekken in de wandelgangen.

Het thema van deze conferentie was 'Responsible Teaching en Sustainable Learning'. Werken richting 'responsible teaching' zou moeten stimuleren dat wordt gezocht naar diverse en uitdagende onderwijsdoelstellingen, waarbij aandacht is voor vraagstukken op het gebied van motivatie, het ontwikkelen van sociale betrokkenheid en probleemoplossende competentie. Docenten moeten worden gestimuleerd om krachtige en motiverende leeromgevingen te creëren die sociaal leren stimuleren. Leerlingen kunnen zo niet alleen hun cognitieve vaardigheden, maar ook hun karakter en persoonlijk leiderschap ontwikkelen. 'Sustainable learning' werd vertaald in de noodzaak om betekenisvolle en nuttige lifelong leerprocessen te stimuleren waarin kinderen en volwassenen hun leven lang al reflecterend hun 'higher order skills' en diepgaand begrip ontwikkelen.

Niek van Benthum, werkzaam als docent bij Stoas Wageningen | Vilentum Hogeschool en deeltijd-PhD student bij ECS, presenteerde tijdens de JURE zijn onderzoek 'Designing an



Observation Instrument for Assessment for Learning Practice'. In het observatie-instrument is het concept Assessment for Learning (AFL) geoperationaliseerd in concreet waarneembaar gedrag, waarmee bepaald kan worden in hoeverre de docent dit toepast in de praktijk. Het instrument is met succes gebruikt in het HPBO-project 'Kracht van beoordelen' waarin docenten leren om AFL in hun praktijk vorm te geven.

Judith Gulikers presenteerde haar onderzoek getiteld 'A Comprehensive Perspective to Assessment Innovations', dat is uitgevoerd in het kader van het Programma Professionalisering Docent. In totaal 409 docenten uit het VMBO-groen die participeren in het project 'Groen Proeven' implementeren nieuwe toetsen in hun praktijkvakken, namelijk Proeven van Bekwaamheid, om competenties te toetsen. De vraag is wie deze toetsinnovatie nu oppakt. Dit onderzoek laat zien dat er twee groepen van docenten zijn, die ieder gekenmerkt worden door een samenhangend cluster aan kenmerken: 1. de sceptici en 2. de voorstanders. Zo kenmerken de voorstanders, die daadwerkelijk meer gebruik maken van de nieuwe toetsen zich door: een competentiegerichte docentopleiding, onderliggend begrip van de toets-innovatie, geloof in eigen kunnen om deze nieuwe toetsen uit te voeren, en betrokkenheid bij het project. Maar zij gebruiken ook meer authentieke en complexe leertaken en een rijkheid aan nieuwe toetsvormen, zoals peer-assessment en reflectiegesprekken. De kernboodschap in dit paper is, dat in tegenstelling tot wat in veel bestaande professionaliseringsprogramma's gebeurt, het eenvoudigweg aanbieden van een nieuw toetsinstrument docenten niet over de streep trekt dit te gaan gebruiken. Dit vraagt om het expliciet aandacht besteden aan bovenstaand samenhangend geheel aan kenmerken.

Carla Oonk presenteerde de resultaten van het WURKS-I programma 'Regioleren, Methodieken en Effecten' waaraan ze de afgelopen twee jaren in samenwerking met Judith Gulikers heeft gewerkt. Resultaten van dit onderzoek tonen aan dat studenten in regieleerprojecten een grote diversiteit aan competenties ontwikkelen, zowel vakdeskundigheid als meer generieke competenties. Verder worden die competenties sterker ontwikkeld wanneer studenten samenwerken in multidisciplinaire studentgroepen, d.w.z. met studenten van verschillende opleidingen tezamen. Ook een intensieve samenwerking met diverse stakeholders lijkt de competentie-ontwikkeling te versterken, maar dan moet deze samenwerking wel krachtig ondersteund worden. De resultaten van dit onderzoek zijn inmiddels ook in de vorm van een paper aangeboden aan het Journal of Planning Education and Research.

We kijken terug op een inspirerende bijeenkomst.

ORD 2013 in Brussel

Piety Runhaar

De gebrekkige logistiek tijdens de ORD 2013 in Brussel, zoals te kleine zalen en een te kleine kantine, werd goed gemaakt door het aanbod van papers en posters, dat zoals gebruikelijk bij ORD's weer overweldigend was. Ik heb er dit keer voor gekozen me te concentreren op sessies met onderzoek in

de sector beroepsonderwijs, een sector die mijns inziens nog steeds wordt onderbelicht in het onderwijskundig onderzoek. Ik heb daar onder andere een interessante discussie bijgewoond over de toegevoegde waarde van het MBO ten opzichte van bedrijfsopleidingen. Deze discussie vond plaats in het licht van het toenemende geluid dat (grote) bedrijven hun medewerkers liever zelf opleiden omdat de gevraagde competenties zo specifiek zijn dat geen enkele MBO instelling deze aanbiedt. Ook heb ik presentaties bijgewoond van onderzoek naar de effectiviteit van bepaalde lesmethoden en methoden waarmee competenties van studenten het beste gemeten kunnen worden. Dat is een belangrijk onderwerp, want als er niet goed gemeten wordt, kan de effectiviteit van onderwijsmethoden dan wel worden vastgesteld?

De key-notes waren alle zeer verschillend en vulden elkaar aan. Ik vond de key-note van de Belgische hoogleraar Maarten Vansteenkiste interessant omdat hij heel duidelijk een brug sloeg tussen theorieën uit de sociaal- en organisatiepsychologische en onderwijskundige hoek. Dat spreekt me aan: waarom zouden we het wiel – van de intrinsieke motivatie waarover hij sprak – binnen de onderwijskundig inderdaad opnieuw moeten uitvinden, als er al zo'n schat aan inzichten in andere gebieden binnen de wetenschappelijke literatuur aanwezig is? Bruggen bouwen blijkt alleen niet altijd even makkelijk; in een sessie over HRM in MBO-instellingen werd de – in management-organisatiestudies gevleugelde – term HRM door vele aanwezige onderwijskundigen niet echt van toepassing geacht voor scholen. Echter, als we uit HRM-studies zoveel weten over wat medewerkers wel en niet aanzet tot betere prestaties en samenwerken, waarom mogen we daar dan geen gebruik van maken? Blijkbaar is er een behoorlijke vertaalslag nodig. Vansteenkiste is daarin op zijn terrein in elk geval goed geslaagd. ◀

Recente publicaties – een selectie

Differences in design format and powerful learning environment characteristics of continuing pathways in vocational education as related to student performance and satisfaction by Biemans, H.J.A., De Bruijn, E., Den Boer, P.R. & Teurlings, C.C.J. (2013). *Journal of Vocational Education and Training*, 65(1), 108-126.

An important trend in Dutch Vocational Education and Training (VET) is to ensure the curriculum continuity of sequential educational programmes and the design of continuing pathways encompassing more than one qualification level. These continuing pathways are characterised by different design formats and differences in learning environment characteristics that are regarded as powerful. In this study, the variety in design formats and powerful learning environment characteristics of existing continuing pathways, and the relationships between design formats and powerful learning environment characteristics on the one hand, and student performance and satisfaction on the other hand, were examined. Participants were five co-ordinators and 161 students from five so-called Green Lycea – each of which comprises a two-level (i.e. 'Pre-Vocational Secondary Education (vmbo)' and 'Secondary Vocational Education (mbo)') agricultural VET trajectory. The preliminary results show that students benefit most from continuing pathways



in which vmbo and mbo elements are truly interwoven, as these have relatively more powerful learning environment characteristics than those of separate pathways. When separate vmbo and mbo programmes are simply stuck together, the pathways seem to be relatively less powerful and to lead to lower satisfaction scores and a decrease in learning performance.

Inleiding op het nummer Onderwijsresearchdagen 2012 door Admiraal, W., Biemans, H. & Mulder, M. (Gastredactie) (2013). *Pedagogische Studiën – Themanummer ORD 2012*, 90(3), 2-3.

In 2012 zijn de jaarlijkse Onderwijsresearchdagen georganiseerd door Wageningen University en Stoas Wageningen | Vilentum Hogeschool, met als conferentiethema Ecologisch leren. Op basis van een eerste analyse van de kwaliteit van de ingediende abstracts bij de deelthema's Curriculum en Leren en Instructie zijn zes auteurs van papervoorstellen uitgenodigd om hun manuscript ter beoordeling in te dienen bij de gastredactie. Uiteindelijk zijn vier manuscripten geaccepteerd voor opname in dit nummer: drie uit het themagebied Curriculum en één uit het themagebied Leren en Instructie.

Locative Meaning-making: An Arts-based Approach to Learning for Sustainable Development by Eernstman, N. and Wals, A.E.J. (2013), *Sustainability*, 5(4), 1645-1660. Available as open-access at: www.mdpi.com/2071-1050/5/4/1645

This article is based on former ECS colleague and student, Natalia Eernstman's current PhD-research in Cornwall, UK. It starts out by problematizing the term sustainable development which is often criticized for having lost credibility due to a lack of clear-cut delineation. The same holds true for education designed to foster sustainable development often referred to as education for sustainable development (ESD). This contribution agrees that the term suffers from a want of meaning, but argues that the persistent hunt for a definition—i.e., a fixed generic description—produces rather than resolves this deficit. What sustainable development means is context and time dependent and is therefore necessarily ambiguous, open-ended and dynamic. Hence, the success of ESD depends on the paradoxical imperative of reducing vagueness while at the same time maintaining ambiguity. This paper explores how this can be established and proposes a process informed by the arts. Drawing from dialogic practices, site-specific theatre and a project conducted in a British village, this writing discusses elements that constitute a process of “context-based meaning finding”. It concludes that ESD essentially starts with and revolves around re-embedding SD in life and the act of living, engaging people in place through processes in which communities yield their own, context and time specific interpretations of sustainable development.

Side-note: the article contains hyperlinks in the reference section to the actual tape-recorded conversations Natalia had with the participants while walking through the landscape.

Sustainability in higher education in the context of the UN DESD: a review of learning and institutionalization processes by Wals, A.E.J. (2013), *Journal of Cleaner Production* (www.sciencedirect.com/science/article/pii/S0959652613003880)

This article is grounded empirically in a review of UN's Decade of Education for Sustainable Development (UN DESD) which I was commissioned to carry out by UNESCO. The review's section on the learning processes taking place in the higher education arena forms the basis of this article. Particular attention is paid to the role of UNESCO ESD Chairs in advancing sustainability-oriented learning and competences in higher education.

Sustainability-Oriented Social Learning in Multi-cultural Urban Areas: The Case of the Rotterdam Environmental Centre by Wals, A.E.J. & van der Waal, M.E. (2014). In: Krasny, M. & Dillon, J. (Eds.) *Greening in the Red Zone: Disaster, Resilience and Community Greening*. Frankfurt a.m.: Springer, p379-396.

It has taken some time to appear but finally this much anticipated book is finally available. My former colleague Marlon van der Waal and I have a chapter in it which explores the utilization of social cohesion and diversity in creating more sustainable multi-cultural communities. Community greening is seen as a catalyst for sustainability-oriented social learning. Greening here is not the same as literally adding green to a community (trees, parks, gardens) – although that certainly can be a part of it – but rather as a metaphor for improving quality of life and a stepping stone towards sustainability. Social learning is introduced as a process that builds social cohesion and relationships in order to be able to utilize the different perspectives, values and interests people bring to a sustainability challenge. Although there are many perspectives and definitions of social learning it is defined here as: a collaborative, emergent learning process that hinges on the simultaneous cultivation of difference and social cohesion in order to create joint ownership, and to unleash creativity and energy needed to break with existing patterns, routines or systems. The author proofs – for a sneak preview – can be found at www.transformativelearning.nl

Learning and Knowing in Pursuit of Sustainability: Concepts and Tools for Trans-Disciplinary Environmental Research by Peters, S. and Wals, A.E.J. (2013) In: Krasny, M. and Dillon, J. (Eds.) *Trading Zones in Environmental Education: Creating Trans-disciplinary Dialogue*. New York: Peter Lang.

This book is the result of a rather interesting writing process initiated by the editors about two years ago when they decided that the focus of the book, trans-disciplinary dialogue, should also be its process. In order to realize this they invited about 30 scholars from quite different disciplinary backgrounds who did not know each other (most of them anyway) very well or at all, but all had an interest in trans- and interdisciplinarity and a shared concern about the well-being of people and planet. During a joint 'thinkshop' at Cornell University the participants jointly conceptualized the book and created writing 'duos'. Author-teams were also asked to include a piece of art in their work that somehow captures the spirit of their joint writing venture.

I myself formed a duo with science historian Scott Peters (Cornell & Syracuse University) and bonded with him around the concepts of phronesis, post-normal science and transformative learning. In our chapter we argue that while ways of knowing that produce scientific and technical knowledge remain



necessary, they need to be integrated with ways of knowing that produce what Aristotle called phronesis: a form of practical wisdom that can guide us in what should be done and how to act—in a moral, ethical, and political rather than technical and instrumental sense. We provide a set of concepts and tools practitioners of transdisciplinary research can use to co-produce both scientific knowledge and phronesis. Practical theory building is highlighted as a tool that is helpful in designing sustainability-oriented education and research. We conclude by briefly noting several challenges and opportunities for academic professionals and students who seek to practice a publicly engaged form of transdisciplinary environmental research that embraces epistemological pluralism.

Scripting for construction of a transactive memory system in a multidisciplinary CSCL environment by Noroozi, O., Biemans, H.J.A., Weinberger, A., Mulder, M., & Chizari, M. (2013). *Learning and Instruction*, 25(1), 1-12.

Establishing a Transactive Memory System (TMS) is essential for groups of learners, when they are multidisciplinary and collaborate online. Environments for Computer-Supported Collaborative Learning (CSCL) could be designed to facilitate the TMS. This study investigates how various aspects of a TMS (i.e., specialization, coordination, and trust) can be facilitated using a transactive memory script that spans three interdependent processes (i.e., encoding, storage, and retrieval) in multidisciplinary CSCL. Sixty university students were assigned to multidisciplinary pairs based on their disciplines (water management or international development). These pairs were randomly assigned to a scripted or non-scripted condition and asked to discuss and solve a problem case. The script facilitated construction of a TMS, fostered learners' knowledge transfer and convergence, and improved the quality of problem solution plans. Specialization and coordination aspects of the TMS were mediators for the impacts of the script on joint but not individual problem solution plans.

From: <http://www.sciencedirect.com/science/journal/09594752/25> (full text).

Facilitating learning in multidisciplinary groups with transactive CSCL scripts by Noroozi, O., Teasley, S.D., Biemans, H.J.A., Weinberger, A., & Mulder, M. (2013). *International Journal of Computer-Supported Collaborative Learning*, 8, 2, pp. 189-223.

Knowledge sharing and transfer are essential for learning in groups, especially when group members have different disciplinary expertise and collaborate online. Computer-Supported Collaborative Learning (CSCL) environments have been designed to facilitate transactive knowledge sharing and transfer in collaborative problem-solving settings. This study investigates how knowledge sharing and transfer can be facilitated using CSCL scripts supporting transactive memory and discussion in a multidisciplinary problem-solving setting. We also examine the effects of these CSCL scripts on the quality of both joint and individual problem-solution plans. In a laboratory experiment, 120 university students were randomly divided into pairs based only on their disciplinary backgrounds (each pair had one partner with a background in water management and

one partner with a background in international development studies). These dyads were then randomly assigned to one of four conditions: transactive memory script, transactive discussion script, both scripts, or no scripts (control). Learning partners were asked to analyze, discuss, and solve an authentic problem that required knowledge of both their domains, i.e., applying the concept of community-based social marketing in fostering sustainable agricultural water management. The results showed interaction effects for the transactive memory and discussion scripts on transactive knowledge sharing and transfer. Furthermore, transactive memory and discussion scripts individually, but not in combination, led to better quality demonstrated in both joint and individual problem solutions. We discuss how these results advance the research investigating the value of using scripts delivered in CSCL systems for supporting knowledge sharing and transfer.

From: <http://link.springer.com/article/10.1007%2Fs11412-012-9162-z> (full text)

Self-directed lifelong learning in hybrid learning configurations

Petra H.M. Cremers, Arjen E.J. Wals, Renate Wesselink, Nienke Nieveen and Martin Mulder, *International Journal of Lifelong Education* (2013), DOI:10.1080/02601370.2013.838704.

Present-day students are expected to be lifelong learners throughout their working life. Higher education must therefore prepare students to self-direct their learning beyond formal education, in real-life working settings. This can be achieved in so-called hybrid learning configurations in which working and learning are integrated. In such a learning configuration, learning is typically trans-boundary in nature and embedded in ill-structured, authentic tasks. The goal of this study is to develop a set of design guidelines for an intervention that would strengthen students' capacity for self-directed lifelong learning within a hybrid learning configuration, a one-semester elective course at a university of applied sciences in the Netherlands. The research approach was educational design research. An intervention was designed, implemented and evaluated during two iterations of the course. Evaluation methods included interviews with students and the course facilitator, questionnaires, and students' logs and reports. We developed five intervention design guidelines that will promote self-directed learning. Our conclusion is that the intervention was usable and effective: at a basic level, the students did develop their capacity for self-directed lifelong learning. Further research is needed to investigate conditions for realizing higher levels of proficiency in self-directed lifelong learning throughout the curriculum and beyond.

Brochure 'Doceren in Regiolen'

Carla Oonk, PJ Beers en Renate Wesselink

Je raakt als docent betrokken bij regiolen. Het kan hierbij gaan om een eenvoudig project dat één student uitvoert voor één externe opdrachtgever, maar ook dat jouw school er bewust voor kiest de komende jaren een actieve rol te gaan spelen als kenniscentrum in de regio. Wat betekent het leren in de regio voor jou als docent? Welke nieuwe taken staan je



te wachten en welke competenties heb je nodig om die taken uit te voeren? De brochure 'Doceren in Regiolen', biedt een overzicht van de nieuwe rollen, taken en competenties in het kader van het regiolen. De publicatie is een handig hulpmiddel bij gesprekken in docententeams over een optimale taakverdeling voor regioleer-activiteiten. De brochure is geschreven in het kader van het Programma Professionalisering Docenten dat ECS recentelijk in opdracht van het Ministerie EZ heeft uitgevoerd. De brochure is meegestuurd met dit ECS Bulletin naar docenten en managers groen onderwijs. Heeft u de brochure nog niet ontvangen? De brochure is te downloaden via www.groenkennisnet.nl of kosteloos te bestellen bij ECS (office.ECS@wur.nl). ◀

Even voorstellen

Yvette Baggen

Yvette Baggen works from October 2013 onwards at ECS as a PhD candidate. Yvette studied Educational Sciences at Utrecht University. During her studies, her interest for human resource development grew. Yvette's Master thesis focused on the growing importance of employability and the role of the psychological contract within organizations. As an intern, she gained experience as a project manager and educational designer of a long-term programme concerning the flexibility and motivation of elderly employees. Furthermore, she participated in the Honours programme Sustainable Entrepreneurship, and worked as a student assistant for the Academic Elementary Teacher Training College and the Bachelor Educational Sciences. After her graduation in 2012, she worked one year as an educational advisor and trainer at ICLON of Leiden University. Her main role was to advise teachers and management teams within higher education institutions about curriculum related topics, such as assessment, blended learning, and student engagement.

Yvette is involved in the research project of LLLight'in'Europe (llightineurope.com), a research project funded by the European Union. All outputs of the project are designed to guide, support and facilitate good practice and strategy among policy officials, enterprise strategists, individual citizens, and fellow scientists. Yvette's main research interest is the importance of human capital for organizational learning and innovation. In her research project, she will take a closer look at the relationships between opportunity competence of employees (on an individual and group level), organizational learning (on an individual, group and organizational level) and the innovative performance of organizations.

Machiel Bouwmans

In September 2013 Machiel Bouwmans started his PhD-project on team learning of teachers in Vocational Education and Training (VET) institutions at ECS. He has a Master degree in sociology and political science. His interest in vocational education and teacher professionalization started while he was working as a researcher at a research and consultancy company with a focus on educational research. There he did research on different relevant topics in vocational education. For example, he monitored experiments in which VMBO schools and MBO institutions worked together to create a continuous curriculum

to reduce the amount of drop-outs (the VM2 experiments).

His PhD-project at ECS is part of the NWO project on team learning, which is a collaboration between the Wageningen University and Tilburg University. Within this project, Machiel will focus on the effects of external organisational factors on team learning. More specifically, he will examine how team learning of teachers is affected by the leadership style and the HRM approach of the location leaders of VET institutions. To do this, he will conduct research among at least 100 teacher teams.

Johan Braeken

In August 2013 Johan Braeken started as Assistant Professor at the Research Methodology group within ECS. He holds a Master in individual differences psychology and a PhD in psychometric models for educational measurement (Both from KULeuven, Belgium). After he finished his PhD project, Johan worked for half a year at the psychometric research and knowledge centre of CITO to gain some practical insight and experience in the testing industry. During this time he was for instance member of the project team that organized and analyzed the 2008-2009 campaign of the national assessment for primary education (i.e., "de CITO toets"). From the testing industry he moved back to academia to work at the Statistics and Methodology department at Tilburg University until his switch to Wageningen.

Johan is interested in all aspects of assessment, evaluation, and testing, but he has a specific passion for the development and application of latent variable models in a measurement context. So if you are interested in using techniques such as item response theory, factor analysis, latent class analysis, latent growth modelling, or structural equation modelling in one of your projects – or are in need of more general statistical consultancy – you are invited to come and knock on his door.

Two topics are of special interest: 1. the investigation of measurement equivalence and 2. the local dependence structure and dimensionality of a test. The first topic concerns the question as to whether test score profiles can be compared in a valid and fair way between different groups (e.g., male/female or native/immigrant). This is obviously a necessary requirement for high stakes admission tests in educational measurement and for selective recruitment in human resource management, but could also be highly informative from a more scientific point of view. If valid comparison is not possible, how come some groups are being disadvantaged? Is it due to lack of prior knowledge which is relevant for specific test items or due to misinterpretation of given questions? The second topic is more about verifying what is actually measured using a specific test instrument. Think for instance of investigating whether a competence profile constructed based upon expert knowledge is also empirically supported in the gathered performance measures.

Fannie Cobben

Fannie started working as a lecturer for the Research Methodology Group (RME) in ECS in July 2013. Before that, she worked as a survey methodologist at Statistics Netherlands. She also did her PhD at the statistical office, specializing in adjustment for nonresponse in household surveys. After having finished her PhD, she worked on several projects for the innovation of household statistics at Statistics Netherlands. Some examples: the introduction of mixed-mode data collection



for the Dutch Labour Force Survey and the use of an Internet panel for official statistics.

Her main topics of interest are: survey design, dealing with nonresponse in surveys and administrative information, Total Survey Error (TSE), indicators for survey quality (like the representativeness indicator or R-indicator) and Internet panels.

Omid Noroozi

Omid is well-known within ECS and the educational research community in the Netherlands and abroad. He was PhD student at ECS, and since January 2013, he started as a Tenure-Track Assistant Professor in our group. He studied Argumentation-Based Computer-Supported Collaborative Learning (ABCSCCL), in which a variety of instructional scaffolding and scripting supports were designed, implemented and improved within Higher Life Sciences Education. He employed a wide range of qualitative and quantitative methods to analyse students' argumentative discourse activities and their learning processes and outcomes.

Omid is interested in designing online and e-learning environments for innovation of education and digital learning that provides students with a wide range of opportunities for enhancing students' argumentation and critical reasoning skills. For example, he is currently involved in designing digital dialogue games for argumentation-based learning. Learning argumentation through gaming and using technology is based on a socio-constructivist perspective in which learners acquire essential argumentation competence by practicing (rather than sole reading and thinking), while engaging in an active dialogic process with learning partners. Games provide a pleasant learning environment, which are often also fun, that can stimulate motivation to learn, whilst the support from the technology adds the possibility of acquiring argumentation skills.

Jifke Sol

Jifke Sol holds a Master in rural sociology and works now on her PhD on the dynamics of trust, commitment and reframing in multi-actor innovation networks in transition towards sustainable knowledge and action. She conducts both research on and facilitation of social learning processes by using reflexive monitoring interventions. She is engaged with rural knowledge and innovation labs (such as knowledge working placec, green ports and living labs) where entrepreneurs, citizens, farmers, students, government officials, lecturers and researchers collaborate in the creation of new capacities for rural and sustainable development. Concrete issues are for example how to combine the maintenance of the landscape, develop tourism, and manage rising water levels in combination with mixed farming systems. She assumes that in these complexities processes of social learning and discovery need certain conditions, such as trust, commitment and reflexivity.

Currently Jifke conducts monitoring research for sustainability networks in the Netherlands for Agentschap.NL together with TNO and LEI and some colleagues at ECS. Furthermore she is developing training tools for network- and innovation managers of rural labs, considering transition- and sustainability competences. She is affiliated with the Centre for Sustainable Development and Food Security (CSD&FS), which aims at integrating scientific knowledge and practical process competences in complex problems. She is also participating

in several projects that focus on regional learning, such as for example DOEN, a project aiming at system innovation through reflexivity. The challenge is the facilitation of learning for students, teachers, managers and entrepreneurs together, by making implicit experience explicit and by the co-creation of next future possibilities towards sustainability.

Anahuac Valero Haro

Per August 8th Anahuac started his PhD project on Adaptive Feedback & Adaptive Fading in Computer-Supported Collaborative Learning. His research will focus on fostering Argumentation-Based Computer-Supported Collaborative Learning (ABCSCCL) by means of a game-based system to teach argumentation skills. The game-based system would adapt and fade external support considering the current internal argumentative script of the learner. Before coming to Wageningen University, Anahuac graduated from the international research-oriented Master programme in Computer Science at Saarland University (Germany) in April 2013. During his study programme, Anahuac worked for 2.5 years as student research assistant and did his Master thesis in the Collaborative Learning Lab of CeLTech (a research and innovation institute founded by the German Research Center for Artificial Intelligence (DFKI) and Saarland University). There, he contributed to the development of LASAD, a web-based, collaborative argument-diagramming tool. In addition, Anahuac has worked in the industry as software engineer for different multinationals.

Anahuac is interested in all aspects of how computers can facilitate knowledge acquisition of learners. Currently he has special interest in how to facilitate collaborative learning by means of argumentation. In this approach, learners are expected to argue with their learning partners in order to grasp and comprehend the, possible, different viewpoints or perspectives of the issue at stake, to resolve differences of opinions, to acknowledge their learning partners' viewpoints and take them into account in relation to their own viewpoint, to integrate them all, and finally to reform their own opinion. This learning process requires learners to be able to argue, logically reason, and critically think, in order to explain their positions and the reasoning behind that in a concise and clear manner.

Ruud Zaalberg

Ruud Zaalberg studied psychology at the University of Utrecht where he received his Master degree in social psychology in 1995. After his graduation he lectured an introductory psychology course and a course on research methods to undergraduates. He went to the University of Amsterdam from which he received his PhD in 2005 after successfully defending his dissertation about the expression of emotion in social situations. During and after his PhD research, he lectured and developed courses on aggression, consumer psychology, observational research, and the coding of facial expression with help of FACS. Being a post-doc at Eindhoven University of Technology, he conducted experimental research concerning innovative 3D techniques to communicate flood risks to the general public. As an assistant professor he lectured graduate courses on advanced data analysis as well as the relationship between the natural environment and human behavior.

He is currently working for the research methodology group within ECS teaching starting Master students about research



design and research methods within the social sciences. He has a strong interest in the statistical analysis of data with help of different software packages (EXCEL, SPSS, LISREL, PHStat and PQRS). Ruud would like to share his expertise with anyone who wants to better understand the processes that underlie established effects. If you need any help with multiple mediation, want to learn more about moderated mediation, or you want to compare your path model across groups, simply drop by the office of Ruud or send him an email.

Hildert Zoethout

Hildert is a new colleague of ECS since September 1st. Before coming to Wageningen, he studied Educational Sciences at the University of Twente. He graduated in the Human Resource Development (HRD) track on a qualitative research on work-related learning of nurses. His interest in how humans adapt to their changing environment motivated him to become a researcher. He is looking forward to share his ideas on learning and professional development and also to learn from his new colleagues.

His PhD-project at ECS is part of the NWO project on team learning described in this issue of the ECS Bulletin, which is – as stated – a collaboration between the Wageningen University and Tilburg University. Within this project, Hildert will carry out an in-depth research on the process of team learning in the context of teaching and implementing educational innovations in vocational education. To do this, he will conduct research among 8-10 teacher teams. ◀

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De nummers van de voorgaande jaargangen zijn te downloaden vanaf www.wageningenur.nl/ecs ◀



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Dr. Ljiljana Rodic-Wiersma

was granted a

Best Presentation Award

for the scientific sessions on Lifestyles and Education at the World Resources Forum

Davos, Switzerland

October 9, 2013

Congratulations to Ljiljana for this achievement!





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