

**15<sup>th</sup> Annual International Sustainable Development Research Conference  
Utrecht University Netherlands  
5-8 July 2009**

1 April 2009

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***Working on sustainable development in International MSc  
Programmes***

***How to realise sustainable competencies in an international  
setting?***

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## Working on sustainable development in International MSc Programmes

### How to realise sustainable competencies in an international setting?

#### 1. Introduction

The School of Environmental Planning and Building of Saxion University of Applied Science in Deventer delivers three International MSc Programmes: Environmental Science, Urban and Regional Planning and Nature Conservation and Biodiversity Management. These programmes are validated by the University of Greenwich (UK). Education for sustainable development is a key issue within these programmes. The staff has the ambition to make students familiar with the concept of sustainable development, from a broad perspective, linking to the key issues of the three different programmes. An interdisciplinary approach and a multicultural student population play an important role in realising this ambition.

This article discusses some characteristics of the educational framework of the programme and tries to compare the results of the programme as reported by graduates with the 'professional competencies for Sustainable Development', as formulated by DHO (the organisation for Sustainable Higher Education in the Netherlands).

Because of the strong international character of the programme (students from more than 50 different countries in all continents of the world graduated since 1996), a specific issue of concern is the applicability of the Dutch Sustainable Competences in an international setting, and the implications for the teaching and learning approach. The experiential learning theory and the learning styles as defined by Kolb (1984) and the cultural dimensions as described by Hofstede (2009) are used to check this. Results from short online interviews with graduates all over the world illustrate the results of this comparison.

The main conclusion is that the DHO competencies are not specifically linked to the Dutch scores on cultural dimensions of Hofstede. They are consistent with some of the cultural dimensions and inconsistent with others. This is in fact the case for all the countries of the world.

A small sample of graduates from all over the world reflected on the importance of the DHO competencies. They all considered the competencies in the list important, and had a few suggestions for additions.

The teaching strategies that are used to help students to acquire the sustainable competencies are briefly described. Important characteristics in the teaching approach are a student centred approach, peer reviewing by students, a focus on interdisciplinarity and cultural awareness, and a strong link with the professional sector. These characteristics appear to be effective for students from all over the world, though some students need some time to get familiar with this approach of teaching and learning.

Finally, the article describes the opportunities for improvement with regard to sustainability in the university. It is concluded that education for sustainable development plays an important role within the teaching activities, but that the embedding of sustainability within the organisation is one of the biggest challenges.

#### 2. 1 Sustainable Development

The concept of sustainable development is used in a broad sense in the programme. Because of the combination of specialisations (Urban and Regional Planning, Nature Conservation, Environmental Science), an area oriented approach plays an important role within this concept. Within the general framework for sustainable development, 5 different types of quality are distinguished: ecological quality, economic quality and social quality, as they are usually present in a 'triple P' approach. Spatial quality (place) and process quality are added to this triangle, with the (decision making) process in the middle. All the qualities have both a dimension of scale (from local to global), and a dimension of time (from present to future). This results in the following figure, derived from de Bruijn (2004).

Later	Environment economy Process Social spatial	Environment economy Process Social spatial
Now	Environment economy Process Social spatial	Environment economy Process Social spatial
	Here	Elsewhere

Figure 1. The five quality dimensions of sustainable development (Adapted from De Bruijn, 2004)

To make the framework more operational, the different qualities can be translated into guiding principles or assessment criteria. The specific guiding principles depend on the type of project that is under consideration. Formulation of the relevant guiding principles can be an important step in the first part of the decision making process about ambitions with regard to sustainable development for a specific project. This is practiced by the students in some of their assignments.

## 2.2. Sustainable competencies

The organisation for Sustainable Higher Education in the Netherlands (DHO) developed a set of six 'competencies for sustainable development'. This set of competencies is presented as a general set of competencies, relevant for every professional that deals with the concept of sustainable development in his professional work. It mainly describes attitudes and skills that are considered necessary for all kinds of professional activities having impact on sustainable development: policy making, industrial design, education and training, consultancy, engineering and construction, business and trade. Apart from these competencies, a sustainable professional needs to have the disciplinary competencies linked to his or her specific background. DHO distinguishes the following six competencies (DHO, 2008):

### **Personal responsibility**

A professional is able to make and use a stakeholder analysis, bear personal responsibility, explain and motivate his choices to the society and is able to evaluate his own behaviour in a critical way.

### **Emotional intelligence**

A professional is able to recognise and respect his own personal values and values of other persons and cultures; listen carefully and respectfully to opinions and emotions from others; distinguish facts from opinions and hypotheses.

### **System orientation:**

A professional is able to work interdisciplinary and transdisciplinary; is familiar with systems thinking and can think and look both analytic and holistic; has a function orientation, is creative and can think and act 'out of the box'. Is aware of chains and interdependencies.

### **Future orientation**

A professional is able to think and work from a future orientation. Is able to recognise and understand non-linear processes; is able to distinguish short term and long term approach and impacts; is able to

estimate the impact of decisions within different time frames; is able to think in a future oriented way; is able to anticipate; is familiar with backcasting.

***Personal commitment:***

A sustainable professional is personally involved in the realisation of sustainable development. The perspective of sustainable development is always used within the professional work; knowledge is kept up to date, within his discipline and outside his discipline; the professional uses his own consciousness for decision making; works with passion to the realisation of dreams and ideals.

***Action orientation***

A sustainable professional can take decisions and act accordingly. He is able to make decisions by weighing and comparing complex criteria; he acts when it is effective, makes use of opportunities; he can deal with uncertainties

### **2.3. Experiential learning, learning styles and culture**

The theory of experiential learning as developed by Kolb (1984) and many others, states that experience has a central role in the learning and development process of people. The model describes two opposing ways of grasping experience: concrete experience and abstract conceptualisation, and two opposing ways of transforming the experiences: reflective observation and active experimentation. A complete experiential learning process can be described as a learning cycle where all the four different ways of grasping and transforming experiences are found in a logical following order. Teaching and learning methods can be linked to the different stages of this learning cycle.

Active experimentation is linked to practical work, trial and error, simulations.

Concrete experience is linked to the stimuli resulting from practical work and experiments: see, hear and feel, get in contact with people to obtain information, use of intuition.

Reflective observation deals with the reflection on the experiences: people consider the different results obtained and the different sides of an issue to understand the meaning of it and to take decisions or draw conclusions.

Abstract conceptualisation deals with the search for theory and generalisations, for example by studying literature or attending lectures and presentations. Based on the theories and generalisations, new experiments can be set up to test theories in new situations, or to improve or adapt them. Then the cycle starts again.

The theory states that there is no best activity to start this cycle, but that individuals have preferences for certain learning modes. Based on these preferences, four different learning styles are described: diverging, assimilating, converging and accommodating. The theory emphasizes that the learning style is not a fixed psychological or inherited feature of a person, but the result of all the life experience of a person.

In the figure below (adapted from Kolb, 1984) the learning cycle and the learning styles are presented.

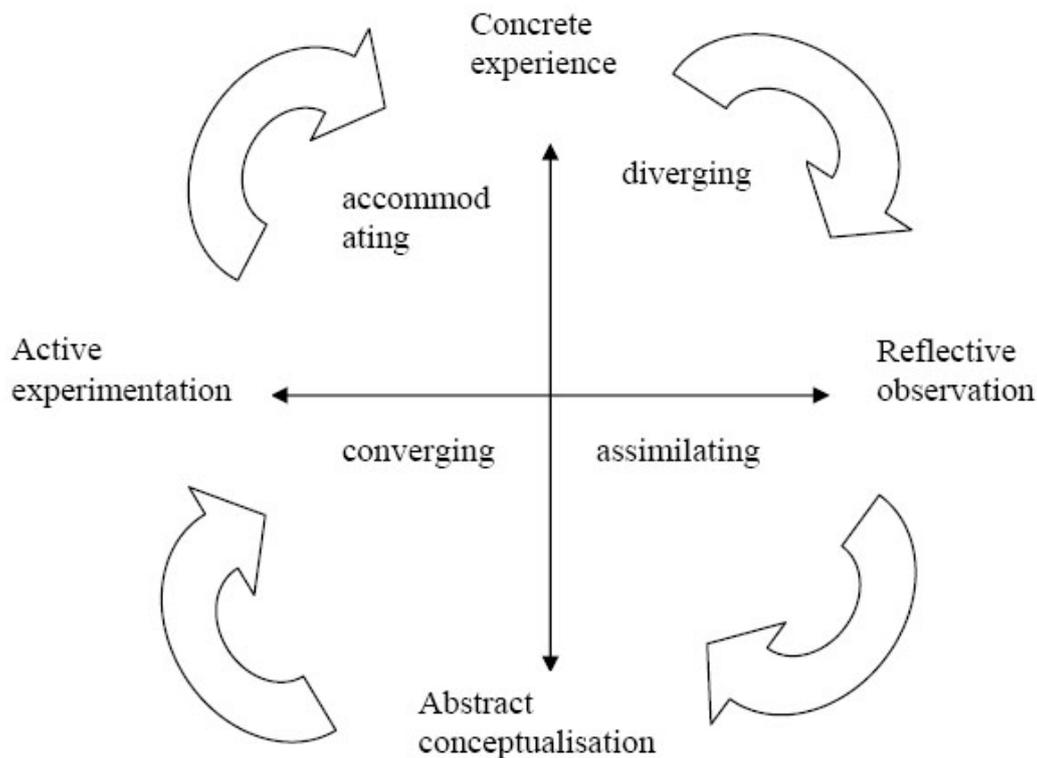


Figure 2. The experiential learning style (Kolb, 1984).

The International MSc Programme at Saxion receives students from all over the world. Until now, students from over 50 nationalities graduated from the programme. Within curriculum development and staff training activities, the awareness of cultural differences between the students plays an important role. The concept of cultural dimensions as developed by Hofstede (2009) is used as the theoretical framework to understand the cultural background of the students and the implications for teaching and learning within the MSc programme. This concept uses five different dimensions to describe the cultural background:

**Power distance index** : the extent to which the less powerful members of organisations and institutions accept and expect that power is distributed unequally. High PDI means: strongly unequal distribution of power, accepted by less powerful people.

**Individualism vs collectivism**: the degree to which individuals are integrated into groups, especially with respect to family and neighbourhood relationships. High IND means: strongly individualistic society.

**Masculinity vs femininity**: the distribution of roles between genders; especially the assertiveness and competitiveness of men versus women. High MASC means: men are much more assertive and competitive than women

**Uncertainty Avoidance Index**: society's tolerance for uncertainty and ambiguity; it ultimately refers to man's search for Truth; high UAI means: people feel highly uncomfortable in unstructured, unpredictable situations; little tolerance to differences in opinions between people.

**Long term orientation vs short term orientation**: thrift and perseverance, versus respect for tradition, fulfilling social obligations and protecting one's 'face'. High LTO means: 'high willingness to overcome obstacles with time, if not with will and strength' (Hofstede, 2009).

Although some authors are critical about the concept of Hofstede, it appears to be helpful to both staff and students within Saxion, to acquire basic understanding of the values of the teaching staff and the students. It is assumed that the cultural background of the students has influence on teaching and learning preferences and on skills and practices like communication, decision making, group work, self reflection, giving and receiving criticism.

Joy and Kolb (2009) explored the relationship between learning style and culture, based on the learning styles as described by Kolb (1984) and an extension of the cultural dimensions from Hofstede, by House et al (2004). They concluded that *'culture has a significant effect on the preference between abstract conceptualisation and concrete experience'*. Countries from Confucian Asia (for example China, Taiwan, Singapore and Vietnam) have a higher preference for abstract conceptualisation over concrete experience.

However, also other (demographic) factors have an important impact on this preference: *'the area of specialisation seems to have a slightly larger effect on determining a person's liking for abstraction or concreteness than culture does'* (Joy and Kolb, 2009). Also gender and level of education have a serious impact, both a bit smaller than culture itself. The authors expect that in the first years of higher education, the impact of culture might be bigger because the impact of the discipline is still smaller at that moment.

Joy and Kolb mention explicitly the consequences for problem solving with respect to sustainability: *'Now with the new challenges facing organisations such as sustainability, that require paradigm shift in multicultural multidisciplinary teams to engage with each other effectively, they may have to understand each other's sense making and problem solving approaches and how their cultures and areas of specialisation might have predisposed them to certain approaches'*.

### 3. 1. Are the DHO competencies typically Dutch?

In this section, the DHO competencies are combined with the cultural dimensions as described by Hofstede. Each of the competencies is linked to one or more of the dimensions, and an indicative score on that dimension is given and motivated. After doing this for all the competencies, the total score resulting from this is compared to the scores for the cultural dimensions of the Netherlands, and of other countries where the international students originate from..

Competency	Score	Motivation
Personal responsibility	High IND High LTO	The focus on individual responsibility can be linked to a high score on individualism. The focus on critical self-evaluation and reflection can be linked to a high score on Long Term Orientation: critical self-reflection is hard to combine with the fear for 'loss of face'.
Emotional intelligence	Low MAS Low PDI Low IND	The need for respect for opinions of others (also members of the other sex or people with less power) can be linked to a low score on Masculinity and a low score on Power Distance Index. The care and respect for values of other people can be linked to a low score on Individualism
System orientation	Low UAI Low IND	The ability to work in interdisciplinary settings, with people with different views and opinions, can be linked to a low score on Uncertainty Avoidance. The awareness of chains and interdependencies can be linked to a low score on Individualism
Future orientation	High LTO	Future orientation is linked to a high score on Long Term Orientation.
Personal commitment	High IND	A strong personal commitment can be linked to a low score on Individualism: the visible contribution of the individual is what counts.
Action orientation	Low UAI	A focus on action orientation can be linked to a low score on Uncertainty Avoidance: it deals with taking decisions in complex situations with possibly incomplete and / or conflicting information

Table 1. Linking the DHO competencies to Hofstede cultural dimensions.

In summary, the following scores on cultural dimensions can be linked to the six sustainable competencies. The values for the Netherlands and some of the countries where the students of the International MSc programme come from, are also presented in the table.

dimension	Score DHO competencies	Netherlands	USA	Vietnam	China	East africa	West Africa	Costa Rica	Guatemala
PDI	Low (1)	38	40	70	80	64	77	35	95
IND	High (2) / low (2)	80	91	20	20	27	20	15	6
MAS	Low (1)	14	62	40	66	41	46	21	37
UAI	Low (2)	53	46	30	30	52	54	86	101
LTO	High (2)	44	29	80	118	25	16		

Table 2. Comparison of Hofstede scores of DHO competencies to Hofstede scores of countries where International students come from.

These results do not completely support the conclusion that the DHO competencies are clearly linked to the Dutch scores on the cultural dimensions from Hofstede. The low Dutch score on PDI and on MAS could be considered as consistent with the contents of the competency Emotional Intelligence. The high Dutch score on IND could be considered consistent with Personal Responsibility and Personal Commitment, but not with Emotional Intelligence and System Orientation. The intermediate scores on UAI are not consistent with System Orientation and Action Orientation, and the intermediate scores on LTO are not consistent with Future Orientation and Personal Responsibility. If we compare the scores associated with the DHO competencies to the country scores found by Hofstede, we do not find a country in this selection that has an optimal fit for all the dimensions. Further consultation of the scores of countries reveals that Denmark and Sweden are the only countries that combine low scores on PDI, MAS and UAI. A combination of low scores on these factors and a high score on LTO could not be found in the data.

### 3.2. How do IMP graduates assess the DHO competencies?

The list of DHO Competencies was presented to a sample of graduates from the last five years. Of the 19 graduates addressed, 7 returned the questionnaire before the deadline of submission. These graduates came from four different continents and seven different countries (Netherlands, USA, Uganda, Zambia, Costa Rica, Guatemala, Vietnam) and all of them are professionally involved in sustainable development. Though the sample is small, their views present an interesting check on the worldwide applicability and completeness of this set of competencies. Here below, a summary of their views on the set of competencies is presented.

'Very relevant set of competences. Crucial elements:

Verification of assumptions, curiosity to hear and use different views and angles towards a problem. Out of the box thinking; combine incremental improvements with break through ones. Combine lateral, diagonal and other thinking methods.

Scenario thinking; translate broad and ambitious goals into small and achievable steps.

Deciding under uncertainty and without perfect information is one of the most difficult things in practice' (Manager Research and Innovation / NGO – consultancy agency, the Netherlands)

'Very relevant. I would add something associated with the need for better monitoring/benchmarking & the opportunity for revision of both action and broader goals. Another competency might be more closely associated with communication and partnering with non-traditional allies.' (Urban planner regional governmental organisation, USA)

'The "Dutch" competencies for sustainable development are broad enough. However, competences in Interdisciplinary research (ability to analyse social, economic and ecological impacts), problem identification, and problem solving could be important.' (Consultant involved in projects related to Biotrade / sustainable agriculture, Uganda)

'I think they are quite complete and very straightforward. Actually I will definitely use them for my future activities! One of the key factors I believe is missing is the influence you can have on other people or groups to make them aware of the importance of sustainability; maybe the "system orientation" fulfils this, but I believe it also has to do with the feeling of sustainability and how to "infect" other people with

these statements and way of being. I cannot say which might be the most crucial element, as society as such is very complex and needs a series of actions in order for people to feel and be immersed in sustainability actions.' (Project Manager Sustainable Campus Programme, University, Costa Rica)

'I think the competences listed here are complete, I wouldn't add more and I don't think there is one most crucial competence. I believe that all of these need to be applied together (as a whole) in our professional fields to be able to achieve, promote or realise sustainable development.' (Project Manager Nature Conservation / NGO, Guatemala).

'The competences for Sustainable Development described above are very important for professional. However, to be more successful, the professional also need negotiation/persuasibility skills.' (Government official involved in promotion of cleaner production in industry, governments and universities, Vietnam)

In general, the list is supported by the graduates and is considered to be more or less complete. Elements that are mentioned that are probably not completely covered in the set of competencies (or are considered of great importance) are the following:

- Cyclic thinking: plan – do – check – act.
- Communication and partnering with non-traditional allies
- Interdisciplinary research, cooperation and problem solving
- Awareness raising, creating commitment and involvement
- Negotiation and persuasion skills

### **3.3. Does the curriculum of the International MSc Programme facilitate the students in acquiring the sustainability competencies?**

The context of the programme itself plays a very important role to help students to acquire competencies related to sustainable development. In this respect, especially the focus on interdisciplinarity and multicultural cooperation is crucial: within the programme, three different specialisations are offered: Environmental Science, Nature Conservation and Urban and Regional Planning. Each of the three specialisations is interdisciplinary in itself, and the three specialisations work together in a large part of the programme. This helps students to develop a broad view on sustainable development and to understand and deal with the perspectives from the different disciplines and the different cultural backgrounds.

The ambition of the programme is to use activities from all four stages of the Experiential Learning Cycle as described by Kolb, throughout the programme. This involves that the programme has a strongly student oriented learning approach and that students have a large responsibility in organising and executing their work.

This approach is not always consistent with the learning approach that the students are familiar with in their home country. Many students, especially from Asia and Africa, come from an educational tradition where studying and reproducing theory was the most important learning activity. This implies a strong focus on abstract conceptualisation. The three other steps in the learning cycle were less present in the bachelor education of many of these students.

The experience at Saxion is that these students need time to get familiar with this approach, and experience some stress in the beginning of the programme because of the differences in the educational approach. After some time (usually 1 – 3 months), most of them understand the background of this difference and see the benefits of a more student oriented approach. This is consistent with the observation of Joy and Kolb (2008) about the influence of cross-cultural experience on learning style preferences. They state that cross-cultural living examples could shape the learning styles in a different way: people can change their preferences as a result of influences in their environment, like education and contacts with people with a different cultural or disciplinary background.

A citation from an interview with one of the graduates illustrates this difference in approach and the importance for the student:

'In our countries the education is mostly teacher based, where the teacher makes the decisions and gives the lectures that he believes he needs to give. What impressed me about the programme was

the focus of being student based. I liked the discussion sessions with my specialization coordinator, and I believe this could be strengthened (...) to guide the student even more into his/hers own learning interests.' (Project Manager Nature Conservation / NGO, Guatemala).

Here below, the list of competencies is presented and the elements within the educational framework that contribute to the competencies are briefly described. Where relevant, the reactions from graduates are illustrated to discuss the achievements with regards to the competencies within the programme.

### ***Personal responsibility***

All the students follow a unit called 'network management'. Students analyse a network management case from their own background, and do a stakeholder analysis for this case. In a simulation of a decision making procedure, they practice stakeholder analysis and negotiation skills.

Personal responsibility and self reflection are crucial skills in a project called 'Problem Solving in an Interdisciplinary setting'. Students from different specialisations and cultural backgrounds work together to make a plan for sustainable development in a new residential area. Before the start of the project, they present their views on the topic and on the project group procedures in an 'expectation paper'. During the project, the group procedures are discussed and evaluated during group evaluation meetings. After the project, students make an 'individual reflection paper', where they reflect on the methodological quality of their work and their personal role and involvement within the group. This is an important part in the assessment, together with an individual oral examination.

Students are personally responsible to find and organise their final Research Project. They need to select a topic, identify the gaps of knowledge, contact relevant stakeholders and organise the practical parts of their research project.

In the beginning of the programme, some students have difficulties in identifying their personal role in successes and bottle necks in the progress. Blaming the others, or blaming the circumstances is a common habit in the identification of causes of failure. During the programme, most students show a lot of progress in this respect.

'The IMP surely grills students into developing ***Personal responsibility, Personal commitment, System orientation and Action orientation***. IMP attains the above through or by allowing students to work independently or in small groups which are in most cases made up of different Nationalities. The friendly nature of most Dutch Lecturers make students cope and acclimatize quickly to the system although some students still find it hard integrate.' (nature conservation officer, Zambia)

'The international Master Programme made realise all of these competences, and I believe that especially because of the programme being international, it makes important emphasis in personal responsibility and emotional intelligence, where you need to recognise and respect personal values and other cultures, learn to listen and respect others. I also think that it is most important about the programme, to work with interdisciplinary groups and to teach that sustainable development can be achieved by personal commitment and as a personal responsibility.' (Project Manager Nature Conservation / NGO, Guatemala).

### ***Emotional intelligence:***

This competency 'emotional intelligence' receives a lot of attention in the programme, within the following activities:

Cultural awareness: introduction in cultural dimensions; scoring cultural dimensions of the student population; using the knowledge about cultural dimensions in organising and evaluating group cooperation.

Interdisciplinary cooperation within assignments. Exchange of the views on societal problems from the perspective of the different specialisations.

Peer reviewing by students: in many assignments, students review action plans, research plans and products from other students during so-called 'probe sessions'. Students identify the strong and the

weak elements in products of other students, and are trained in giving and receiving feedback. This peer reviewing is considered as a very effective activity. By criticizing the products of other students, students also identify the weaknesses in their own products.

At the beginning, some students are a bit reluctant to give criticism the products of other students. Some students have the opinion that this should be the responsibility of the teacher, from his role as expert with a respected status. Others consider it impolite to criticise the work of other students. However, during the programme students more and more see the value of this and learn to give criticism in a respectful manner, and to receive criticism without negative feelings.

'The program gave me the opportunity to work in an environment with students from a diverse set of cultures – This is the primary advantage of such a program as it has forced me to confront my own cultural perspectives and recognize how to initiate and improve interplay between colleagues on an international level. I was asked to perform self-evaluations which also supported the need for critical reflection'. (Urban planner regional governmental organisation, USA)

#### ***System orientation:***

The importance of interdisciplinary work is already presented. The awareness of chains and interdependencies is trained during the programme in a few different situations. In the analysis of the societal problem that they investigate in their research, an analysis of causes and effects is a crucial part. In a Research Problem Model, the students identify the direct and underlying causes, and the scale levels where these causes can be influenced, based on broad study of literature. They select a part of the problem that will be the focus for their research. Students can make a 'relationship model', in which they identify the most important actors and factors that play a role within the case, and describe the mutual relationship between all the actors and factors. After their research, they reflect on the quality of their causal analysis and make adaptations if the results from their research make this necessary.

'Critical reflection is well built up during the programme. This helps to acquire the competency of personal responsibility. Emotional intelligence and system orientation were built up during the team work, especially when students with different disciplines work together within a specific project.' (Government official involved in promotion of cleaner production in industry, governments and universities, Vietnam)

#### ***Future orientation:***

This issue plays a central role in the overall framework of sustainable development: prevent trade-off of problems from here to elsewhere, and from the present to the past. Specific skills with respect to future orientation receive limited attention in the programme.

One of the interviewees stressed the importance of knowledge about the past, to develop future orientation. This could be an important addition to the description of the competency:

'The competency of Future Orientation should be revised to recognize that a respect for and understanding of legacies and histories will have an influence on advancing toward a future orientation' (Urban planner regional governmental organisation, USA)

#### ***Personal commitment:***

This competency gets explicit attention in the individual research project and the preparation for this project. Students have the responsibility to translate the broad and vague concept of sustainable development into a specific definition for their own research topic. If possible and relevant for their research topic, they develop specific guidelines or quality criteria to identify the problems and assess possible solutions.

Also during the preparation of their research project, students have the obligation to search for literature and case studies outside their own field of specialisation, and to assess the relevance of developments in other fields for their own subject.

#### ***Action orientation:***

This competency gets a little bit of attention in making students familiar with decision making tools like Multi Criteria Analysis. However, the focus on the academic quality of the work creates limitations with respect to action orientation. Especially the importance of implementation of ideas and recommendation is important in this respect. This is also recognised by some of the interviewees:

Action is difficult to realize in any academic program... Although there were attempts to bring the theories into practice by using real world examples, I feel more influence could have been acquired by engaging students with outside organizations. Students could serve as consultants on minor research projects associated with work being implemented by an outside organization. This would force the students to negotiate the difficult transition between academic ideal and practical application. This would require direct engagement from the outside organization with the students on one or two occasions per academic year. The students would provide the organization with an outside perspective that is internationally oriented. (Urban planner regional governmental organisation, USA)

Linked to this, some graduates would like to see a stronger emphasis on personal responsibility with respect to sustainable development in their daily work and life:

'Giving more emphasis on how we, as individuals, can make a difference not only within our disciplines, but also in our everyday life. Some experiences from people, communities, etc.' (Project Manager Sustainable Campus Programme, University, Costa Rica)

### **4.1. Conclusions: success factors for training in sustainable competencies in an international setting**

The set of sustainability competencies formulated by DHO is appreciated and recognised by graduates from the International MSc Programme at Saxion University of Applied Science. The international student population and the focus on interdisciplinarity and multicultural working are very important conditions to contribute to these competencies.

A student centred approach with a strong personal responsibility and interaction between students both on the contents and the group process appears to be effective in this respect, although students with a teacher centred educational background need time to adapt to the new approach.

### **4.2. Opportunities for improvement**

At this moment, the competencies only play an implicit role within the programme. They are not mentioned as such in the description of the learning outcomes of the programme, nor do they play an explicit role within teaching and assessment. Explicit attention for these competencies could lead to more coherence and consistency within the teaching activities, and better performance of the students in this respect.

Another important issue is the link between education and the other activities of the organisation. Ferrer – Balas et al (2009) present a model for a sustainable university and a strategy for transition towards a sustainable university. The key features of their model are strong mutual relationships between the three roles of a University (education, research and organisation) and a strong mutual relationship between the university and the society.

If we look at the relationships within Saxion, we can identify a strong and growing exchange of knowledge and experience between education and research. Also the relationships between Saxion and the society receive a lot of attention, both in the region and internationally. Sustainability is a key issue within the research agenda of one of the main research centres of the University of Applied Science: 'space becomes scarce, especially in our densely populated country. Furthermore, fossil fuels are getting exhausted and economic, social and ecological interests are conflicting more and more. Therefore, we have to use our living environment more effectively' (Saxion, 2009)

A limitation can be seen in the link with the organisation and the performance of the organisation with respect to sustainability. Sustainability is not mentioned as one of the key issues within the strategic vision of the organisation (Saxion, 2008). The School of Environmental Planning and Building was allowed to carry the certificate for a Sustainable University for a few years, but lost this certificate in 2006 because of lack of attention to sustainability in the management of the organisation as a whole. With respect to issues like catering, construction and building and criteria for purchasing of office supplies, the organisation as a whole has opportunities for improvement. A coherent performance and a strong mutual exchange between education, research and organisation, as presented by Ferrer – Balas et al (2008) could improve the position of the organisation as an example for others in all aspects.

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