Global learning in local contexts: designing, maintaining, and learning from authentic tasks

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EDITED BY NAOKO TOJO AND BERNADETT KISS

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The book cover was designed by *Bernadett Kiss* and is titled *Diversity*. The original photos are portraits of past and/or current students, lecturers and researchers at Lund University between 2008 and 2016. The colour photos are portraits of this book's authors: Anne Jerneck, Barry Ness, Håkan Rodhe, Martin Stafström, Karin Frydenlund, Thomas Lindhqvist, Ladaea Rylander, Erwin Apitzsch, Shoshana Iten, Abi Brady, Jessika Luth Richter, Kimberly Nicholas, Anette Agardh, Johan Bergström, Lena Örnberg, Sidney Dekker, Naoko Tojo and Bernadett Kiss. (The names are listed in order by row from the upper left corner to the lower right corner.) The black and white images originate from the *image and file bank of Lund University* (https://lu.exigus.com/); in some cases the original colour images were edited to black and white. Image credit goes to the following photographers, listed alphabetically: *Apelöga, Sara Bernstrup, Charlotte Carlberg Bärg, Amanda Elgh, Anders Frick, Sara Hängsel, Mats Kristersson, Jenifer Martino, Gunnar Menander, Tove Möller Gunnarsson, Ludmilla Parsyak (Fraunhofer IAO), Johan Persson, Mikael Risedal, Michael de Rooy, Dan Rozenberg, Kennet Ruona, Lasse Strandberg* and *Ola Örnberg*. A special thank you goes to all the portrayed students and staff of Lund University.

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Preface

According to UNESCO, the number of university students studying abroad has doubled since the beginning of the century, from 2 million in 2000 to more than 4 million in 2012. Interdisciplinary studies, which first appeared in the middle of the 20th century to address various complex issues, have continued to grow and today cover wide range of topics, from engineering and public health to environmental and development studies. Interdisciplinary educational programmes tend to attract diverse student groups with varying academic and professional backgrounds.

Lund University, one of the largest universities in northern Europe, is among many higher education institutions that have experienced the growth of and gained experience in interdisciplinary educational programmes for international students with diverse academic and professional backgrounds. One of its long-term quality assurance works from 2011 specifically highlighted this experience in some institutions at the University. Despite the long experience and various efforts taken by personnel to improve the quality of education, as of 2015, Lund University however still lacks pedagogy courses tailored for interdisciplinary education, or for students with diverse cultural, academic and professional backgrounds. Reflecting upon this situation, we initiated this book to document and share essential experiences and learning of personnel engaged in these types of educational activities within the University.

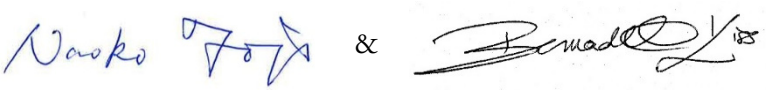
The book has three key features. First, it seeks to simultaneously tackle multiple aspects of "diversity". It discusses issues not only related to international students and cultural diversity, but also interdisciplinarity and students with diverse academic and professional backgrounds. Second, it is written from the perspective of (mostly) non-native English speaking staff working in an environment where English is not the national language. Third, the content of the book represents not only the views and experiences of teaching staff, but also administrative staff facilitating the smooth and effective implementation of teaching activities. In order to facilitate the communication of our main message, we also created a short video for each chapter and an e-book is in the pipeline.

We hope that the different voices and perspectives provide the reader with a useful and enjoyable reading experience. We also hope that this book gives food for thought on improving the learning environment and the teaching practice of our colleagues engaged in interdisciplinary, international education in Sweden and around the world.

We would like to thank the Lund University Educational Board for funding this project, and the office of University Special Activities for supporting the process. To the authors, thank you all for your invaluable contributions, collaboration and patience, both regarding your own chapters and reviewing the common chapters. Our cordial gratitude is also directed to everyone who has been supporting the development of this book. Special thanks goes to Katarina Mårtensson and Åsa Lindberg-Sand at the Division for Higher Education Development for their support and guidance throughout the project and to Kristina Miolin at the Faculty of Science for sharing her experience as an international coordinator for different departments and reviewing our draft chapter. We would also like to thank to Lucas Playford and Carl Salk for their efficient proofreading, and Julius Kvissberg and Dan Rozenberg for creating fantastic films on the written chapters.

Happy reading!

Lund and Hong Kong, December 2016



Content

Contributors

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Dr Erwin Apitzsch (Associate Professor, Registered Psychologist) introduced sport psychology as an academic subject at Lund University 1986 and developed courses from level A to D. Later he was involved in creating a master's programme in sport sciences with a specialization in sport psychology and sports medicine, which started 2009. He served as Programme Director for five years. Since 1996 he has lectured at the Intensive Course of the EU-funded network "European Master's Degree in Sport Psychology", with students and teachers from twelve universities. Erwin was the international coordinator and responsible for the Course between 2006 and 2014.

Ms Abi Brady was a Masters student at Lund University in Environmental Studies and Sustainability Science (LUMES) from 2013-2015. The two-year Masters degree programme brings together students from across the globe, with a wide variety of backgrounds and experiences, to learn about the environmental and social challenges of the 21st Century and how to find solutions. Abi both participated in the first writing tutor programme in LUMES and collaborated with university staff to contribute to the book chapter.

Dr Johan Bergström, Associate Professor at Lund University, division for Risk Management and Societal Safety, is since 2012 the director of the MSc. Programme in Human Factors and System Safety. He has since worked with developing the pedagogical structure of the programme, mainly on constructively aligning the pedagogical aims, methods, assessments and course evaluations.

Dr Sidney Dekker, (PhD Ohio State University, USA, 1996) is Professor at Griffith University in Brisbane, Australia, where he runs the *Safety Science Innovation Lab*. He is also Professor (Hon.) of psychology at The University of Queensland, and Professor (Hon.) of human factors and patient safety at Royal Children's Hospital in Brisbane. Previously, he was Professor of human factors

and system safety at Lund University in Sweden. After becoming full professor, he learned to fly the Boeing 737, working part-time as an airline pilot out of Copenhagen. He has won worldwide acclaim for his ground-breaking work in human factors and safety, and is best-selling author of, most recently, *The Field Guide to Understanding 'Human Error'* (2014), *Second Victim* (2013), *Just Culture* (2012), *Drift into Failure* (2011), and *Patient Safety* (2011). His latest book is *Safety Differently* (2015). More at sidneydekker.com.

Ms Karin Frydenlund worked at the Lund University International Office in 1992. In 1993, she was headhunted and moved to the International Institute for Industrial Environmental Economics (IIIEE) at Lund University, when IIIEE was established and simultaneously launched its international MSc programme in environmental management and policy. She worked as the head of student affairs, and developed various measures to take care of international students for 10 years. In 2005 she moved to England where she among other things took the role as internationalisation coordinator for the PhD education at University of Southampton. Returning to Sweden she is now Head of International Office at the Medical Faculty of Lund University since 2009.

Ms Shoshana Iten works as a Programme Coordinator at Graduate School at the Faculty of Social Sciences, where she helps coordinate three interdisciplinary and international master's programmes. Her main interest is to develop and implement structures and projects to improve the educational experience of the students. Some of her current project responsibilities include arranging a development practitioner seminar series, the master's thesis conference, and a career development day. With a master's in technological and socio-economic development from Roskilde University, and a B.A. in sociology from Brandeis University, Shoshana has over 10 years of experience from the private, non-profit and public sectors managing projects, many of which involved bringing together people from diverse backgrounds to engage in joint initiatives.

Dr Anne Jerneck is associate professor of sustainability science at Lund University and a principal investigator in Lund University Centre of Excellence for the Integration of Social and Natural Dimensions of Sustainability (LUCID) where she also supervises PhD candidates. Her interdisciplinary profile in research, teaching and mentoring is oriented towards processes of socio-ecological and institutional change in the context of poverty, inequality and sustainability in sub-Saharan Africa and beyond. Since the late 1990s she has designed and developed interdisciplinary courses in international Master's programmes at LU and been the supervisor for many students. Presently she is a teacher in five Master's programmes and a thesis examiner in two of them.

Dr Bernadett Kiss is a Research Associate at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University. Bernadett has a background in policy and environmental management, humanities (literature and linguistics) and business administration. Her professional experience ranges from strategic communication through project management to research and education. She has been involved in the development and implementation of various educational and alumni activities since 2007, which have facilitated bringing together people with diverse backgrounds.

Dr Thomas Lindhqvist was IIIEE's Director for Masters Education from the initiation of the first Programme and during a period of five years and then Director for the PhD Programme during more than ten years. He has also designed and taught several of the courses in the international Masters Programmes at IIIEE and in particular courses related to environmental policy and courses with high level of interaction with external partners. In addition, he has on a regular basis been teaching at several universities in the EU, Eastern Europe, India, and Argentina.

Dr Barry Ness is an Assistant Professor at the Centre for Sustainability Studies, LUCSUS. He is the current director for studies of PhD education at LUCSUS, and has held the position of director of studies for the Lund University International Master's Program in Environmental Studies and Sustainability Science (LUMES). Barry has extensive interdisciplinary teaching and advising experience on a wide array of environment and sustainability topics.

Dr Kimberly Nicholas is a sustainability scientist studying what human changes to the Earth's climate and land surface will mean for the future of the ecosystems on which we depend, and how we can better balance human needs with sustaining the planet's life support systems. Kim pursues these questions using methods ranging from ecological field observations, to large-scale quantitative modelling and synthesis, to interview and survey-based research with people as both co-designers and subjects of research. Her interest in sustainable food systems is rooted in five generations of family farming history in her hometown of Sonoma, California, where she conducted research on climate change impacts on the wine industry for her PhD in the Interdisciplinary Program in Environment and Resources from Stanford University. She is a Senior Lecturer at Lund University Centre for Sustainability Studies (LUCSUS).

Dr Lena Örnberg has a PhD in Economic history and was Director of Studies at Graduate School, Faculty of Social Sciences 2010-2014. Lena has interdisciplinary teaching experience, mainly in the field of development studies,

but has spent most of her time in developing structures for administrative support and pedagogical development. Since 2015 Lena is head of office for the Student Health Centre and Study Support and Advising Services at Lund University.

Ms Jessika Luth Richter is a graduate of the EMP Masters programme and has been a PhD candidate and teaching assistant at the IIIEE since 2014. Her research pertains to environmental economic instruments, end of life product policy and energy efficient lighting. Jessika has a Graduate Diploma in Education and over a decade of practical teaching and curriculum development experience at both the secondary and university level in a variety of international and interdisciplinary contexts. She has been part of environmental policy courses at the IIIEE since 2013 and in 2014 she was part of the curriculum design team for one of Lund University's first massive open online courses (MOOCs), "Greening the Economy: Lessons from Scandinavia".

Dr Håkan Rodhe was the Director for Education (studierektor) at the International Institute for Industrial Environmental Economics (IIIEE) 2006-2014, graduating 50+ international master students per year. In this role Dr Rodhe has become intricately familiar with numerous challenges of inter-disciplinary and practically relevant education targeting diverse international audiences. He has taught a substantial amount of both on-site and on-line courses, mostly with business and technology focus, and worked with applied educational projects in more than 15 countries. He strongly believes in activating students for greater learning.

Ms Ladaea Rylander is an English language and study consultant at Lund University's Studieverkstaden, a central service that supports all students in academic writing, speaking and presenting, and reading and study skills. She runs Studieverkstaden's English section, the Academic Support Centre (ASC), which she has developed since November 2012. At the ASC she works with students (from the bachelor to PhD level) individually and in groups, holds workshops and seminars, and collaborates with teachers from across faculties who want to incorporate writing support in various forms into their courses.

Dr Martin Stafström (Associate Professor) has been teaching in the Lund University Master's Programme in Public Health since the fall of 2008. Since, he has been the course leader of several courses including global public health and health promotion. Stafström has also been a teacher and course leader in the Lund University Master's Programme in International Development and Management within the faculty of social sciences. As of July 2015 he is the director of studies of the Lund University Master's Programme in Public Health.

Dr Naoko Tojo is an Associate Professor in product oriented environmental law and policy at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University. She has been extensively involved in teaching international, interdisciplinary MSc programmes as a teacher, course coordinator, supervisor and mentor over the last 15 years, and has been the programme coordinator of one of IIIEE's MSc programmes since 2010. She won the Best Teachers' Award four times.

Chapter 1

Introduction

Naoko Tojo and Bernadett Kiss[1]

Internationalisation, interdisciplinary education and diverse students

Internationalisation, as well as the increased use of *multi-, inter-, and trans-disciplinary approaches* in education, are arguably among the most significant developments that universities worldwide have experienced over the last several decades. While the understanding of "internalisation of education" is diverse, one clear indicator for internationalisation is the number of foreign students at universities. The number of university students studying abroad has doubled since the beginning of the century, from 2 million in 2000 to more than 4 million in 2012 (UNESCO, 2014). This trend is even more apparent in Sweden—the context of this book. Between 2001 and 2010, the number of foreign students registered at Swedish universities tripled, from 13,900 to 46,700 (Swedish Higher Education Authority, n.d.).

The increasing complexity of society in the 20th century began to require more than one discipline to meet the new challenges (Zoeram, 2012). Societal demands, and the worldwide education reforms of the 1960s and 1970s, first gave birth to "cooperation" among disciplines, and new *interdisciplinary* fields arose (Klein, 2006). The use of multi-, inter-, and trans- disciplinary approaches—we use the term "interdisciplinary" from now on in this book, as explained later—in education has increased over the last 40 years, both in terms of number and issues covered (Jacob, 2015). For instance, a study on the growth of interdisciplinary

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programmes in US universities and colleges indicates growth of nearly 250% between 1975 and 2000 (Brint et al., 2009). Interdisciplinary fields found today include, among others: ethnic, women's, environmental and international studies, urban and rural development, culture, information sciences, communication and media, management, political science, public health, engineering and technology, bio-medical sciences (Humphrey et al., 2005; Klein, 2006; Jacob, 2015).

Interdisciplinary educational programmes often attract diverse student groups. Most often, students who seek to participate in an interdisciplinary educational programme have studied only one or two disciplines covered in the programme. This has led to classrooms with *students with various academic backgrounds*. In addition, the problem-solving nature of interdisciplinary studies (Repko, 2012; Newell, 2007) tends to attract students with some work experience. This means that students are not only diverse in terms of their academic backgrounds, but also in terms of their *professional backgrounds.* If international students are enrolled in an interdisciplinary programme, this adds another dimension of diversity: students will have various *cultural backgrounds* on top of the variety of academic and professional backgrounds they represent.

Meaning of "international" and "interdisciplinary" in this book

As indicated above, it is somewhat difficult to define "internationalisation of education" and "interdisciplinary education", the two central concepts in this book. Before proceeding further, let us clarify what we mean by "international" and "interdisciplinary" when discussing international, interdisciplinary educational programmes in this book.

Some consider an educational programme international when the language of instruction is English, while for others the defining element is the enrolment of foreign students in the programme (Smidt et al., 2010). Other aspects of international programmes include incorporating international dimensions in the curricula, through, for example, course literature in foreign languages or foreign teachers on the team (Smidt et al., 2010). Some consider the number of graduates who go on to work outside the national border or in international contexts important in labelling a programme as international (Smidt et al., 2010). While there is little agreement on which of these aspects are the defining ones, they all

elucidate various dimensions of internationalisation of education. The educational programmes and activities discussed in this book all 1) enrol international students and 2) use English as the language of instruction. Meanwhile, many of the programmes also represent other characteristics listed above; some employ an international teaching team, for example, and many aim to equip students with skills to work in international contexts or outside of their country of origin.

The alternatives to strictly discipline-based education feature varied levels of cooperation and integration among disciplines. Multidisciplinary[2] education generally features the lowest level of discipline integration, while transdisciplinary[3] education features the highest (although, confusingly, "transdisciplinary" is also increasingly used to refer to participatory research undertaken with stakeholders outside of academia). We understand interdisciplinary education to mean the integration of knowledge and ways of thinking from two or more disciplines, in order "to produce a cognitive advancement—e.g. explaining a phenomenon, solving a problem, creating a product, raising a new question" (Boix Mansilla, 2005, p. 16). The line between these terms, however, is subject to interpretation and their usage has not been consistent. Even when a programme is referred to as multidisciplinary, for instance, the content might not necessarily correspond to the level of integration mentioned above, and could be in fact interdisciplinary. This book does not intend to analyse the different means and levels of cooperating disciplines, but rather to discuss matters related to educational programmes, which incorporate two or more disciplines. We therefore do not discuss which programmes belong to which category, and will use the term that lies in the middle—interdisciplinary—throughout this book.

[2] Multidisciplinary approaches are often understood as disciplines applied side-by-side to gain more understanding on a common subject or challenge, adding breadth to methods and knowledge, but with little integration (see e.g. Burns, 1995; Burns, 2002; Jacobs, 2002; Klein, 2006; Khagram et al., 2010;). Multidisciplinary approaches are also called as correlated, complementary, juxtaposed, parallel, sequenced, webbed or thematic knowledge (Applebee, Burroughs & Cruz, 2000).

[3] Transdisciplinary approaches have the highest level of integration, i.e. the boundaries between the disciplines and subjects are blurry, and the cooperation among disciplines often manifests in new structures, sometimes even in new disciplines. Transdisciplinary education is also described as unified studies or fusion of knowledge and give space to worldviews such as general systems, policy sciences, feminism, cultural critique, ecology and sustainability (Klein, 2006; Nicolescu, 2008).

Why this book?

The questions this book seeks to address

Interdisciplinary educational programmes for international students with various academic and professional backgrounds entail many pedagogical benefits—perhaps the most essential being learning to work together with people with different perspectives. However, it also brings various challenges. What does it entail to have students from abroad at a university, both in the classroom and outside of it? How can we equip students with diverse academic and professional backgrounds with sufficient basic knowledge in various academic disciplines, so that this knowledge can be effectively combined for their further studies and careers? What needs to be considered when designing courses for students with various cultural, academic and professional backgrounds, and which pedagogical approaches, methods, and techniques can be used? How can we facilitate conduct of common tasks (e.g., group work) of the students with diverse backgrounds? What do the students from abroad need in order for them to be able to concentrate on their studies and perform well? What type of issues should teachers think about when teaching in a language that is not their native tongue? How do we follow up with students after they graduate?

These are among the questions we seek to address in this book—*challenges educational practitioners have faced in carrying out interdisciplinary educational programmes for students with diverse cultural, academic and professional backgrounds, and how they have overcome such challenges*. By documenting, sharing and reflecting upon concrete experiences of people involved in the design and implementation of interdisciplinary educational programmes for international students with diverse academic and professional backgrounds, we hope to enhance educational capacity in this field.

Origin of the book

This book started as a result of the long-term quality assurance work of Lund University in Sweden. In 2011, Lund University carried out a project called Educational Quality 11 (EQ11). EQ11 highlighted the experience gained over time at some institutions at Lund University, including four educational institutions in a faculty-like entity called University Special Activities, which have

been carrying out interdisciplinary educational activities (programmes and courses) for students with diverse cultural, academic and professional backgrounds. Personnel engaged in such educational activities have, over the years, strived to improve the quality of education through means such as participation in pedagogy courses, reflecting on students' feedback, discussions with peer teachers, staff and the like. However, as of 2015, Lund University lacks pedagogy courses tailored for interdisciplinary education, or for students with diverse cultural, academic and professional backgrounds.[4] Reflecting upon this situation, we undertook this project within Lund University to document and share essential experiences and learning of personnel engaged in these types of educational activities. The main outcome of the project is this book; the contribution of eight chapters by seventeen people from eight institutions representing the following four faculties: medicine, engineering, social science, and University Special Activities. The work has been carried out in close collaboration with the Division for Higher Education Development.

Features of the book

Many books and articles address some of this book's themes, including pedagogical approaches for international students, for interdisciplinary programmes, students with diverse academic and professional backgrounds, and cultural aspects related to international students. Publications that tackle more than one of these aspects simultaneously are rather scarce, however.[5] This book does just that; it touches upon all of these aspects, through the reflection of educational practitioners who are engaged in educational programmes that incorporate all the aspects. This is not to say that it is a comprehensive "textbook" covering all the essential elements related to interdisciplinary educational programmes for students with diverse backgrounds—the authors of respective chapters do not discuss all aspects in their contribution either. On the contrary, we aspire to highlight specific issues that the authors of the respective chapters consider important within the theme of this book, based on their experiences. However, we do believe that issues brought forward provide some insights to people who seek to carry out educational programmes with similar characteristics.

[4] A list of pedagogic courses related to the subject area of this book available at Lund University is found in Chapter 2.

[5] Examples of such publications include Hazelton et al. (2009), Lans et al., (2013) and Evans et al., (2014).

This book fills another gap in the literature, in that it is written from the perspective of academic and administrative staff who are (mostly) non-native English speakers working in a setting where English is not the national language. Examples used in many existing publications related to teaching international students are from settings where native English speakers teach international students who do not have English as their mother tongue at educational institutions situated in an English-speaking nation (see, for instance, Caroll & Ryan, 2005). Although issues raised in these publications are no doubt useful and relevant, different considerations may be needed when non-native English speakers teach international students in English in non-English speaking nations. Examples from alternative settings may provide useful insights to providers of rapidly increasing international programmes in non-English speaking nations.

The content of the book represents not only the views and experiences of teaching staff, but also administrative staff facilitating the smooth and effective implementation of the teaching activities. We find the role of administrative staff crucial in creating and enhancing a good learning environment for all types of students, and especially for those enrolled in international, interdisciplinary programmes who often must make extra efforts to adjust to a new learning environment. Uniquely, this book also represents a student as part of the author team, appropriately enough for the chapter on peer writing tutors, featuring students in the role of teachers.

What this book contains

Teaching and administrative staff at Lund University contributes to the main body of this book (Part I-III, Chapters 3 -10). All of the educational programmes discussed in the book are at the MSc level or PhD level. All of the educational programmes are international and interdisciplinary, although their breadth varies both in terms of the nationalities of the students and of the number of disciplines incorporated in a programme. For instance, students enrolled in some programmes are mostly from OECD countries, while other programmes have worldwide coverage. Some programmes cover a wide diversity of subjects from both natural and social sciences, while in others the subjects are more focused (see Appendix I for a brief overview of the educational programme that each chapter covers).

Each chapter highlights specific pedagogical or administrative challenges in relation to the focus of this book, followed by the authors' reflections and analysis of such challenges and how to overcome them. While some chapters address all dimensions of diversity, others focus on one or two specific aspects. Reflections in some chapters are based on the overall experiences from an educational programme, while others are based on a specific element (e.g. course, pedagogical approach) in the programme. Each chapter starts with a short abstract, which provides readers with a snapshot of the chapter.

In Part I (Chapters 3 -5), we provide examples of *concrete pedagogical approaches* tailored for the educational programmes addressed in this book. In Chapter 3, Nicholas, Brady and Rylander share their experiences employing peer-writing tutors in an international, interdisciplinary MSc programme in environmental studies and sustainability science in order to acclimate new students with diverse backgrounds to their new academic environment, and motivated them to improve their writing. The approach indicates positive outcomes both for tutors and tutees in enhancing their writing skills. Chapter 4, by Bergström and Dekker, discusses how the diverse background of students (professional domain, roles, hierarchical positions and nationalities) as a resource, together with peer review as a pedagogical method, can contribute to the development of critical thinking skills amongst students who mainly have operational or managerial backgrounds in their MSc programme in human factors and system safety. Lindhqvist, Richter and Rodhe, in Chapter 5, reflect upon how authentic learning tasks given to international students with diverse backgrounds and experience encourage increased interaction and enrich learning outcomes. They highlight various design and organisational considerations needed in their two MSc programmes in environmental management and policy to make such learning tasks meaningful and successful. The approaches discussed in these chapters correspond very well to some of the most typically reported learning activities used in interdisciplinary education, such as *collaborative learning, project and case studies, experimental learning, inquiry-based learning, team teaching and team learning, and problem solving learning* (Klein, 2006; Newell, 2007; Repko, 2012).

Part II (Chapters 6-8) of the book considers the issues around the creation of a *positive learning environment* for students. Two of the chapters (Chapters 6 and 8) highlight the role of administrative staff in enhancing the learning experiences of students, while Chapter 7 is written from a teacher's perspective. In Chapter 6, Frydenlund shares her experience of supporting international students in understanding the academic setting and cultural norms, thereby helping them to settle in a new learning environment. Reflecting upon her own experience from

working with international students as well as being an international student herself, she provides a variety of practical advice regarding when international students need what types of support. Stafström and Agardh, in Chapter 7, discuss similar challenges facing international students in establishing an equitable learning environment. Using the Master's Programme in Public Health, they analyse equity in four key areas and suggest means to address them from the viewpoint of teachers. Iten and Örnberg, in Chapter 8, use the concept of microculture and reflect upon some practices introduced and maintained by the administrators governing the three interdisciplinary, international master's programmes at the faculty of social science, in order to maintain an enabling learning environment.

The final two chapters in Part III highlight various issues pertaining to running an interdisciplinary, international educational programme from an *overall programme perspective*. Apitzsch, in Chapter 9, reflects upon pedagogical challenges in an international, interdisciplinary MSc programme in sport sciences stemming from cultural differences in areas such as admission requirements, grading systems, teaching in a foreign language, teacher-student relationships, and plagiarism. Finally, Ness and Jerneck, in Chapter 10, share their experience of running an international, interdisciplinary PhD programme in sustainability science, which is a sister programme to the MSc programme in environmental studies and sustainability science (Chapter 3). By reflecting upon the programme's aims and structure, activities and challenges, they argue that it takes an academic village, an extended group of dedicated and reflexive staff at different levels and departments, working together in a variety of cooperative research and education processes to develop and run such a programme. The pedagogic approaches exemplified in the two chapters are also among the most frequently used learning activities used in interdisciplinary education—*inquiry-based learning, internship, team-teaching, collaborative learning, role playing, use of theories and methods from interdisciplinary fields* and the like (Klein, 2006).

In order to streamline the chapters, the descriptions of the content of the respective educational programmes are minimized in the main text. Interested readers can find more about the programmes in the Appendix.

In Chapter 2, we provide readers with brief information on issues that are relevant to many of the chapters, such as some characteristics of higher education in Sweden. Other issues include a short account of internationalisation of Lund University, followed by some of the supporting mechanisms in place to facilitate its international education. In doing so, we also provide a concise description of changes outside of the University that influence internationalisation over time—

such as Sweden joining the European Union, and the development of the Bologna process for the standardization of higher education (Fejes, 2006).

While we seek to maintain coherence throughout the book in terms of what we address, we leave some room for authors' personal choices. Some authors use theories or concepts when explaining or analysing the approaches they describe, while others choose to discuss them as a personal reflection. There are also differences in how authors refer to themselves.

We hope that the different styles, voices and perspectives, as well as the variety of emerging issues covered in the field of international and interdisciplinary education for students with diverse backgrounds, provide the reader with a useful and not least enjoyable reading experience, and gives food for thought on the teaching practice of our colleagues engaged in interdisciplinary, international education in Sweden and around the world.

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Chapter 2

The context of the book: a Swedish perspective

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Internationalisation and the learning environment at Lund University

The educational programmes discussed in this book are a diverse lot. They vary in their subject areas, interdisciplinarity, and the characteristics of their students, among others, yet they still have much in common. Some of these common features stem from the focus of this book: interdisciplinary educational programmes for international students with diverse academic and professional backgrounds. Other features in common are because these programmes are all hosted within Lund University in Sweden. Because some of these features may not be self-evident for readers outside of Sweden, here we provide some background information for the chapters that follow. We start with a short account of the international features of Lund University. We then detail how the top-down internationalisation of Swedish universities and bottom-up internationalisation of Lund University has led to these features. This primarily includes European harmonisation efforts (the Bologna Process), and some of its implications at Lund University plus various decentralised initiatives at the individual, departmental or faculty level. Finally, we touch on current work practices of academic practitioners supporting internationalisation and interdisciplinarity at the University.

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Lund University in a nutshell

Lund University (LU) was established in 1666 by the Treaty of Roskilde (1658), in the town of Lund in Scania, the southern-most region in Sweden (LU, 2016a). The establishment of Lund University amongst others intended to make a point that Scania (along with three other counties) ultimately became a part of Sweden. The initial four faculties – theology, law, medicine and philosophy – grew by the end of the 20th century to eight: engineering, science, law, social sciences, medicine, humanities and theology, economics and management, and fine and performing arts (LU, 2016a). The eight faculties, together with a range of specialized research centres and institutes that have developed over time, represent the current structure of the university.

In the past century, the number of students has grown from 1000 (1900) to 41 000 (2015), out of which 15%, are international. Over the years, the university attracted students from 130 different countries. In terms of its number of students, employees (7 500), free-standing courses (2 046), undergraduate degree programmes (79) and master's degree programmes (223), Lund University is one of the largest universities in the Nordic countries. As of 2016, around 100 Master's degree programmes, five Bachelor's degree programmes and 700 free-standing courses are taught in English. Five of the Master's programmes are joint programmes and started under the framework of the European Union's Erasmus Mundus Programme (see Box 1 about the European Union's Education Programmes). Approximately 20% of all employees (including 40% of researchers and PhD students) are international (LU, 2016b).

Internationalisation of universities in Sweden in a nutshell

As discussed in Chapter 1, there is no commonly accepted definition of internationalisation of universities. However, the various understandings developed over time are well encapsulated by Knight (2004:11), who defines internationalisation of a university as ''the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of postsecondary education''. As such, the process of internationalisation has several dimensions and directions. Here we provide a brief overview of some of the top-down and bottom-up approaches in Sweden and at Lund University.

In Sweden, internationalisation of higher education has been high on the political agenda from the 1970s. The main rationales were cultural, educational and political. Cultural rationales included a growing concern about the developing world, where Sweden has been advocating for active solidarity with non-industrialised countries and cultures. In the political realm, Sweden joined the European Union in the early 1990s which meant joining the EU student exchange programmes (see Box 1), further internationalising Swedish higher education institutions. Economic rationales were limited to the competitiveness of Swedish industry: Swedish companies expanding their activities abroad needed graduates to fill important international positions (Maassen, Nokkala and Uppstrøm, 2004).

Box 1: European Union Education Programmes

The Erasmus Programme (European Community Action Scheme for the Mobility of University Students) was established in 1987. In 1994, together with a number of other programmes, it was incorporated into the Socrates Programmes (I-II), which in 2007 was replaced by the Lifelong Learning Programme. The Erasmus Mundus Programme aimed to enhance quality in higher education through scholarships and academic cooperation between Europe and the rest of the world; it has been done through joint programmes (Master courses and joint doctorates), partnerships and other projects that have been enhancing the attractiveness and visibility of European higher education worldwide (EACEA, 2016).

In 2014, Erasmus+ was introduced to combine all the current schemes for education, training, youth and sport in the EU (EC, 2016b).

In the early 1990s, the centrally-regulated educational system in Sweden was replaced by a more decentralised system under the new Higher Education Act (HEA) and the new Higher Education Ordinance (HEO).[2] According to the Ordinance, new responsibilities were allocated to universities. One of these was that universities, through their activities, should consider and support the understanding of other countries and of international conditions. In the process of decentralisation some national-level agencies, such as the National Agency for Higher Education, the National Admissions Office to Higher Education, the National Board of Student Aid, the Swedish International Development Agency (SIDA), the Swedish Institute (SI), and the Swedish Foundation for International Cooperation in Research and Higher Education (STINT) has also had active roles in the development of the different aspects of the Swedish higher education (see

[2] The Higher Education Act (Högskolelag, SFS 1992:1434) and the Higher Education Ordinance (Högskoleförordning, SFS 1993:100) came into force on 1st July 1993.

Box 2). Universities, however, in general, were believed to be in the best position to make strategic choices, and thus got a lot of freedom in the implementation of internalisation policies (Maassen, Nokkala and Uppstrøm, 2004).

Box 2: Some national agencies important for higher education in Sweden

One of the main actors, the National Agency for Higher Education (Högskoleverket) was established in 1995. It contributed to the implementation of goals and guidelines for higher education and provided the government and parliament with a basis for decision-making. It was also the information office for some EU programmes and was in charge of recognition of international higher education diplomas. It also served as the national information office for NARIC (National Academic Recognition Information Centre) and ENIC (European Network of Information Centres), two networks for international cooperation. In 2012 Högskoleverket was replaced by the Swedish Higher Education Authority (Universitets kansler ämbetet, UKÄ) and the Swedish Council for Higher Education (Universitets- och högskolerådet).

The National Admissions Office to Higher Education (Verket för Högskoleservice) between 1992 and 2012 coordinated the admission of students. From 2013, it was replaced by the Swedish Council for Higher Education.

The National Board of Student Aid (Centrala Studiestödsnämnden, CSN) administers various forms of study support for students in Higher Education.

The Swedish International Development Agency (SIDA) has a long tradition of funding different activities at Swedish universities and colleges as well as supporting the development of higher education institutions in developing countries.

The Swedish Institute (SI) is organised under the Ministry of Foreign affairs and awards a large number of individual scholarships for short- and long-term study visits and participation in educational activities.

The Swedish Foundation for International Cooperation in Research and Higher Education (STINT) plays an important role with respect to the support of teacher exchange (Maassen, Nokkala and Uppstrøm, 2004).

Another important step in the top-down internationalization of Swedish higher education was the implementation of the so-called Bologna Process. The Bologna Process, which began in 1998, is a series of intergovernmental agreements, both within EU and between EU and non-EU countries. The Bologna Process aims to harmonise the architecture of the European Higher Education system by developing a European Higher Education Area. The most important issues covered by the Process are mobility, employability, learning outcome-based

qualification frameworks, life-long learning, quality assurance, joint programmes and an external dimension.[3]

In response to developments at the European level, the Swedish government presented a bill, "New world – new university" (UD, 2004), focusing on Sweden's EU harmonization efforts in education in 2005. Its main goals included making Sweden a leading knowledge nation characterized by high quality education and lifelong learning for growth and equity. In addition, suggestions were made for internationalisation, for example through raising the attractiveness of Swedish higher education, promoting student employability both nationally and internationally, and creating a more internationally comparable educational system. The bill passed on 1st July 2007 and the Higher Education Ordinance (SFS 1993:100) was amended, including changes that have been important both for the Bologna Process (EU harmonisation) and for the internationalisation of Swedish higher education.

According to the Bologna Process, European higher education is divided into three cycles: the first (undergraduate), second (graduate) and third (postgraduate) cycles. In Sweden, the adherence to the Bologna Process required reorganizing most master's degrees shorter than two years into two-year programmes. All degrees required new descriptions and syllabuses. Learning objectives and learning outcomes were to be formulated for courses and programmes in line with so-called 'constructive alignment' (see Box 3), including qualitative measures instead of only quantitative ones. A new system of credits was developed, defining the exact credits for all degrees. Thesis work was determined to be compulsory for all degrees. The new credit system was designed to be compatible with ECTS (European Credit Transfer and Accumulation System). According to ECTS, one ECTS credit point corresponds to 25-30 hours of student working time, and one full-time semester is equivalent to 30 credits. ECTS, in general, supports mobility and internationalisation by ensuring the compatibility and comparability of different national education systems across Europe. Furthermore, through aiding curriculum design and the description and delivery of study programmes, ECTS allows for the transfer of learning experiences between different institutions. These processes have required reflection on the established norms in the Swedish higher education institutions and have triggered fundamental changes at university, faculty, department and individual levels (EU, 2015).

[3] See more details about the Bologna Process and its content on the official homepage of the European Commission on Education and Training (EC, 2016a).

Higher education institutions have gained more independence on strategic issues since 1993, but not in terms of funding. A large proportion (approximately 85%) of the funding for their operations still comes from the government (UKÄ, 2016a). Funding for the first and second cycle courses and programmes is based on the number of full-time students and their annual performance (UKÄ, 2016a). In addition, the available funding varies depending on the disciplinary domain and there is a funding cap.

Box 3: Consistency in the EU study programmes

According to the Bologna Process, higher education institutions have to define the learning and teaching objectives of their study programmes plus how to deliver and assess them. *Consistency* – along with open dialogues, participation, transparency, reliability, flexibility and appropriate assessment of achievement – is listed as one of the main principles for study programme design. The fulfilment of this principle when delivering a study programme requires that *"the academic staff responsible for delivering the programme and its components should ensure consistency between the learning outcomes stated in the programme, the learning and teaching activities and the assessment procedures"* (EU, 2015, page 26).

In fact, the consistency principle of the EU study programmes is based on Biggs' (2003) concept of *constructive alignment,* where learning outcomes are aligned with the learning activities and the assessment. The concept builds on a constructivist theory of learning – knowledge is mainly constructed by the learners themselves. In constructive alignment, the learning outcomes are those that educators intend the students to learn and the students themselves construct meaning from what they do to learn. The educators then align the planned learning activities and the assessment criteria to the constructed learning outcomes. This is a conscious effort that ideally results in clearly specified goals, well designed learning activities and well-designed assessment criteria for feedback.

Learning is a complex phenomenon; it is difficult to define and measure. In constructive alignment, the *SOLO Taxonomy* (Structure of Observed Learning Outcome) is often used to help map the level of understanding in the learning process. It is done by building in a learning activity to the learning outcome, which has to be carried out by the learner in order to best achieve the outcome. This activity is described by active verbs (e.g. apply the theory, explain the concept) and can also construct the basis of the assessment criteria. Learning is then about what the learner does. And the assessment of learning is about the quality of the learner's work (e.g. how well s/he has applied the theory or explained the concept). The learning activity can also be assessed on different levels. More on the SOLO Taxonomy and constructive alignment can be found in Biggs (2003).

Today, in European higher education, constructive alignment, including the SOLO Taxonomy, underpins the requirements for programme specification, syllabus documents including learning outcomes and criterion-based assessment. It is not only used in assessment, but in designing the curriculum of individual courses, for degree programmes, and also at the institutional level for aligning all teaching to graduate attributes.

Until 2011, first and second cycle education was free-of-charge for all the students studying in Sweden. However, in 2011, tuition fee was introduced at Swedish universities for students from outside the European Union (EU), the European Economic Area (EEA) and Switzerland.[4] The tuition fee led to a 79% decrease in free-mover students[5] from 2010 to 2011. It mostly affected students from countries like China, Iran, Pakistan, India and Bangladesh (UKÄ, 2015). This move has thus greatly reduced the geographical and cultural diversity at Swedish higher education institutions. The longer-term impacts of the tuition fee on internationalisation are still to be seen.

Third cycle programmes receive a high proportion of direct government funding, plus external funding increasingly from foundations, local governments, and the private sector. Third cycle studies are free-of-charge in Sweden; doctoral students are generally employed by universities on predefined salaries, and can aim for a licentiate or a PhD degree.[6] There is an increasing share of international students among doctoral students in Sweden; while in 2007 this share was 29%; by 2015 it grew to 38% (Högskoleverket, 2009; UKÄ, 2016b).

Bottom-up and top-down approaches to internationalisation at Lund University

Lund University has strived to be an international university throughout its history. In the area of education, the first two-way student exchange, which is still active, was established in 1966 with the university of California (Renc-Roe & Roxå, 2014). Over the years, other exchange programmes have come into being, such as the engineer student exchange programme initiated by the Faculty of

[4] In addition to free-of-charge first and second cycle education, Swedish students are part of a student finance scheme that intends to cover living expenses and the cost of study materials. The Swedish system of student finance is designed so that higher education is accessible to all regardless of socio-economic background and place of residence in Sweden (UKÄ, 2016a).

[5] Free-mover students are students who organize their studies on their own and not through an exchange program. Exchange students are not affected by the tuition fee. There are also some exceptions among free-movers, who do not have to pay tuition fees, such as those who have a strong connection to Sweden (UKÄ, 2013).

[6] The licentiate degree comprises of two years of full time study corresponding to 120 ECTS credits, out of which the thesis should be at least 60 ECTS credits. The PhD is the highest academic degree in Sweden, and comprises four years of full-time study (240 ECTS credits). The training includes courses and a thesis of at least 120 ECTS credits, which is defended publicly.

Engineering in the 1980s (Renc-Roe & Roxå, 2014). In addition to exchange programmes, international programmes for free-mover students, such as the MSc in International Human Rights, the MSc in Environmental Management and Policy (see Chapter 5) and the International Master's Programme in Environmental Studies and Sustainability Science (see Chapter 3), were initiated in the 1990s (Frydenlund, 2015, personal communication).

Later on, EU programmes provided a good opportunity to intensify these initiatives. An initial trigger that accelerated the internationalisation of educational activities at LU was the EU Erasmus programme, which was introduced in conjunction with Sweden joining the EU in the 1990s. It facilitates the establishment of bilateral exchange between LU and other universities in the EU. This was followed by the Bologna Process – the harmonisation of the education system –, which facilitated the exchange even further. The EU Erasmus Mundus Programme further enhanced the intake of students from countries outside Europe. By 2008, the number of English-speaking MSc programmes at LU exploded, from around 7 to 60. It was around this year that the Bologna Process started to be incorporated in Sweden (Frydenlund, 2015, personal communication; Miolin, 2015, personal communication).

The EU mobility programmes and the Bologna Process drove coordination at the higher level of the university. Among the developments at LU was the appointment of a Bologna Coordinator who facilitated the work in changing the education and degree structure throughout the university based on the Bologna Process in 2007. The coordinator operated in close cooperation with the Pro-Vice Chancellor, who was a strong driving force of the internationalisation of LU. The need for a mobile and competitive labour force in the global competition among universities and the international political economy also pushed coordinated internationalisation efforts at LU [7] (Renc-Roe & Roxå, 2014; LU, 2007; Miolin, 2015, personal communication).

Until the late 2000s, however, measures to integrate international students (e.g. welcome package, housing) were centred towards exchange students, and departments that host full degree international Masters students needed to make special arrangements on their own (Frydenlund, 2015, personal communication; Miolin, 2015, personal communication). The strong individual engagement and

[7] In the 2006 Strategic Plan, a desire "to stand among the very best universities in Europe" is emphasised (Strategic Plan, 2006: 2). One of the goals of the 2007 Internalisation Policy is to graduate students who are "more attractive on an increasingly global labour market with a university education that is distinctly international in profile" (Internationalisation Policy, 2007: 2).

experiences of various local actors at LU, who gradually established relevant institutional agencies, practices and capacities, paved the way for the development of centralised approaches for all international students at LU (Frydenlund, 2015, personal communication; Miolin, 2015, personal communication; Renc-Roe & Roxå, 2014).

Today, internationalisation efforts and approaches are institutionalised in university polices and offices. Recent policies governing internationalisation at LU include the 2008-2011 Internationalisation Policy (LU, 2007), the 2007-2013 Erasmus Policy Statement, the 2012-2016 Strategic Plan (LU, 2012) and the Language Policy (LU, 2014). Internationalisation is one of LU's four supporting pillars, along-side cross-boundary collaboration, quality enhancement and leader, teacher and employee excellence, (Renc-Roe & Roxå, 2014; LU, 2012; Åkesson, 2011).

These policy documents describe what internationalisation means for LU. As stated in the Strategic Plan, internationalisation for LU is partly about being a popular study destination among international students and partly being able to provide LU students and staff with opportunities to spend time abroad (LU, 2012). The fact that Lund University has been seen as an Erasmus 'success story' with its numerous exchange agreements and Erasmus contracts (EC, 2007c) serves as good evidence of its achievement in this regard.[8]

Internationalisation at LU is also about developing relationships with universities in different parts of the world along with joint strategies for education (e.g. joint programmes, joint degrees), research, infrastructure and administration (LU, 2012). The League of European Research Universities (LERU) and Universitas 21 (U21) are two examples of long-term international high-prestige collaborations in which Lund University has been involved.

LU also aspires to create an international learning environment, of which students, teaching staff and researchers from other parts of the world are an important part (LU, 2012). The intention is to integrate international and domestic students in a local learning environment, as well as to develop high-level language skills, especially in English. These processes – also called 'internationalisation at home' – could gradually increase programmes taught in English and help enhance the capacity of teaching and administrative staff to teach

[8] When the EC's 2007 report on Erasmus success stories was written, LU had over 600 exchange agreements with more than 50 countries. More than 400 contracts were made under the Erasmus programme. On average, LU received 1 700 exchange students and sent 1 000 students abroad every year. Over 600 of the outgoing students were part of the Erasmus programme (EC, 2007c).

and provide services in English.[9] The on-going internationalisation at home efforts are not only apparent at LU, but can also be found at other Swedish institutions (Maassen, Nokkala and Uppstrøm, 2004; Nilsson, 2003). Despite these aspirations, internationalization at home has struggled to take off. For instance, English-taught full degree programmes often lack participation of Swedish students and interaction between the Swedish and non-Swedish students is sparse. However, some chapters of this book provide evidence that students and employees being equipped with these qualities are increasingly seen as resources (rather than problems), which can further contribute to LU's diversity.

Among the units at LU that have been instrumental for internationalisation are the Division of External Relations (previously called the Central International Office), the faculty-level international offices and the International Council (previously known as the Internationalisation Policy Group). The Central International Office in the beginning carried out services mainly for exchange students. Today the University's International Desk within the Division of External Relations provides various practical services for international students to adapt to their new environment such as orientation weeks. The Division of External Relations carries many of the responsibilities for institutionalised internationalization, including university-wide collaborating in relevant international networks (e.g. the European University Association, LERU, U21, and the Utrecht Network). All faculties are striving to increase the international mobility of students and staff through collaboration with the External Relations Office or their own international offices. As part of the Bologna process and the U21, LU investigates and anticipates new areas of policy coordination, such as the conceptualization of student-centred education or the introduction of fees for non-EU students (Renc-Roe & Roxå, 2014; Frydenlund, 2015, personal communication; Miolin, 2015, personal communication).

Internationella Rådet, the International Council, was originally convened by the then Pro-Vice Chancellor in the late 2000s as the Internationalisation Policy Group, and is another important structure at LU for its internationalisation. The organisation has monitored the development of and advises the university management on international-, national- and university-level internationalisation matters, and draws up new policies and leads their implementation (Åkesson, 2011). For instance, according to the 2008-2012 Internationalisation Policy, each faculty had to develop its internationalisation strategy followed by an

[9] Today, the university's language policy has three objectives: clarity and parallelism in language use and multilingualism (LU, 2014).

implementation plan (LU, 2007). This not only required university-level long-term strategies, but also required the integration of internationalisation in working practices, plus skills and resources for planning, and re-planning courses and programmes on different levels. Increasing competence in learning, teaching and instruction in English and internet-based education have been very high on LU's internationalisation agenda. It has been facilitated, directly or indirectly, through different courses and platforms for students, teachers and administrative staff.

Internationalisation and interdisciplinarity in work practices

Academic programmes, courses and platforms – besides organisational structures and the various work practices of academic practitioners[10] – are some of the more concrete embodiments of internationalisation at universities.

There are a few courses worth mentioning in relation to facilitating internationalisation through English language use at LU. One is the course *Teaching and Learning through English* (TLTE), which is to provide support for teachers to develop in their teaching roles by reflecting on the pedagogical challenges when teaching and learning takes place in English as a non-native language for learners and teachers. This course is run by the Division for Higher Educational Development in collaboration with the Centre for Languages and Literature.[11]

Another such course is *Learning and Teaching in Higher Education* (LTHE). This course is part of the compulsory ten-week teacher training and is open to all academic levels[12] and all faculties at Lund University. The course is run in English

[10] Read more about how academic practitioners embody and implement internationalisation in their work practices when collaborating to design curricula and programmes across disciplines in Renc-Roe & Roxå (2014).

[11] The Division for Higher Educational Development (previously called the Centre for Educational Development) is responsible for helping the development of education at the undergraduate and graduate level across Lund University. In collaboration with faculties and other educational development units the Division provides courses and other educational support for higher education and conducts research in the field of higher education and teaching development (LU, 2016c).

[12] The first part of the course serves as an introduction to learning and teaching in higher education for teachers on all academic levels – from PhD students to professors – with no formal training in this area, while the second part mainly addresses academic teachers.

and thus provides an opportunity both for Swedish and international staff to meet and exchange experiences, an important factor of internationalisation. Furthermore, *Communication and oral presentations*, *Supervising students' writing* and *Doctoral supervision* are courses providing additional meeting points for academic teachers. Some of these courses are given both in Swedish and English. The latter two courses include the supervisors' roles and responsibilities, student learning and development, rules and regulations, Lund University's policies, equal opportunities in education, and power and ethics related to supervision. By serving as meeting points and tackling issues relevant to international aspects, these courses indirectly promote internationalisation efforts at LU.

Online platforms and courses have been grown enormously since the 1990s, especially for educational activities for students who are physically far from the teaching location. LU started using the *Lund University Virtual Interactive Tool* (LUVIT), an online platform, in 1998. It is a Learning Management System or Virtual Learning Environment, which provides actors engaged in courses, teaching activities and projects with possibilities for communication and interaction. It is equipped with more than 20 different tools for communication and functions for uploading course related materials (e.g. documents, links) and course administration. In 2010, in parallel with LUVIT, an alternative online platform was created on the initiative of the School of Economics and Management at Lund University. In addition to its role as a virtual hub for students and teachers (as LUVIT), it also serves as a link to the university's different data sources.

Internationalisation through English is also supported through the *Academic Writing in English* (AWELU) online platform. It has been developed for all LU staff and students. It is a self-instructive web-based resource covering central issues and the various needs faced by staff and students at LU connected with academic writing in English.

Some of the courses that support internationalisation also contribute to the interdisciplinary aspects of educational activities at LU.

The online course *Open Networked Learning* (ONL) addresses course designers, educational developers, learning technologists and teachers in higher education and focuses on available digital technologies and how they can support course design, collaboration, engagement and learning. This course, together with the above-described courses and platforms, provides opportunities to work together and share experience with colleagues from around the world in an interdisciplinary and cross-cultural context.

Beyond tailor-made courses and platforms, the support of interdisciplinary learning environments at LU can be further detected in the application of different learning strategies and learning structures in undergraduate and graduate courses and programmes. Collaborative learning, problem-based learning and inquiry-based learning are teaching techniques frequently used at Lund University. These learning strategies are often linked to interdisciplinary learning environments, as it is perceived that through an integration of various disciplines and through learning together a more comprehensive perspective can be obtained (Dillenbourg, 1999; Newell, 2007; Savery, 2006). Learning strategies are often paired with different learning structures, such as team-teaching and team-planning, clustered and linked courses, small group discussions, case studies, and project- and field-work (Davis, 1995). These structures also foster community learning in an international learning environment (Levine, 1998).

Student and staff perceptions of the local learning environment are another important descriptor of an interdisciplinary and international learning environment. We provide a taste of the Lund University learning environment in Box 4.

We find that international and interdisciplinary learning environments reconceptualise the roles of teachers and students alike. Teachers, when preparing for classes, often go beyond the subject knowledge and integrate contemporary matters and contemporary pedagogy, including reflective thinking, critical ethics, valuing, and searching for completeness and meaning (Beane, 1997; Beane, 2002). The traditional teaching model of "telling from the stage" is often replaced by guiding, coaching and facilitating. In light of integration, teachers use innovative educational approaches and novel learning environments, promoting dialogues, cooperative learning, collaborative problem-solving and critical thinking; these activities are often designed as group works.

Box 4: How is the local learning environment perceived at Lund University?

International students and staff coming to study or work to Sweden often find the learning environment and teaching style to be different from what they have encountered in other countries. It is difficult and also not the focus of this book to generalise these differences. We would like to, however, based on our own experience and discussions in the subsequent chapters of this book, highlight some of the prevailing perceptions on the Swedish and Lund University learning environment in relation to internationalisation and interdisciplinarity.

Openness and *informality* is often experienced both by students and staff coming to Lund. This is often described by a less hierarchical structure and first-name basis communication between students and teachers.

A lot of *interaction* and continuous *collaboration* are perceived, both between staff and students and among students themselves. This manner of communication is preferred among students; their perception is that it is based on *mutual respect* and their opinions are valued and encouraged. Staff contribution to this through their high-level *availability* is an important factor in the student-centred education LU is striving for.

Both students and staff agree that *critical thinking* is stimulated in many different activities at the University, such as in seminars, workshops, experiments and in various types of individual assignments and group works. Critical thinking in this context means the ability to assess various pieces of information and to form and revise independent and well-informed opinions. Scrutinising and questioning beliefs that are often taken for granted and giving and receiving criticism in a constructive manner are also important aspects of critical thinking. The readiness to engage in discussions with fellow students and to learn from others is also a cornerstone of this concept. In this learning environment, students often have to analyse and present solutions to given problems. Theoretical concepts are tested in practical situations, and practical experiences are employed to develop and enrich theory. A large part of the learning process takes place outside the classroom.

Besides perceptions, it is a fact that *students' rights* have a long tradition in Sweden, of which (mostly the Swedish) students are aware and proud. Today, they are regulated in a number of acts and ordinances, and in university regulations. On the national level, *The Work Environment Act* (SFS 1977:1160), *The Discrimination Act* (SFS (2008:567) and the *Higher Education Ordinance* (SFS 1993:100) are the most relevant documents advocating amongst others for satisfactory working environment and equal rights and opportunities, while at the university level, *The policy and regulations for student influence at Lund University* (reg. No LS 2011/762) regulates the structures for student influence at the University (LU, 2016d). These documents provide both students and staff with the necessary tools to strive for a more equal and transparent learning environment.

Despite the existence of enhanced environments, platforms and courses, there are still various points for improvement of internationalisation and interdisciplinarity at Lund University. Here are some of the missing puzzle pieces we have noticed before and during the process of putting together this book.

- We do not have any pedagogic courses that address specific characteristics of students with various cultural, academic and professional backgrounds. This was one of the starting points of putting together the book. It may be good to consider if there are any specific pedagogical qualifications or other competences educators and instructors of interdisciplinary and/or international programmes should equip themselves with.
- Despite the existing international experience, we have also encountered a lack of resources for language and writing support at Lund University. This issue is pointed out in Chapter 3.
- In spite of the growing number of international programmes, we have encountered a lack of sufficient awareness, capacity and resources on the need to support international students both at the department and programme levels. This issue is brought up in Chapter 4, 6, and 8.
- Despite the aspiration to "internationalisation at home", there have been struggles with this practice on the ground. For instance, the English-taught full degree programmes often lack participation of Swedish students and most of the time there isn't much interaction between the Swedish and non-Swedish students.
- The introduction of tuition fees for all non-European students created a new situation in Sweden. Suddenly Swedish universities became participants in a worldwide competition for international students, where students' motives are different and students' expectations are high. In Sweden, where education was previously free for all, most people engaged in the university education are not used to seeing education as a service for which people pay and expect to receive "value for money". The country is not used to advertise its education in an international market. It is still a challenge to become familiar with, adjust the university strategies for, and prepare teaching and administrative staff to this new competitive arena. The issue is addressed partly in Chapters 6 and 7.

The different chapters of this book show that there have been various efforts made to address the challenges in the development and implementation of interdisciplinary educational programmes for international students with diverse

academic and professional backgrounds. There is still however work to be done in this field and we hope that this thread will be picked up and addressed both at the strategic level and in work practices.

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Part I
Concrete Pedagogical Approaches

Chapter 3

Peer Writing Tutors Help International, Interdisciplinary Students to Stake their Claim

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Writing well is central to academic success, but writing skills are not always taught explicitly. This is especially problematic in international, interdisciplinary programs where such skills help students from diverse backgrounds to develop a shared vocabulary of writing and tools to decode their new academic context.

We tackled this issue by hiring and training peer writing tutors to encourage new students to learn writing skills (motivational scaffolding) and to help them understand how to improve their writing (cognitive scaffolding). Our student learning outcomes focused on making and supporting a main claim properly supported by evidence. We assessed student learning through analysis of their essay text and reflection papers, as well as surveys sent to both students and tutors.

We found that peer writing tutors helped to motivate students to understand why and how to make claims in academic writing. Focusing on citing sources as evidence for claims revealed that nearly a third of the class had not fully understood appropriate citation despite previous training, leading to plagiarism warnings, which required ongoing exercises and discussion to address. Tutors

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benefitted from participating in terms of improving their writing and honing teaching skills.

We conclude that peer tutoring is an effective strategy to help both students and tutors across disciplines, nationalities, and writing experience levels to become better and more reflective writers through reinforced motivation and scaffolded skill-building, and that collaboration across traditional departments and roles in the university linking teaching staff, support staff, and students was an effective and enjoyable way to promote interdisciplinary learning.

Introduction

Writing well is central to academic success in all disciplines. Through academic writing, we measure students' abilities to communicate and think critically about their field and about the world, two transferable skills with wide-reaching, lifelong benefits. Despite the importance of writing, explicitly teaching students to write well is sometimes neglected in higher education. This gap creates frustration for professors, who expect students to already be able to write well and for students, who might have wildly varying experience and education in writing and feel unable to live up to their professors' expectations.

These frustrations are especially evident across interdisciplinary and international higher education programs, where students with diverse cultural and disciplinary backgrounds arrive with writing backgrounds that span the range from confident writers with lots of practice writing in English, to students who have never penned an academic text in any language.

One such program is Lund University International Master's Programme in Environmental Studies and Sustainability Science (LUMES). LUMES was established in 1997 with an interdisciplinary, international approach to global environmental sustainability challenges. Approximately 40 students join the two-year MSc program every year, from a diverse range of backgrounds, both geographically (over the last six years, 90% were international students, often with more than 20 countries represented in each cohort), and in terms of subject training, with academic backgrounds ranging from engineering to anthropology, history to ecology.

Similar to many LU master's programs, LUMES students also represent a variety of writing and English experience and confidence levels. Only about 20% of

students are native English speakers, and though these students presumably have good command of the language, being a native speaker does not guarantee good writing skills. Other students come from academic cultures that do not emphasize writing at all, and thus lack writing practice even in their mother-tongues. Others have written in languages other than English, but have never practiced or received feedback in English.

Higher education in sustainability, like many fields, rarely includes explicit writing instruction, despite the essential contribution of writing skills to learning, and the need for good writing skills in sustainability to reach a broad audience of both scholars and practitioners. In a recent analysis of 27 international sustainability master's programs, while nearly 30% of student course time was spent on research in master's programs, not one program featured a course specifically on writing (O'Byrne et al., 2014).

To help these students become good writers, it is necessary to go beyond simply assigning writing tasks or handing out how-to documents. We must establish a shared context, and start conversations with shared vocabulary to create a space in which students can begin to decode the academic culture and writing expectations of their new environment. In this space, students can reflect on these expectations and relate them to their previous experiences in order to achieve deep learning.

This chapter tells the story of our response to the challenge to create such a space: a successful collaboration between a professor in sustainability science and a writing consultant from Lund University's Academic Support Centre (ASC) to hire, train, and employ peer writing tutors to encourage and give students feedback as they revised their first essay in the program.

The Academic Support Centre (*www.lunduniversity.lu.se/academic-support*) serves all students studying in English at LU in three areas: writing, presenting, and study skills. The writing consultant is currently its sole employee; she meets students individually and in small groups to discuss the writing process and their texts; designs and hosts seminars and workshops on academic culture and study skills, writing, and presenting-related topics; and collaborates with faculty who want to incorporate more writing and study skill support into their courses. This peer writing tutor project was one of the first direct collaborations between the consultant and a professor to co-design and implement a class learning activity as part of an ongoing course.

This collaboration grew to encompass one of the writing tutors as a colleague and co-author, which added invaluable perspective to the writing and analysis process, and produced a unique cooperation between faculty, academic staff, and students.

In this case, the professor provided the experience in designing assignments to achieve intended learning outcomes in a sustainability science context; the writing consultant provided knowledge on the theory and practice of writing, and experience in training and supporting tutors; and the writing tutors contributed to a collaborative learning environment as a bridge between teachers and new students.

We implemented the peer writing tutor project in the foundational natural science course that begins the LUMES program, Earth System Science, which is based around the concept of nine "planetary boundaries" necessary to sustain human well-being (Rockström et al., 2009; Steffen et al., 2015). The tutors introduced a diverse group of new master's students in LUMES to Lund University's writing expectations and provided meaningful, individual feedback to the students at their challenge levels on their first writing assignment: a 1200-word essay examining one of three planetary boundaries (water, biodiversity, or land use change) in a Swedish context. In this way, the assignment helps familiarize students with local examples of one of the core class concepts, giving them common ground for discussion that builds on pre-knowledge.

In previous years, teaching staff—largely professors, but also postdocs and PhD students—ran one 3-hour tutoring session with about 5 students to discuss these assignments, but often gave limited written feedback (often 4-5 sentences) without follow-up. The previous tutoring approach failed to signal the importance of writing in LUMES, did little to improve the students' writing and thinking abilities, and didn't help decode expectations for the new students. To solve this problem, we re-designed the assignment to require multiple drafts, where each iteration received structured response from the peer tutors, who helped to motivate students and provided more substantive and focused feedback than students received in previous years.

The theory of constructive alignment states that all teaching, learning and assessment activities should be driven by achieving a few key intended learning outcomes (Biggs and Tang 2011). The primary intended learning outcome of our peer tutoring project was to increase proficiency in academic writing (one of five intended course learning outcomes for the Earth Systems Science course), demonstrated by proficiency in the assignment task learning outcome of stating and supporting a central claim as concrete evidence of critical thinking.

After claim-making, the secondary learning outcome for this writing assignment was for students to learn and practice correct attribution of sources using APA referencing style in the first course, a result of previous LUMES teaching meetings

that centred around problems late in the program with sloppy or inconsistent citation formatting. A third intended learning outcome was to increase the tutors' writing and teaching skills through collaborative learning.

To determine how well the peer writing tutoring project worked, we assessed student writing directly throughout the revision of their essays and through short student reflection papers completed after the tutoring process. We surveyed the new students, both before and after participating in the tutor training, about their perceptions and knowledge of academic writing (Appendix II-A-1). We use quotations in our discussion from both the surveys and the reflection papers. Tutor learning was assessed through an online survey asking about their experience with the tutoring process and their suggestions for future improvement. In addition, the project leaders hosted an in-person feedback session to discuss the survey results with six of the tutors, who made additional suggestions.

Below we describe concepts that underpin why peer tutoring is an effective way to teach writing, then describe how we designed the writing assignment to benefit from peer tutoring, including recruiting and training the peer tutors, and assessing the impact of peer tutoring on tutors and students. We found that peer tutors were effective in helping students become better writers, and that the peer tutors themselves also benefitted from participating, but that the iterative nature of the assignment illuminated previously unrecognized problems with appropriate source use and potential plagiarism which had to be directly addressed. With this chapter, we hope to contribute to a catalogue of best practice in teaching writing applicable both within and beyond sustainability.

Concepts Supporting Peer Tutoring

The concept of peer writing tutors is, of course, not new. Their use is well-established in institutions around the world, with roots in the US where writing centres staffed by trained peer tutors have long been an element of higher education institutions. In Sweden, although peer review activities are prevalent in many courses, it is not as common to train and hire students to work as peer writing tutors. We designed this peer tutoring project based on two concepts: scaffolding and a focus on higher-order writing concerns.

Scaffolding: Key to Peer Writing Tutoring Success

Recent scholarship on peer tutoring argues that tutoring succeeds because it incorporates scaffolding (see, for example, Cromely and Azevedo, 2005; Mackiewicz & Thompson, 2013; Thompson, 2009), the idea that learning is often best aided through collaborating with someone who has more knowledge about the task at hand and helps divide the task into smaller, more manageable pieces (Graham & Perin, 2007; Wood, Bruner, & Ross, 1976). The collaborator gives the learner feedback to bridge the divide between what he currently knows or can do and the next stage in the process, potentially leading to "development of task competence by the learner at a pace that would far outstrip his unassisted efforts" (Wood, Bruner, & Ross, 1976, p. 90).

The assignment for this peer tutoring project was designed to scaffold the writing process itself, requiring multiple drafts and revisions, and the tutors helped unpack and scaffold two fundamental writing skills important for success throughout the students' academic careers: making supported claims and using sources correctly. Ultimately, teaching such transferable skills is the goal of peer tutoring: not merely to improve a text as an editor would, but to help the tutee become a more confident, skilful writer (North, 1984), eventually without scaffolding to help him along. In this way, tutees learn to take ownership of their writing improvements and texts.

Scaffolding can be divided into types according to its function. Thompson (2009) uses Cromely and Azevedo's (2005) terms "motivational scaffolding" for how peer tutors motivate students to complete the task at hand, and "cognitive scaffolding" to describe how peer tutors scaffold their knowledge of writing and the writing process, helping students "figure out answers for themselves" (Thompson, 2009, p. 423). Motivational scaffolding can include putting the tutee at ease, identifying with the tutee's struggles, giving positive and negative feedback (Thompson, 2009), and explaining the reasoning behind writing guidelines or assignment design. Cognitive scaffolding includes asking leading questions, offering choices to pick from, and asking the tutee to formulate possible next steps. The tutors were trained to employ motivational and cognitive scaffolding to encourage and empathize with the new students, as well as to explain the vocabulary and tools of claim-making.

The tutoring and scaffolding process is fundamentally collaborative, assuming that "the expert tutor and the less expert" tutee work to achieve the tutee's goal, "which becomes shared by both participants" (Thompson, 2009, p. 419). Both the tutor and tutee stand to benefit from the conversation: they learn that "they

know something only when they can explain it in writing to the satisfaction of the community of their knowledgeable peers" (Bruffee 2008, p. 652), mirroring the peer exchange that occurs among peers in academic scholarship. As the tutee learns about writing and is further motivated to improve, the tutor learns and hones writing, reflecting, and teaching skills.

Higher-Order Focus

In order to choose the skill to start with, we look to a hierarchy of concerns in writing, sometimes also divided into "global" and "local" concerns. Higher-order concerns include context, whole-text coherence, argument and analysis, and structure and organization, while lower-order concerns include grammar, sentence structure, word choice, and style (Gillespie and Lerner 2008; Hoel 2001). This delineation of concerns helps the tutors know what aspect of the text to start with in order to more effectively focus on improving the writer and not only the text (Figure 1). Note that in the second level of the triangle, content knowledge and processes refer to the student's strategies for "recalling and transforming content," and discourse knowledge and processes refer to the student's ability to recognize and produce a certain genre or type of writing, "e.g., narrative, descriptive, argument, or 'the paragraph'" (Hillocks 1987). The arrows between the two emphasize their dependence on each other and indicate that when generating text, it's possible to use either content knowledge or discourse knowledge as a starting point. Content knowledge in this case would include a student's understanding of a sustainability issue, and their ability to retrieve that knowledge, while discourse knowledge is their ability to recognize and produce a certain type of text—in this case, a well-substantiated argument. The peer tutoring process emphasized how and why to make a claim, building discourse knowledge and process to supplement the content knowledge from class and independent research.

Focusing on higher-order issues helps writers learn to use more complex writing skills in the hierarchy of writing production, including making global revisions. Cognitive psychologist Kellogg (2008) identifies three stages of writing production: knowledge-telling, knowledge-transforming, and knowledge-crafting. At the knowledge-telling level, the author focuses mostly on his own thoughts, and the text is a direct transcript of his thought process. At the knowledge-transforming level, the author uses his writing to think and rethink, implying "an interaction between the author's representation of ideas" and the text's representation of ideas (p. 6). The third and most expert level, knowledge-crafting, involves considering readers and their potential interpretations of the text

and revising the text accordingly. In experts' writing processes, making revisions on every level of the text with the reader in mind is automatic and routine (Sommers, 1980). Inexperienced university students, by contrast, often perceive a writing assignment as "an exercise in knowledge-telling" (Kellogg, 2008, p.7). When students write about something they know about already, their working memory is more likely to be free to focus on the reader's perspective, but when the topic is new, they must prioritize learning the material (knowledge-telling) and then figure out what they think about that material (knowledge-transforming), often leaving no time for knowledge-crafting (Kellogg, 2008). Providing templates and other structural and visual guides of discourse form helps to relieve some of the cognitive burden of telling, transforming, and crafting new content knowledge, so students can focus on more on figuring out what to say, not how to say it. This method is especially helpful for international students writing in their non-native language.

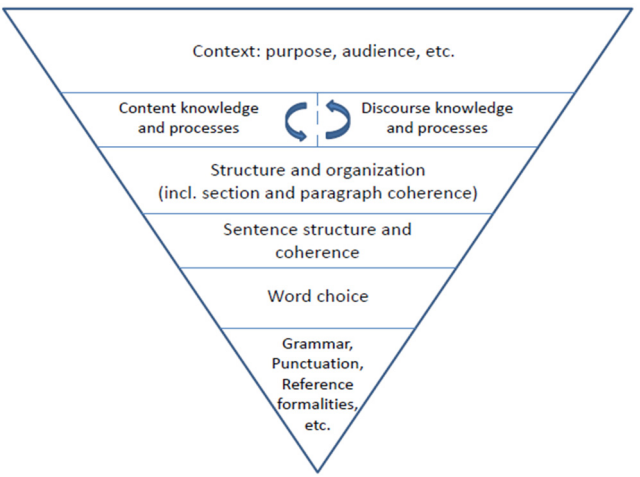

Figure 1. The "Hierarchy of Concerns" showing elements in a written text, ordered from higher-order (top of triangle) to lower-order (bottom of triangle) concerns, with width representing importance. In the tutoring process, students and tutors were encouraged to focus on higher-order concerns, including argument-building and claim-making with their sustainability content knowledge as part of "discourse knowledge." Adapted from Hoel (2001) and Hillocks (1987).

In the essay assignment, we gave students multiple drafts as opportunities to move through these stages and give them space to talk about this process. To help scaffold their progression, we focused on a foundational, higher-order concern: making an argument. In the widely used research and writing handbook *The Craft of Research* (Booth, Colomb, & Williams, 2008), the authors set up

argumentation skills as fundamental to the academic writing and research process. They identify three essential elements of an argument: claim (a falsifiable statement to persuade the reader), reasons (logic connecting evidence and claim), and evidence (data or examples supporting the claim). All research projects, no matter the discipline, have these elements: "at the core of every research project is the answer to your research question, the solution to your problem—your main claim" (Booth et al., 2008, p. 110) (Figure 2).

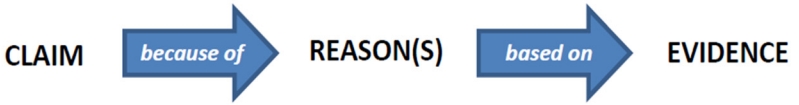

Figure 2. Elements of an argument in academic writing. The peer tutoring process focused on motivating and training students to make original claims, supported by logical reasons and appropriately cited evidence from the literature. Adapted from Booth et al. (2008).

The text's main claim is often developed through the writing process; as we write, we think and rewrite through the process of knowledge transformation. Consequently, many writers state the claim in the conclusion, the place of its chronological development. However, many reader-focused writing handbooks argue that the claim should be moved during the revision process to the beginning of a text in order to give the reader the text's "big picture" as early as possible. Williams (2007) argues that readers are more likely to experience a text as coherent if they find the main claim in the introduction, so our peer tutors were trained to help the new students make this revision in their drafts (achieving the knowledge-crafting stage).

Engaging Students as Peer Writing Tutors

Tutor Recruitment

The peer writing tutors were hired to interact with incoming students over the summer before they arrived in Lund. Nine peer writing tutors were selected from the cohort of students one year above the incoming students, based on their application in response to an open call sent to all students, as well as individual recruitment based on previous class performance and writing. The professor provided tutors with the materials given to the students writing the assignment,

including detailed instructions for the assignment and a form for both tutors and peers to use in giving students feedback at the in-person tutoring session, as well as a rubric for assessing the assignment (Appendix II-A-2). Practical guidelines on expectations and tips for facilitating writing sessions were also included (Appendix II-A-3). Tutors were paid for ten hours of work anticipated for their time in giving feedback to students at 120 SEK/hour (app. 12-13 EUR/hour).

Tutor Training

To prepare for their task, the peer tutors participated in a full-day training session held by the writing consultant, with the major goal to provide shared language with which to talk about writing. The training focused on principles of good writing based on the hierarchy of concerns and giving feedback aimed to improve the writer and not only the text. In line with this aim, tutors were encouraged to respond to texts as readers and not as editors. The training group discussed prioritizing comments on argument and coherence, especially focused on claims, reasons, evidence, connection with sources, and on connection between parts, following the hierarchy of concerns shown in Figure 1.

Training required that the tutors practice giving feedback on two sample essays (real student essays made anonymous) beforehand for the group to discuss on training day. One text was a LUMES student's pre-course assignment from a previous year, and one a seminar essay from another department. The second essay was meant to challenge the tutors and their ability to focus on elements of good writing and formulate poignant feedback without relying on content knowledge or previous experience with the assignment. To help the tutors focus their feedback practice, the writing consultant instructed the tutors to set a timer for 45 minutes per essay and provided specific guidelines for giving constructive feedback, including templates for structuring responses to student writing, and writing guides and resources (Appendix II-A-4). The group discussed effective time management and the importance of focusing and limiting the feedback, and the consultant encouraged the tutors to avoid line-editing, which is both time-consuming and ineffective when the goal is to improve writing skills rather than the text itself (see, for example, Stern & Solomon, 2006 and Zamel, 1985).

For an additional challenge, the sample essays differed substantially in grammatical quality, so the group had to balance grammar and language feedback with higher-order concerns. The consultant emphasized that grammar is not a higher-order concern, but if problems are severe, it is appropriate to address this

issue by identifying 1-3 repeated grammatical errors, modelling potential corrections, sending relevant resources for further practice, and recommending students with especially severe concerns to meet with the writing consultant directly. The consultant also referred the tutors to several writing resources for their own reference or to share when appropriate as part of the feedback, and the tutors were encouraged to contact the consultant for additional resources during the feedback period.

Peer Tutoring Sessions and Feedback

The peer writing tutors project was implemented over the summer before the new students arrived. The professor read each student's first draft and grouped them first by similar topic, and secondly by similar writing level, based on the reasoning that students learn best in groups of similar experience and ability, where they are better able to help each other and identify academic problems in others that they face themselves (Lang, 2008). Peer tutors sent electronic feedback to each student, and the resulting revised draft was discussed in an in-person tutoring session with approximately 5 students. In the in-person sessions, all students read every paper in their group, with one student assigned to take the lead as discussant for each paper, using the rubric and feedback form (Appendix II-A-2) provided to structure their comments. Both the peer tutor and the discussant provided written feedback to each author at the tutoring session. The writing consultant attended one of the tutor-led tutoring sessions as an observer.

For the resulting revised draft, students were paired with a new partner who had not previously read their essay to offer another round of feedback in a one-on-one peer review session. On this basis, students turned in a final fourth draft, which was not graded, but was required to make correct use of APA citation format to pass the class. Peer writing tutors offered final comments on this fourth draft and pointed out any errors in the APA citation format that had to be fixed. Finally, students wrote a 2-page reflection paper on their experience with the peer tutoring and writing process.

Findings

Below, we discuss our main findings from the experience with peer writing tutors, organized into four sections. The first reflects on the diversity of the new student

group and argues that using trained peers who employ motivational and cognitive scaffolding techniques helped to decode academic and writing expectations in LUMES. The second examines how students became familiar with and ultimately succeeded in making claims. The third section reflects on where the secondary learning outcome, to learn correct citation practices using APA referencing style went wrong. We discuss teachers who misunderstood what students need to avoid plagiarism, students who misjudged their own abilities to successfully avoid plagiarism, and why quick-fixes don't solve this issue. The final section briefly reflects on how the peer tutors benefited from this experience.

Motivational and Cognitive Scaffolding

Many students noted that they initially felt "daunted" by the task of completing an essay draft before arriving in Lund, especially those who had been away from studying for some time to pursue other work or family opportunities and were nervous about re-entering an academic environment. In the end, though, students felt the assignment and tutoring experience helped them "make a smoother transition back into an academic mindset". One Brazilian student felt that the experience helped set the tone for what to "expect for the next two years: critical thinking, high level discussions, and construction and joint collaboration between students."

The combination of motivational and cognitive scaffolding in a conversational environment with peers worked to decode the new academic context, helping students navigate differences from their previous experience and differences among each other. Cognitive scaffolding without motivation is not likely to produce the same results. While cognitive scaffolding supports the "what" and "how" questions—What is a claim? How do we formulate one?—motivational scaffolding supports the crucial "why" questions—Why do I need a claim? Why do academics make claims? Why should I care about this? The former helps break writing down into manageable pieces, and the latter helps illuminate the purpose of each piece in relation to the ultimate goal. Discussing how and why together helped to create shared vocabulary about writing (e.g., everyone can talk about a "claim") and a shared purpose in the group.

These shared components are valuable to any course experience but take on particular weight in the multicultural and interdisciplinary context of LUMES. In this case, the students' culturally and discipline-based previous experience with writing contribute to a classroom filled with widely ranging preconceived ideas

about writing, and differing vocabulary with which to talk about those ideas. In a classroom with mostly local students, our knowledge of the local school system provides a general picture of how those students might have learned to write, which means the group has this framework of experience in common. Just as we can't be familiar with all cultural and linguistic backgrounds, we cannot all be familiar with writing preferences in every discipline either. Still, these are essential places to start conversations about writing. Reflecting on the transition from one discipline to another, a Danish student explained, "With a background in philosophy and cultural studies I am used to another way of writing. The sources, evidence and supporting data I have used in the PCA [Pre-Course Assignment] are totally different than the ones I have used in my former studies." She goes on to report that "it has been a challenge" in navigating these differences, but most importantly, she feels motivated to keep working: "...a challenge, which I look forward to work on."

For other students, the challenge was not to adjust discipline-specific writing habits, but in fact to create writing habits from scratch. One Chinese student explained that she had never written a paper before at all: "It's basically my first time academic writing. I have so many problems exposed during this writing process, and thanks to that, I know my weakness and what to improve in the future. It opens a new start for my writing." This lack of writing experience was reflected more broadly in the pre-project survey, where despite stating that they were rather confident in expressing themselves in English (with an average score of 3.7 out of a possible 5), two of the three lowest-rated items were previous practice writing academically in English and in other languages (both 3.4) (Figure 3).

This lack of writing experience was also observed in one of the tutoring sessions, where the tutor used the situation to motivate the group when a new student confessed what she perceived to be personal weakness: insecurity about communicating her thoughts in English, as this assignment was her second time ever to write a paper in English. Instead of emphasizing this weakness as something this particular student should work on, the tutor both empathized and started a discussion. "That's something we all deal with," she said, describing occasions when she gets stuck on certain words, thinking "Is this right and I just don't know because I don't have the language experience?" The tutor went on to address a disciplinary issue: "Is this common knowledge in this discipline that I don't know because I'm new at this?" The tutor's authenticity and the organic way these issues surface in this setting speak to the strength of peer tutoring in creating a supportive, respectful and inclusive space, while at the same time

decoding writing expectations and academic culture at LUMES and more broadly in Lund. In doing so, the tutors and new students create a shared experience of writing.

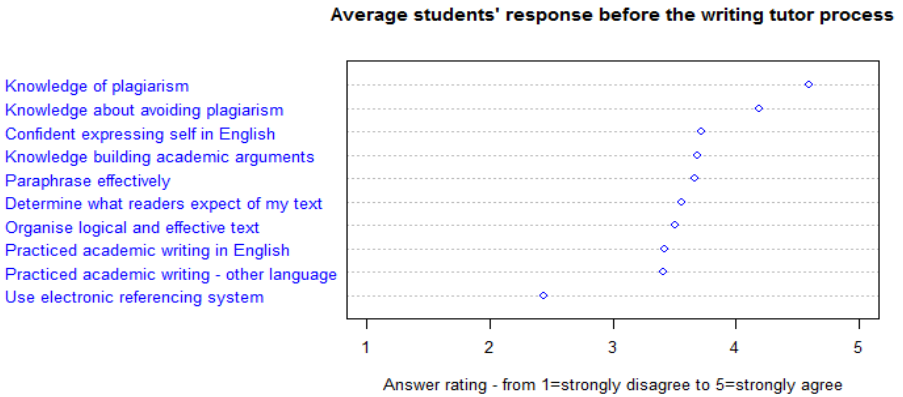

Figure 3. Average responses from 32 students who responded to a survey (Appendix II-A-1) about writing views and experience before participating in the peer tutoring process. Students reported very high levels of motivation to write, as well as strong knowledge of plagiarism, but less knowledge about how to avoid plagiarism through effective paraphrasing or referencing tools. They also lacked experience in academic writing.

Even students who had quite a bit of previous writing experience reported benefits from the iterative writing practice with peer tutors, noting the chance to hone more complex writing skills, such as a Danish student who "discovered that, while I have written academic texts for 5 years, there is still a significant amount of improvements that can be made," especially in "selecting the correct evidence, more thorough analysis and a confident and convincing conclusion".

As this example shows, the diversity of the tutor group played an important role in creating a supportive environment for learning and in maintaining respect for each student's background and experience. Many of them were able to use their own experience as a new international student the year before to meet students where they were in their adjustment to Swedish culture and LUMES culture as well as at their level of writing knowledge. Indeed, the new students rated the tutoring experience highly in the post-survey, reporting that the in-person peer tutoring session was extremely friendly (4.7), an aspect of motivational scaffolding, and very constructive (4.3), suggesting that the cognitive scaffolding succeeded (Figure 4). Students also noted that they learned from reflecting over time on their work and enjoyed giving feedback (3.9) and receiving feedback (4.1) (Figure 4).

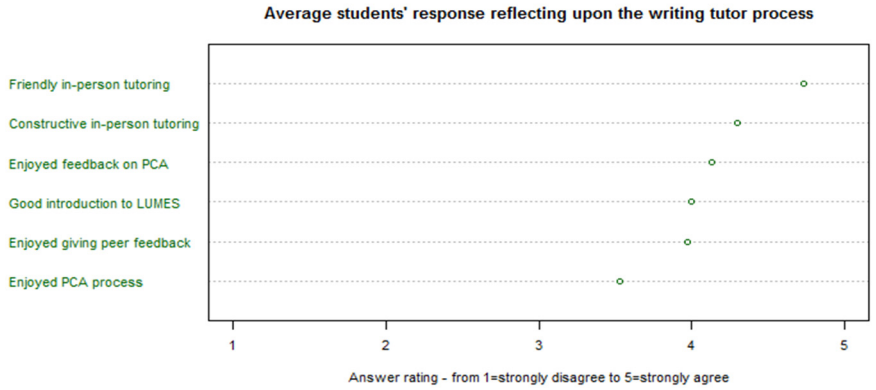

Figure 4. Average responses from 30 students who responded to a survey about the peer tutoring process after participating. Students reported experiencing a very friendly and constructive in-person tutoring session and an overall enjoyment of receiving and giving feedback on the Pre-Course Assignment (PCA). They thought that providing peer writing tutors was a good introduction to LUMES and enjoyed the PCA process as a whole.

Higher-Order Concern: Making a Claim

Many stated that claim-making was entirely new, reflected in one student's desire to work more on making his "own argument and stand up for it, I never learnt that before." This was also reflected in the lower scores from the pre-survey about making an academic argument (3.7), or organizing a logical and effective text (3.5) (Figure 3). In fact, despite the assignment instructions to focus on making a claim, none of the first draft essays succeeded in articulating a clear, strong claim. One British student recognized this tendency to write papers with many facts, but no argument from her bachelor's study, saying she was "prone to include everything I know about the topic, rather than focusing on a particular area or view of a topic". This was a common problem in the first drafts, where students provided evidence related to their topic, but they struggled to justify why this evidence was relevant using logical reasoning, and ultimately failed to articulate the overarching claim or conclusion that this evidence supported.

The revision process helped many students to develop a strong claim, such as this example from the first and fourth draft by a Norwegian student's essay about the economic importance of bees in Sweden, where substantial changes are evident in producing a logical structure and a strong, clear claim, namely that bee pollination

is not very important in Sweden, a provocative stance against the standard assumption in sustainability (Figure 5).

First draft	Fourth draft
"In this essay I will discuss how vulnerable Sweden is to the decline in the number and diversity of wild bumblebees, with also including a comparison with the rest of the EU."	*"This essay intends to argue that bumblebees and their pollination services are not of a great economical importance to Sweden."*

Figure 5. Comparison of first and fourth draft of student writing, showing improvement in clarity and strength of main claim after peer tutoring.

The first draft has a statement of intention, aiming only to "discuss" and "compare," and the essay followed with a number of facts about bees in general (knowledge-telling), based on an untested assumption that bees were critical for Sweden. However, in subsequent drafts and in iterative conversation in person and over email with her writing tutor, she realized that her evidence, in fact, did not support that bee pollination was critical in Sweden (knowledge-transforming), though it was elsewhere in Europe, because of the kinds and distribution of crops presently grown in Sweden. In the fourth draft, the essay argues for a statement, and even though the student uses "intends" in this version, it is much closer to a claim statement than an intention statement.

Coming to state this bold claim was a challenge for the student, who told her tutor in an email exchange: "From my previous studies we were taught not to take a stance, we were only allowed to discuss and analyse, but always being objective. I therefore find it very hard to present a standpoint on a [specific] topic." But her tutor reassured her that this is indeed what is expected, and necessary, to make an academic argument: "Now to make what we are writing significant and so that ultimately we can produce a thesis that contributes to scientific knowledge, rather than summarises it, we have been asked to write with an opinion."

In this way, the peer tutoring process helped students see themselves as contributing to new knowledge, and empowered to make their own claims, working to support them with evidence, concluding as one Canadian student did that "developing as strong and clear an argument as possible ... in the end is the goal when writing a research paper." An Indian student noted that reading others' texts help him be able to improve his own: seeing the "direct and clear claim" in his partner's paper "helped me in stating my claim very directly in the introduction." Because all students found claim-making new, they will need more practice with this concept. When asked what skills students wanted to work on

more (Figure 6) and what tutors perceived as the main writing challenges for students (Figure 7), both reported "claim." The good news is that many students felt motivated and inspired to continue to improve their writing and argument-building, reflecting that writing is "a skill to develop over a lifetime."

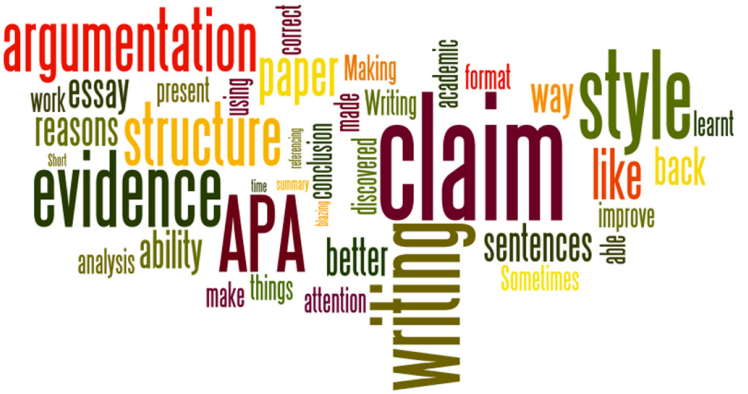

Figure 6. Word cloud of student responses to an open-ended survey question, "Through the peer tutoring process, what writing skills did you discover you want to work on more?" answered by 32 students. The most important answers, shown in larger type, focus on making and supporting an academic argument, particularly a claim, in line with our primary learning outcome for the peer writing tutors project.

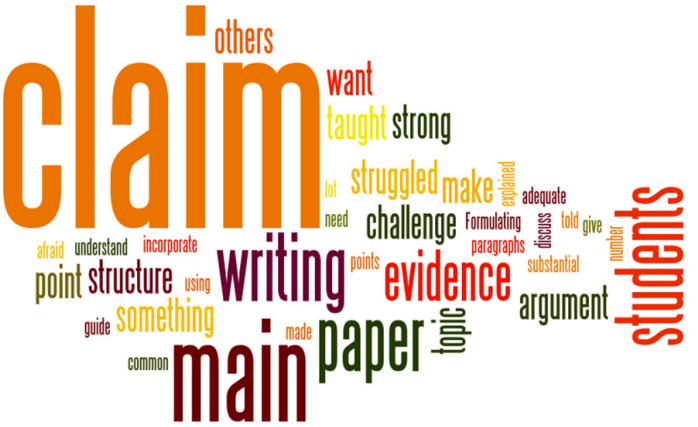

Figure 7. Word cloud of responses from eight peer writing tutors in response to an open-ended survey question, "What do you see as the main writing challenges of the students you tutored?" The tutors overwhelmingly felt that students most needed more practice in making and supporting claims.

Learning to make claims via peer tutoring helped many students realize for the first time that the fundamental goal of academic writing at the graduate level is to say something original. In their reflection papers, some students documented their progression beyond the knowledge-telling level from their bachelor's studies, like the British student above who was previously "prone to include everything I know about a topic." The next level of knowledge-transforming was demonstrated by one Chinese student, who described her new perception that the goal of "academic research is not to organize a paper with known outcome, but is a way to find the outcome," describing thinking- through-writing and revising to make an original contribution.

Some students also progressed to the knowledge-crafting level after participating in peer tutoring. After reporting in the pre-survey that they did not have much experience in knowing what readers expect from their texts (rating of 3.5, Figure 3), many students noted that they were now better able to imagine how a reader might experience their own texts, a sign of increasingly sophisticated writing skill. They credited this improvement to both giving and receiving feedback during the peer review process. For example, a British student reflected that, while she had previously seen metacommentary (signposts and transitions) as the first words on the chopping block with limited space, "I now appreciate the importance of metacommentary as a tool to allow my reader to follow my argument." A Swedish student captured the feeling of writing for a reader extremely well: "During the [revising] process, I was forced to try to look upon my paper with the eyes of an outsider, someone who has not been inside my head, to be able to see what I understand, but what others do not."

Overall, the focus on making a claim and writing multiple drafts helped students prioritize higher levels in the "Hierarchy of Concerns" (Figure 1) as they revised and improved their writing, with many ultimately achieving the knowledge-crafting level of thinking about their reader.

More than Formatting: No Quick-Fix for Avoiding Plagiarism

The learning outcome to properly cite sources using APA referencing style was intended to address the problem that the teaching team had identified with incorrect citation formatting in student texts (for example, citing all sources at the end of a paragraph rather than attributing specific ideas to specific authors, or incorrectly formatting in-text citations according to APA style), which we thought could be addressed through cognitive scaffolding (training proper mechanics, for

example following online tutorials and checklists). However, through the iterative writing and revision process and the careful attention of the peer tutors, we realized that many students did not know why proper citation was ess. ntial (e.g., for intellectual honesty, to distinguish their original claims from those of others and build valid arguments, and to avoid plagiarism problems). Because of this, simply enforcing proper APA style was a quick-fix that failed to consider the motivational scaffolding necessary to address the reason behind proper referencing and the other skills students need to practice in order to use sources appropriately (e.g., reading for the argument, good note-taking in the student's own words, synthesizing information from multiple sources, clearly distinguishing their ideas from others', and paraphrasing).

Our experience highlights a dangerous and pervasive idea held by some teachers that plagiarism issues can be solved with quick-fixes, a tutorial or one-off lecture. Instead, the root of many students' misunderstandings about plagiarism is deep: not *really* understanding why we have to signal every instance of claims taken from other authors nor the appropriate mechanisms to do so. These misunderstandings can be especially difficult to navigate for some international students, who must quickly become familiar with a new academic culture, expectations, and referencing systems and who have a potentially limiting command of English. It seems neither fair nor beneficial to student learning, as Pecorari (2003) observes, to present one lecture followed by threats of punishment to students who need ongoing instruction, practice, and feedback on the skills necessary to use sources appropriately and avoid plagiarizing.

In fact, studies on students' research practices and source use support the need for both motivational and cognitive scaffolding for students to achieve deep, transferable learning on proper source use. With data from the Citation Project, Jamieson and Howard (2013) mapped how a sample of first-year American students at 16 diverse universities incorporated sources to surmise that a majority of them either are not able to or simply do not take the time to "comprehend and make use of complex written text" (p. 127). They also warn that in assignments that focus on argumentation skills, without proper scaffolding and guidance in appropriate source use, students might be especially tempted to "mine" for evidence, scanning sources for a sentence or two to insert into their text as evidence instead of taking the time to fully comprehend each source's text as a whole and constructing a claim and argument that takes this comprehension into account. When teaching students to do this, Purdy (2013) emphasizes that we must lift the threat of punishment because it hasn't proved to be "an effective means to shape student behavior" (p. 135).

Not only did the LUMES teachers initially misjudge what the students needed to avoid plagiarism, many new students also overestimated their skills in this area, as found in the survey. They initially reported extremely strong knowledge of plagiarism (4.6) and very strong knowledge of how to avoid it (4.2), although this seemed to be somewhat at odds with their ability to paraphrase effectively, which was much lower (3.7), and use of electronic referencing tools, which was lower still (2.4) (Figure 3). Class activities and their later reflections revealed that in fact, a majority of students had substantial problems in this area. Specifically, a third of them (15 students) received unacceptably high scores for inappropriate source use when their third draft papers were run through plagiarism checking software. This occurred even after students had received guidance in the form of detailed instructions on how to properly attribute sources using APA style, links to tutorials on proper citation, and a two-hour session from the Director of Studies on academic integrity. This experience highlights the need for motivational and cognitive scaffolding and iterative, hands-on practice to achieve true proficiency in source attribution skills.

In their reflections, students elaborated on several factors that contributed to their potential plagiarism problems, including a lack of previous training in the purpose, importance, and mechanics of proper source attribution, struggles with expressing themselves as clearly in English as the authors they are reading, and problems with patchwriting, or using too much material from original sources. Many students held fundamental misconceptions about what is permitted in academic writing, as shown by this reflection:

> "I made a huge mistake which sounds stupid and naive from the professional aspect, I cited the original words from other people's papers, I thought it's permitted if we write the author in the bracket at the end of the sentence which I wrote like this before but nobody correct me… what I learned most was the whole way of academic writing, how to use your own words to rephrase the original sentence."

To address these widespread misconceptions about source use, after identifying the remaining problems with source attribution in the students' drafts, all students received specific training in defining, recognizing, and avoiding plagiarism during a two-hour class session, using a presentation and activities jointly developed by the professor and the writing consultant (Appendix II-A-5). This session focused on the importance of correct attribution of ideas (both intellectually, and technically in terms of citation format). There were several hands-on exercises to demonstrate how to appropriately summarize or paraphrase (including sentence

structure and word choice to avoid patchwriting), and the need to properly cite every idea at the time it is mentioned (i.e., within or at the conclusion of sentences, rather than only at the beginning or end of paragraphs). Because sloppy note-taking that fails to separate the source's idea from the student's can lead to plagiarism, strategies were presented to take notes in their own words to avoid unintentional source repetition in later texts.

Less-confident English speakers sometimes feel that their language limits their paraphrasing ability, so we found it important to emphasize that it is better to choose the wrong word or have poor grammar than to plagiarize. For example, an Indian student pinpointed the origin of her problems in note-taking and language skills:

> "What I have observed in the whole process of writing is that, when you read so many articles and scholarly papers for the writing assignment, I tend to express my thoughts in the same language and style with a little bit of minor changes in the vocabulary and sentence construction. But, this leads to unintended plagiarism warnings. So in order to avoid plagiarism, I paraphrase the sentence, but the quality of my writing dips drastically and I really have to move away from the original sentence which in my mind was the best way ever that idea/concept/fact could have been conveyed. I would like to work more on this aspect."

Even students who had previous experience and knowledge of plagiarism became more aware of specific source-use skills to improve, like an American student who wants "to ensure I work on citing ideas properly and then clearly delineating in my writing when I am presenting someone else's idea versus when I am presenting my own original thoughts." As evidence that he understands the link between good source use and making a good argument, he goes on to say "that such clear separation will make my papers much more convincing to my audience."

Other students also mentioned source-use skills as something to practice further. A German student noted her goal to "improve the fair, consistent, and correct attribution of ideas from other authors in the text." Another admitted to "still [feeling] very nervous about [what] plagiarism means and - theoretically- how to avoid it. But as an international student I feel still very uncomfortable and think that more help is needed, at least in the first semester." This unease underlines the importance of providing students with many low-stakes opportunities to practice these skills with feedback without the threat of punishment, especially in the beginning of their education.

This peer tutoring experience demonstrated that unsuccessfully avoiding plagiarism is often a result of much more than sloppy formatting; instead, it can be a symptom of a much bigger issue in proper source use, a skill that needs to be explicitly taught, particularly in an international master's program with students from different educational systems and academic cultures all over the world. While peer writing tutoring can play an important part in teaching and reinforcing source use, citation and paraphrasing skills in writing in the individualized context necessary to inspire student motivation and engagement, an ongoing focus on proper source use throughout international programs is essential.

Tutors Benefit from Participating

Our project strongly confirms the idea that one of the greatest benefits of the peer tutoring process is not only that the tutees benefit, but the tutors do, too. Despite the fact that they all agreed that they spent more time than was allocated on the tutoring processes (4.3), they very strongly felt that the time spent was valuable (4.4), both in terms of the in-person tutoring session going well (4.7), as well as benefits they gained for their own writing from the tutoring process (4.6), including being better equipped to identify their own writing strengths and weaknesses (4.4) (Figure 8). Tutors especially noted that they themselves had improved their ability to make an effective claim, mirroring the tutees' experience: "Most of us had previously been taught to write summaries or review papers but never to have an opinion. Regurgitating what is already written is boring.… learning to make a claim has really boosted my writing skills." Further, participating in the training and tutoring process helped tutors to see "progress I seem to have made during the year." One tutor advised future tutors to "Try and see it as improving your own writing by helping others, it makes it much more enjoyable and much less like 'work'."

The tutors also enjoyed the chance to interact with their peers in a teaching capacity. They were effective in this role, providing more substantial, ongoing, and in-depth feedback than faculty usually have time to deliver, and they enjoyed the process of teaching. One tutor reported that leading the group session was "the most interesting and rewarding part of the tutor experience. It was great to see the students' enthusiasm, tact, and effort when commenting on each others' work, and it was gratifying to hear them express appreciation for all of my comments." Another tutor felt so inspired by the experience that "I now even consider that teaching could be a future career path."

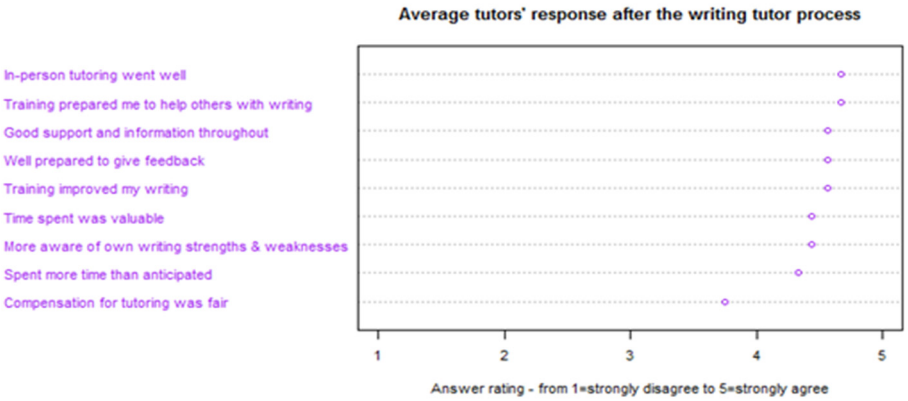

Figure 8. Average responses from all 9 tutors to a survey about the peer tutoring process after participating in the program, showing their high motivation and positive experience with tutoring, with the most room for improvement in compensation.

Lessons Learned: Limitations and Future Improvements

The original goal of our peer writing tutor project was to help interdisciplinary, international students in the LUMES master's program improve their writing through making stronger academic arguments by making and supporting strong claims. We have shown that this succeeded; our students went from not recognizing or making claims to making and supporting increasingly sophisticated claims. Still, we can do better in the future. One improvement will be to more explicitly teach how and, crucially, why to make a claim from the very beginning of the assignment. The "how" (cognitive) can be taught through concrete writing practice throughout the process, making use of templates and exercises from the book *They Say/I Say: The Moves That Matter in Academic Writing* (Graff & Birkenstein, 2010). We have developed materials to articulate why making a claim matters (motivational scaffolding), starting with a short guide to academic writing produced by the writing consultant (Appendix II-A-3) and the writing rubric produced by the professor (Appendix II-A-2).

Still, we have lots of room to better develop and integrate the explicit teaching of academic writing across the two-year program, using lessons learned here in making writing part of course learning outcomes, and in assigning fewer assignments with more time for revision and peer review. In particular, we would like to scaffold the focus on claim development throughout the two-year program,

culminating in strong, original research presented in the master's thesis. LUMES teachers are discussing a writing workshop to better integrate how we teach writing across the program, and teacher training in effective strategies for teaching writing would also help to achieve this.

Similarly, we have learned that interdisciplinary, international students know that plagiarism is bad and should be avoided, but they need a chance to learn why and how to do so through meaningful practice. In the future, rather than focusing on APA citation formatting as an explicit learning outcome, the writing assignment will be designed to focus on appropriate source use as an essential tool for making their own claims--the purpose of writing in the first place. Purdy (2013) affirms that learning how to engage with sources to make new claims is more likely to discourage plagiarism than writing to report the "right answer," which many of our students perceived to be the purpose of academic writing upon arrival to the master's program.

We will address plagiarism and how to avoid it in the future through this claim-making angle in four ways. First, we will incorporate critical reading exercises analysing why and how academic texts use sources, including both professional and student examples. Second, the professor and writing consultant have collaborated to produce lectures and teaching materials to give students practice in concrete skills like paraphrasing to avoid plagiarism (Appendix II-A-5), which will be incorporated throughout the course. Third, while it is important that the professor retain ultimate responsibility for enforcing expectations against plagiarism, tutors can be trained to play an important role in clearly communicating expectations and can lead discussions during tutoring sessions on source-use throughout the writing and claim-making process. They can also refer students to online references like the *Purdue OWL for learning APA style*, and *Grammarly* to check their own texts for plagiarism. The tutor training can also cover the university's plagiarism software system, which many new students asked about. Fourth, students can be enlisted to develop expertise in correct citation practice through using an APA checklist that the professor has developed (Appendix II-A-5) for both their own and their peers' essays. Correct citation formatting will also be assisted by continued training in the use of the referencing software EndNote, which the pre-survey showed was very unfamiliar to students before starting the program (Figure 3).

The basic design of the peer writing tutor project was well-received by both students, who enjoyed the process as a whole and thought it was a good introduction to LUMES (Figure 4), as well as tutors, who reported that they were well-prepared by the writing consultant and supported by the consultant and the

professor (both ratings of 4.6) to help their peers improve their writing (Figure 8). However, there are many possible improvements for the future. First, to help students make better claims, we will provide more resources and training in this area, including annotated versions of excellent papers from this year showing the argument structure to use as a model, as well as more resources on how to participate in the peer review process. Second, to better support tutors, we will further develop the template (Appendix II-A-3) to use when sending the first round of feedback that was friendly in tone and outlined space for summarizing three main higher-order concerns for improvement. (We have decided to eliminate electronic feedback in future peer tutoring, and instead hold two in-person tutoring sessions to maximize the friendly atmosphere and the learning they generate.) At the tutor's request, we can extend this to include developing a suggested script for introducing and running the in-person tutoring session, and suggestions for dealing with common problems, such as students becoming defensive about feedback.

We also need to revisit the compensation model and make sure that tutor time is budgeted to ensure fair compensation for their efforts, as pointed out by the relatively low score (3.8) for tutor perception of compensation fairness (Figure 8). The amount of time allotted for each activity as well as the total will be set before tutor training begins so that tutors are fully informed of the expected time commitment and compensation. Finally, to streamline the process and make the intended learning outcomes clearer to the students, the assignment design will be modified to include explicit areas for focus in each revision, starting with higher-order concerns. We can also provide both students and tutors with more complete instructions and information further ahead of time (difficult this year as materials were being developed in real time), and these documents can also be better integrated with each other to increase consistency and avoid repetition.

Conclusions

Our peer writing tutor project has confirmed that teaching academic writing through writing tutors can help establish a shared context for international students with a variety of disciplinary backgrounds, decoding academic expectations and developing a common language in which to talk about writing. Motivational and cognitive scaffolding—the why and how of a task—explain the mechanisms at work during tutoring that contribute to its success. The tutors

focused on an essential higher-order writing concern, to make and support a main claim, which was new for most of the new students and to some of the tutors before training. With guidance from the writing consultant and reassurance from the writing tutors, the students began to make their own claims, which improved throughout the essay revisions. The secondary learning outcome to learn APA format morphed into a much broader outcome to use sources appropriately. Initially, plagiarism was thought of as a problem with sloppy referencing, but we realized that students actually did not really understand why academics cite other sources, and most students had not been taught how to avoid plagiarism, neither at Lund nor in their previous education. This project started to address the root cause of plagiarism, with positive results, but the techniques taught during this time need to be continued for the students to become confident in source use.

In addition to the benefits to the tutees, the tutors also benefitted greatly from the project through increasing their knowledge of academic writing, self-awareness of the writing process, and gaining teaching skills. Even though the project only lasted for a short time, our evidence suggests that there is both a need and a desire for peer writing tutors in international, interdisciplinary graduate programs. They are an effective and worthwhile method to raise both students' and tutors' academic writing proficiency. When the tutor group is as diverse as the new student group, they are especially valuable in empathizing with the new students' experience, having been in a similar position a short time ago. Because they are trained, they are able to use this empathy to motivate and then to help break down the task at hand.

Our experience with this project confirms our assumption that although many instructors under-prioritize teaching writing and space for meaningful feedback, writing and the writing process unquestionably need to be taught. This became especially clear in most response papers and anonymous surveys, where many students reported little previous experience with academic writing in general, and more specifically with claim-making and, as illuminated through the writing process, avoiding plagiarism. Even the students who had some previous experience and practice with academic writing reported insecurity in making claims and needed to learn this and other aspects of academic writing. The fact that both experienced and less experienced students felt they benefited as part of this process, not least in gaining awareness about how they can continue to hone their writing skills, shows that we succeeded in designing a project and training tutors to meet the incoming students at their individual challenge level, an essential element of scaffolding and learning. Ideally, in order to build on the academic writing skills gained as part of this first course in LUMES, explicit focus on these

skills would continue to be scaffolded throughout the two-year master's program, building on the results of this introduction to academic writing through peer tutoring to develop an expanded peer tutoring program integrated with courses throughout the master's program.

Ultimately, teaching course content simultaneously with transferable skills makes learning more meaningful, facilitating and inspiring the students to think deeply about the course material. This critical thinking and learning process was made transparent during the tutoring sessions, in the students' draft development, and in their reflection papers. In this way, the students took responsibility for their own learning and helped promote their peers' learning in the community environment that peer tutoring created. The success of this tutoring project highlights the value of collaboration among faculty, academic support staff, and students in reaching across discipline, nationality, and (in the faculty-staff case) job boundaries to tap resources and ideas that we don't have alone.

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Chapter 4

Harnessing student diversity: The case of the Lund University MSc Programme in Human Factors and System Safety

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Our experiences of having worked with diverse students in the Lund University Master's Programme in Human Factors and System Safety is that diversity is not necessarily a challenge to manage, as much as a resource to harness. The programme engages students from different high-risk domains (diverse experiences), having various functions within their domains (diverse roles and hierarchical positions), working in different countries (diverse nationalities) and ages. In this chapter, we discuss how student diversity as a resource, together with peer review as a pedagogical method, can contribute to the development of critical thinking skills amongst students who mainly have operational or managerial backgrounds. We have worked with peer review in an open environment in which students, together with faculty mentors, share experiences and critically review arguments rather than particular standpoints. The chapter reflects upon our experiences with potential and the challenges related to teaching diverse students, as well as the students' reactions to the teaching methods used. We conclude by arguing that harnessing student diversity not only facilitates the learning of the students, it also stimulates the learning of the faculty mentors involved in the programme.

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Introduction

In this chapter, we discuss how one of the main aims of higher education, teaching critical thinking, can be achieved by harnessing student diversity. With harnessing student diversity, we mean to see this diversity as a resource in achieving our pedagogical aims. Using the case of the Lund University Master's Programme in Human Factors and System Safety, we will discuss the challenges, but mainly the potential of engaging diverse students and faculty mentors in an open peer review environment, in which the arguments are more important than the standpoints argued for.

The Master's Programme in Human Factors and System Safety was established at Lund University in 2006.[3] The programme is unique in that it is the only MSc programme at Lund University that is run as commissioned education for safety-critical industries. This means that the students are generally highly experienced in their fields (e.g. airline pilots, anaesthesiologists, master mariners, safety managers in mining, oil and gas, air traffic controllers, accident investigators), but not necessarily experienced or trained as academics or researchers. They represent several different high-risk domains and come from various OECD countries over many continents (Scandinavia, Canada, USA, Australia, Europe). The programme not only offers a platform for students to connect their working practices to a body of scientific literature, but also one for critical thinking and learning from each other's experiences. The programme is designed to be followed part-time, while still working, mainly through distance learning. During the first of the two years, the students are required to participate in three mandatory 'learning laboratories'; one-week campus sessions which establish a sense of community and introduce the different courses of the programme. Table 1 offers an overview of the programme and its courses.

The course syllabus has been developed from the perspective of constructive alignment (Biggs & Tang, 2007). Constructive alignment is a form of outcome-based learning in which the teaching/learning activities are systematically aligned with the assessment procedure as well as the desired learning outcomes (ibid, p. 54-55). While this model serves as a good reminder of structure for the teacher developing the course syllabus, one additional aspect also needs to be emphasised:

[3] The programme was mainly developed and run by Professor Sidney Dekker (the second author of this chapter), and since January 2012, the programme director is Johan Bergström (first author of this chapter).

a model of the students. Below we will give some examples of important aspects of the constructive alignment of the programme, specifically focusing on student diversity.

Table 1. Courses included in the MSc Programme in Human Factors and System Safety.

MSc Human Factors & System Safety				
Year one			**Year two**	
FLMU01: The New View of Human Factors and System Safety (10 ECTS)	FLMU02: The Sociology of Safety and Accidents (10 ECTS)	FLMU03: Accountability and Learning from Failure (10 ECTS)	FLMU04: Forensic Safety Investigation and System Change (15 ECTS)	FLMU05/06: MSc Thesis or project report (15 ECTS)

It is typical in higher education (at least in Sweden) to take in students in their early twenties without much previous experience of working in a domain of their field of study. This programme is different. We have found that it is quite difficult to meaningfully discuss the deep ethical, political, economic, psychological and social aspects of safety with young students who have never seen an organisation from the inside; who are not familiar with the many messy details of unwritten rules, with work not as imagined, but as practically done on a daily basis. So, the students in our programme are typically in the middle of their careers, working in safety-critical environments. They take the course in order to gain deeper understanding of how to make progress in their safety management strategies. In order to constructively align the teaching aims, activities, and assessment, the model has been complemented with the possibilities and challenges associated with the kind of students enrolled in the programme.

The students who apply for the MSc programme in Human Factors and System Safety are typically highly motivated. With the programme being run as commissioned education, with no possibility for the students to cover their own tuition, they have typically spent a long time convincing their employer how the company would benefit from covering their tuition for two years. Furthermore, we accept only a limited number of students—typically 15—making it possible for us as faculty representatives and mentors to get to know them well.

Student diversity offers the greatest benefit, and at the same time is our greatest challenge in building the programme curriculum. The diversity means that the students will be of different ages (currently from 25 to 60 years old); from different parts of the world; having different kinds of constraints (available time, travel, etc.) from their normal job; entering the programme with vastly different

background knowledge of their field; and with different work-life experiences to relate their studies to. The varying background knowledge that students have of the various application fields, of course, creates some challenges for the level of teaching. But it is also a great starting point for peer learning. That our students live in different parts of the world is a great challenge for establishing possibilities for real-time interaction. At the same time, it is also a great advantage for learning about the diversity of safety-practices internationally. Despite the general experience level of our students, some, of course, have less work-life experience or relevant roles in their organisations than others. Such students, however, might have more recent academic training. This contrasts with others who have a full working life of experience, but no academic training. This is also a challenge to us when introducing academic conduct, how to read, and constructing academic arguments, but can again form a great basis for peer interaction and mutual learning. A typical challenge with diversity of student nationality is language. We do consider ourselves lucky, having few students who struggle with English in a way that challenges our ability to read and give feedback to the written assignments. Even though we do not require the students to take a formal English test before starting, we stress the importance of good writing skills in English before the students apply. We find that most students, even those who are not native English speakers, have English as an important language in their day-to-day working environments.

The structure of this chapter will basically follow the constructive alignment of the programme. After first outlining important extracts from the degree objective, we will introduce the pedagogical methods used in order to harness the student diversity described above. In our descriptions of the pedagogical methods used to address the degree objectives, as well as of our experiences of the possibilities and challenges related to student diversity, we will begin by describing how the programme is mainly made up of open essay questions designed to trigger critical thinking by formulating arguments. We will further describe how faculty provided mentors to continuously coach the students in order to improve their skills in formulating critical arguments. Our main point however will be how to involve the students, and to harness their diversity, in the teaching processes of their peers using an open peer review environment. In this chapter, we make use of students' accounts (from course evaluations, the final part of the constructive alignment-model) in order to highlight how they respond to the teaching methods used and reflect on their learning process. We will also discuss the challenges that we face in our efforts to engage the students in interactive learning. Prior to summarising our conclusions, we will also introduce how we see a cross-

fertilisation of teaching and research through the collaborative environment established in the programme.

Extracts from the degree objectives

There is a particular emphasis on ethical aspects and consideration in the degree objectives of the programme. This programme was institutionalised based on the premise that critical thinking is a highly necessary, and often lacking, skill of human factors and safety practitioners in today's high-risk fields (Dekker, 2001; 2014; Dekker, Nyce, van Winsen & Henriqson, 2010). From the degree objectives, connected to *Ethics and Making Judgements,* examples include that after course completion the student shall be able to:

- Avoid judgmental language and jumping to conclusions in understanding past actions.
- Show a deep appreciation of the social context—and the skills and vocabulary necessary to navigate it—in which organisational learning from failure takes place.
- See both the social and scientific possibilities of, and limits to, making progress on safety, in particular, safety-critical domains, given their opportunities and constraints.
- Be scientifically sensitive to the limitations of each model or explanation offered, and that the applicability of models can only be gauged if their limits are known.

Apart from the emphasis on critical thinking, the degree objectives stress the ability to communicate and argue for a particular standpoint. Selected from the list of objectives related to student *skills and abilities,* the students, after course completion, shall:

- Have developed their ability to work both independently and in interdisciplinary teams, particularly when it comes to constructive dialogue with different stakeholders about safety problems, and offer well-argued written opinions about diagnosis or proposed change.

From this objective, two aspects need to be stressed: (1) that the students should learn from each other's disciplines, and (2) practice the ability to construct arguments for their standpoints; critical arguments regarding the current safety

practices of their domains, communicated to people who might not work in the same domain.

There are also knowledge-transfer aspects of the degree objectives for this programme, and domain-specific knowledge is an important aspect of the development of critical thinking (Stanton, Wong, Gore, Sevdalis, & Strub, 2011), but there is a clear emphasis on the more ethical and judgmental aspects of higher education. As written above, this has to do with our perceived need for questioning not only the current safety practices in high-risk domains, but also the scientific body of knowledge informing such practices (Dekker 2001, 2003, 2009, 2010, 2014; Dekker, Bergström, Amer-Wåhlin, & Cilliers, 2013; Dekker, et al., 2010). This is a heritage that we take seriously and that, as we will show below, the students seem to appreciate.

Critical thinking as the main academic skill

> I do not believe anything anymore because I question everything. (Answer to the question "Has the course developed your critical and analytical skills?" course FLMU02, 2013)

High-risk industries increasingly focus on achieving safety by means of bureaucratic accountability through compliance-based approaches. With slogans such as 'safety first', and appeals to employees' 'hearts and minds' being completely non-problematic, there is an increased need for critical reflections to not hesitate in taking ethical concerns into consideration. An emphasis on critical thinking as the main skill is often new to our students, and is being used to safely discuss—in non-problematising terms—while ignoring any epistemological or ontological assumptions inherent in the language used.

Our framework for designing the curriculum assignments, as well as for assessing the students' ability to reflect critically, is the Structure of the Observed Learning Outcome (SOLO) taxonomy (Biggs & Tang, 2007). The taxonomy was developed in order to design and assess the complexity and quality of the students' learning outcome. Table 2 introduces the four levels of observed learning outcomes according to the SOLO taxonomy.

Table 2. The four levels of the SOLO taxonomy (as formulated by Biggs & Tang, 2007).

Academic level	**Verbs describing the level**
Extended abstract	Theorise, hypothesise, generalise, reflect, generate, create, compose, invent, originate, prove from first principles, make an original case, solve from first principles
Relational	Apply, integrate, analyse, explain, predict, conclude, review, argue, transfer, make a plan, characterise, compare, contrast, differentiate, organise, debate, make a case, construct, review and rewrite, examine, translate, paraphrase, solve a problem
Multistructural	Classify, describe, list, report, discuss, illustrate, select, narrate, compute, sequence, outline, separate
Unistructural	Memorise, identify, recognise, count, define, draw, find, label, match, name, quote, recall, recite, order, tell, write, imitate

Asking the students to critically reflect on current safety practices, and connecting literature to experience in order to provide their own argument, is not only a much-needed critical perspective to the field of safety practice, it also reflects the *relational* level in the SOLO taxonomy of academic quality. To us, it is important that academic teaching at an advanced level should be aligned in order for the students to develop, and show, their capability to formulate arguments of relational quality. Aiming even higher, the *extended abstract* level is our aim with all of our MSc thesis projects in which these students, in particular, have the possibility to act as insider ethnographers critically reflecting and theorising upon practices their organisations take as natural parts of their operating systems:

> All colleagues in my profession consider themselves as safety experts, however, they are not. That counts also for me, although in the meantime I've gained a little more background information. Having this knowledge, changed my idea of safety. It made me absolutely more critical. (Answer to the question "Has the course developed your critical and analytical skills?", course FLMU01, 2014)

> I actually started to think 'what's going on' when it comes to my own industry... (Answer to question "Has the course developed your critical and analytical skills?", course FLMU01, 2014)

In practice, the critical skills of our students are taught through having them formulate arguments; arguments that typically need to be connected to the literature in order to be assessed and judged as persuasive. A typical example would be the following assignment: the students are asked to answer, in 1000 words, the following question: "What would make the culture of your organisation 'just'?".

The question needs to be based on a critical reflection on their own organisational practices, an understanding of the writings on the notion of "just culture" (and the main conflicts within the field), and a clear connection between the two. Different students will, based on their domain experiences, organisational roles, and expertise, interpret the question differently, and they will come to different conclusions regarding what would make their organisations just. Together they form a broad, diverse and complex picture of the notion of a just organisation.

The first year mandatory courses are also designed in order to challenge the students to get higher and higher in the SOLO taxonomy as the year progresses. While the first courses (FLMU01-02) indeed focus on applying theory and constructing arguments based on the theory, it is in the third course (FLMU03) that the ethical implications of current practices in the safety field get most explicitly considered in the course material:

> I both liked and hated that the subject material was much tougher than the other courses (at least for me). Liked it because it made me stretch, hated it because it made me stretch. (Answer to the question "What did you like with this course", course FLMU03, 2013)

Assessing assignments, in which the main pedagogical emphasis is on critical reflections and convincing arguments, poses certain demands on the way in which we assess the students. Asking the students to argue for a standpoint, without emphasising which standpoint to argue for (which is done from the very first assignment of the first year), essentially means that there are no right or wrong answers or standpoints. This also makes sense given the diversity of the students. Different students will interpret the questions differently, and answer them according to their diverse interpretations. In the *Mentor Guidelines* (further outlined below) the main philosophy is formulated as follows:

> There are no right or wrong answers to the questions given in the course assignments. The students should be given feedback related to how they structure their argument, how they connect their argument to the literature, and how they are able to encourage dialogue and reflections amongst those reading their analyses. (Mentor feedback guidelines, p. 2)

The role of the mentor becomes one of a coach; determined to help the student to come up with an even more convincing argument in the next assignment.

Teaching as coaching

In this programme, there is a constant interaction between students and between students and faculty mentors. In order to stimulate the development of critical thinking, the role of the mentor is one of a coach. The coach is not supposed to teach the student what methods to use, what standpoint to take, or which strategies are right or wrong, but rather to facilitate the development of the student's own ability to reflect and argue for his or her standpoint. We see this as vital at any advanced level teaching and something that is appreciated by the students:

> The mentor feedback has been well considered, well structured and appropriately critical. While I came to this course because of its unique structure and the focus on critical thinking, the mentor feedback and engagement has been the most valuable aspect of the program. (Answer to the question "Have the mentor(s) given you relevant feedback?", course FLMU03, 2012).

In the MSc programme in Human Factors and System Safety, we use an online Learning Management System for distance-based teaching. The students submit written reflections (typically 1000-2000 words) every second week. During the week following submission, they receive feedback from at least two students and one LU-provided mentor. They are also required to write critical peer reviews for at least two fellow students. The submissions of assignments and reviews all take place in a forum structure to encourage dialogue and follow-up questions to be asked, answered, and elaborated upon.

The mentors are recruited from the university staff, but also from previous students of the programme. Last year, it became evident that the teaching philosophy emphasised here needed to be formalised and communicated to the mentor group. The feedback principles in Box 1 are taken from the document entitled *Mentor Feedback Guidelines*.

The last couple of bullet points in this list also make it clear that the role of the programme director is to coach and support the mentors by sometimes reviewing their suggested feedback (which are indeed also analyses), and advise them on how to develop their argument prior to posting it as feedback to the student.

Box 1: Feedback Principles

The following mentor feedback writing principles are extracted from the more elaborate text in the programme's *Mentor Feedback Guidelines*:

- There are no right or wrong answers.
- The role of the mentor is to coach the student, not to judge them as right or wrong.
- The feedback should encourage critical reasoning, creative thought, and further readings of the literature.
- Feedback is a proactive measure; it is intended to give the student the possibility to improve the analytical skills needed for future assignments, and ultimately for the thesis.
- The feedback should encourage dialogue.
- The mentors should, in general, not use less than 500 words in their feedback.
- No reference is ruled out independently of how the reference is used in the analysis. The use of the reference is as important as the reference itself.
- The feedback should help the student to develop understanding and use of the APA citation format when writing.
- The mentor role is different from the role of course manager. The course manager officially assigns credit points to the students upon finishing their courses. It is also the course manager alone who can make the call to fail an individual assignment.
- The course manager is also the coach of the mentors and will give the mentors feedback on their feedback to students.
- Mentors will always turn to the course manager when, or if, they suspect that the student have failed an assignment.
- Mentors follow the same deadline for publishing feedback as the students do. If unable to publish specific feedback before the deadline, the student and course manager need to be advised

Facilitating interactive learning among students

> Possibly one of the greatest strengths of this course is the diversity of disciplines and experience base that necessarily translates into valuable alternate perspectives. (Answer to the question "How did the different experiences of the students affect your learning process?", course FLMU01, 2014)

The fact that we work with students who (1) are highly experienced, (2) represent different domains, (3) work in different roles (from sharp-end practitioners to

blunt-end managers), together with our pedagogical aim to develop their critical thinking skills, makes peer review an excellent teaching method to make the students learn from each others' experience, at the same time as they critically analyse the texts of their peers. While the benefits of using peer review as a teaching method has been well discussed by the academic literature focusing on higher education (Mulder, Pearce & Baik, 2014; Thomas, Chie, Abraham, Jalarajan & Beh, 2014; van den Berg, Admiraal & Pilot, 2006), there are few studies focusing on peer review as a way to harness student diversity. Our students emphasise how the diversity of the group is a crucial part of their interactive learning:

> Having such a diverse class is integral. Don't ever stray from that! (Answer to the question "How did the different experiences of the students affect your learning process?", course FLMU01, 2013)

> Again: this diversity should be considered mandatory in future classes, not optional. (Answer to the question "How did the different experiences of the students affect your learning process?", course FLMU03, 2013)

With the students responding so well to the potential of learning from each others' diverse experiences, peer review—naturally engaging the students in each others' work—should be a suitable way to continuously harness this diversity. Reviewing several different kinds of case-studies related to peer review and assessment, Topping (1998) finds that students may even respond better to peer review than to teacher assessment. Pre-requisites for this activity to be meaningful include ensuring a discussion climate in which critical arguments are encouraged and appreciated. In order to ensure a well-functioning peer review environment, in which student diversity can be harnessed by having the students critically reflect on each others work (based on their own experience, expertise and understanding of the literature), we deliberately create a social environment on campus. The programme starts with a mandatory one-week learning laboratory, in which we make sure that we not only have days characterised by discussions and group assignments, but that we also have dinner tables booked during the evenings. Once a well-functioning social environment is established, the students typically give us the feedback that the peer reviews are valuable parts of their learning experience:

> Very much so! Some of my peers really kept me motivated with good questions and supportive comments! (Answer to the question "Was the peer feedback valuable for your learning experience?", course FLMU01, 2014)

> Interesting to see that what goes on in my own mind, is not always self-explaining. This is where I learned most, even if I did not expect this to be such an important part of the program. Mentor and peer feedback really are a nice way of achieving this. (Answer to the question "Has the course helped you develop skills in building a good argument?", course FLMU01, 2014)

Writing critical reflections is hard, and we have several classroom sessions during the first mandatory learning laboratory dedicated to examples of constructively critical, extensive, and analytical peer reviews; discussions of the structure of peer review; and the difference between critique and criticism. The students also get to read examples of extensive and analytical reviews. Not only is the process of writing and receiving peer reviews an important part of the learning experience (because it is a way to critique the argument made), it is also a way to continuously harness the diversity of the student group. Indeed, we encourage the students to use their previous experiences not only in writing their assignments, but also their peer reviews. And typically, the students acknowledge this as a positive aspect of their learning processes:

> Good to learn how aspects of the course apply to other areas. If you cannot quite relate a topic to your own area, often the experience of others allows you to "get it" and see how a concept works. (Answer to the question "How did the different experiences of the students affect your learning process?", course FLMU03, 2012)

Having the assignments and feedback published in an open forum allows for all students and mentors to read all of the published assignments and feedback reviews. When publishing an assignment, a student creates a new forum thread, and all the feedback reviews are then posted as answers—further contributing to the thread. Often we find follow-up questions written from the student posting the original assignment to his or her feedback authors. We also find that students tend to read, and appreciate, the feedback of their fellow students:

> I actually often find assignments and feedback on others assignments as useful as feedback on mine. (Answer to the question "Was the peer feedback valuable for your learning experience?", course FLMU01, 2014)

The diversity of the students and mentors also brings a diversity of review-writing styles. Mulder, Pearce and Balk (2014) recently concluded that students are reassured of the quality of higher education when, together with peer feedback (the fellow who is in the same boat), also receive feedback from a university mentor (the coach who might have been in the same boat). We appreciate that the peer feedback typically focuses on differences in ways to interpret the questions and domain experience of the issues being addressed in the questions, while the mentor feedback is more targeted to a review of the text as an academic argument. Our students also appreciate the combination of the two:

> Difference between mentor and peer feedback is a real added value. (Answer to the question "Was the peer feedback valuable for your learning experience?", course FLMU01, 2014)

In our experience (and as supported by Lundstrom and Baker, 2009), writing a peer review is often as analytically challenging as writing up the original assignment. This is also confirmed by our students, sometimes even complaining that it is too much of a challenge, not allowing them to focus enough on their own work:

> Whilst there is the occasional gem of knowledge that comes through the online peer to peer feedback, I am not convinced that it is worth the effort and I feel I could make better use of my time reading or preparing my own work. Maybe I am just from a different generation as I find most blogs and the like quite tedious and ineffectual, while many of my younger colleagues live for online communications. I personally prefer personal contact wherever possible. (Answer to the question "Was formulating feedback to your peers valuable for your learning experience?", course FLMU03, 2012).

Since we find the peer review such an important part of the pedagogy applied in this programme we take accounts such as the one above seriously, and try to address them in several ways. First and foremost, we stress to the mentors their crucial roles as role models for the students. If the students receive high-quality feedback, they should also be more likely to get inspired and produce high-quality feedback. We also note, and appreciate, that the students' feedback writing skills improve dramatically over the first year of study. During a recent learning laboratory, the students stressed that they could benefit from fewer—but more comprehensive—assignments with longer deadlines, allowing them to dedicate more time between assignments to work on peer review, read the assignments and feedback of other students, and on preparing for the upcoming assignment. As

this chapter is going to press, we are running a course that has incorporated these suggestions from the students. The quote above also requests a feedback exchange by personal contact, rather than in an online forum environment. We include the possibility to do so (and then write a short summary of the discussion) as the students move on to their second year, in which they focus on thesis writing.

One teaching activity that we would like to develop further is real-time online interactive sessions using software like Google Hangout or Adobe Connect. It is a challenge to make this work in a meaningful way, given that the students are located in different time zones all over the world. Nonetheless, reflecting on past and future assignments, each other's writings and experiences, and interacting directly with peers and mentors, are all activities that could take place in such an online environment. We have made some attempts to use Adobe Connect and Google Hangouts during the last two years, but need to make this a more intuitive and natural part of the future teaching activities. Here we really struggle with the student diversity:

> Not enough of them. And because we are such a diverse group regarding time zones, participation is a bit prohibitive for those at the edges, though probably just as tricky for those in Europe where they are in the middle of the working day. (Answer to the question "Were the online seminars valuable for your learning experience?", course FLMU03, 2012)

Teaching through research and research through teaching

A final point that we would like to make in this reflection is one that we think could be considered to a much greater extent in general: the cross-fertilisation of teaching and research through MSc thesis work. With the aim already in the beginning of any MSc thesis project to make the results publishable in peer-reviewed literature, the relationship between supervisor and student also becomes one of collaborators; one from which they can both benefit. Advanced education is intended to give the student the competence needed to proceed with a career in academia; the thesis work is the final test of this ability. Furthermore, we believe that the quality of the theses produced in our programme would increase, in general, if the supervisors also benefit from the collaboration with their students.

We have been fortunate enough to see several cases of our students successfully publishing their thesis work in peer reviewed journals (Bakx & Nyce, 2012; Hill, 2010; Larsson, Dekker & Tingvall, 2010; Mikkers, Henriqson & Dekker, 2013;

Raymer & Bergström, 2013; Raymer, Bergström, & Nyce, 2012). In one of the cases (Raymer et al., 2012), and were even nominated to the 2012 Editor's Shortlist for Best Publication in the journal *Ergonomics* (a high-profile journal in the field). Also, several of our students have also pursued further studies:

> There may be something supernatural about this course because now I want to do a PhD. (Answer to one of the course evaluation questions "How do you feel about your upcoming studies in this programme?", course FLMU03, 2013)

The idea to publish thesis results may make some of the employers uneasy—who, after all, pay for their employee/student to be in the programme. This is because of the inevitable clash between companies wanting to protect their safety data from outside probing; being concerned about proprietary information on the one hand; and the democratic principles of academic freedom and universal availability, and sharing of scientific knowledge on the other. We have always been able to solve such conflicts of interest on a case-by-case basis for individual students, even though our position has remained unwavering and strong; knowledge produced as part of research at a public university like Lund, should be available to other researchers and interested parties in an unencumbered fashion. Typical concessions to employers' concerns can be made in the form of anonymising the data source or inserting different kinds of acknowledgments and qualifications that allay their concerns and liabilities. Although, at the end of the day, we are convinced that publishing thesis results is a benefit to all parties. The pursuit of a publication, after all, (1) increases the academic quality of the work, (2) increases the visibility and shareability of the research, (3) increases the supervisor's engagement in the project, (4) gives the student early experience of academic work, and (5) supports the student as well as supervisor with important academic qualifications.

Concluding remarks

In this chapter, we have discussed how student diversity (professional experience, geographical location, and age) can contribute to pedagogical aims of higher education; especially the development of critical thinking skills. We have described how we work with peer-review in an open forum environment, where we emphasise critical thinking and that there are no right or wrong answers.

We have often said that in this programme, we don't necessarily teach our students to *know*. We teach them to *think*. This is more of a pedagogical and ethical commitment than a pure empirical fact, of course, because naturally we teach our students to know. The reading list for the programme alone is huge, and there is much that we *want* them to know, or even *need* them to know in order to have critical and meaningful discussions and reflections on their own organisations and practice. If you want your students to think critically, after all, they need to have something to think critically *about*. But ultimately, the knowledge base on safety in complex organisations will forever remain unfinished, instable, and incomplete. We all keep learning. This means that teaching students to think critically, to ask questions (and how to ask questions that help generate meaningful reflection and discussion) is a skill we have learned to value much higher than them simply *knowing* stuff. Harnessing student diversity in the way that we have been able to do in the MSc programme discussed here has created one huge additional benefit: it has also turned mentors into students. The wealth of experience and insight brought into the classroom—virtual or physical—by the students who typically enrol in this programme, is such that all encounters between student and mentor create learning opportunities for both.

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Chapter 5

Global learning in local contexts: designing, maintaining, and learning from authentic tasks

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Authentic learning tasks are based on real-life problems or projects that require skills needed in real professions and workplaces. These tasks lend themselves to groups of students with diverse backgrounds and experience and encourage increased interaction, not only between students, but also between students and the local environment. Designing meaningful tasks is not a straight-forward process, and experience highlights that there are many design and organisational aspects needed to make them successful, both for the students and the external partners involved. We describe and reflect on the benefits and challenges of authentic tasks, particularly those involving external partners, in two international and interdisciplinary master's level programmes. Reflection and feedback have led to refinement of these tasks, and increased benefits in terms of deeper learning and mutual benefits for students and clients, but there are also persisting challenges when dealing with real-life contexts, diverse groups of students, and external partners.

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Introduction

Authentic learning tasks are based on problems or projects that are interdisciplinary, complex, and meaningful. They accommodate collaboration and require intense effort, but allow students flexibility in their approach and level of difficulty (Duffy & Jonassen, 1992). As such, they require skills needed in real professions and workplaces. Therefore, these tasks lend themselves to groups of students with diverse backgrounds and experience. They allow for increased interaction, not only between students, but also between students and the local environment. Problem-based learning situated in real-life contexts has also been argued to be more challenging and motivating for students. Such tasks are said to promote development of deeper knowledge that is better retained and more transferable to real future practice (Herrington, Reeves, & Oliver, 2014; Norman & Schmidt, 1992).

However, designing these tasks in a meaningful way is not a straight-forward process, making experience important in examining trade-offs between the challenges and benefits of integrating authentic learning tasks into the curriculum (Herrington et al., 2014; Norman & Schmidt, 2000). This chapter will summarise and discuss some of the experience gained at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University when developing courses and course components with authentic learning tasks for international students from a range of academic disciplines with diverse professional experiences. We consider examples from two different master's programmes at the IIIEE – MSc Programme in Environmental Management and Policy (EMP Programme) and Erasmus Mundus awarded MSc Programme in Environmental Science, Policy and Management (MESPOM Programme)—both with an academic focus on environmental policy and management.[2] The programmes are designed with input from multiple disciplines (e.g. economics, law, engineering, and natural science; with the majority of students having an academic background in one of these areas). Thus, part of the challenge and appeal for designing authentic learning tasks is allowing students to learn from a multidisciplinary perspective that is provided not only by the topic, but also by peer-to-peer interaction.

Another aspect of both master's programmes is the diverse multiculturalism represented by the students. A typical cohort of 20-30 students is made up of

[2] More about the master's programmes at the IIIEE is described in Appendix I of this book.

only a small number (typically less than five) of Swedish students, and each programme has around 15 nationalities represented. The students in the programmes are also somewhat older than typical master's students in Sweden, with an average age of 27-28 years when entering the programmes. This means that many of the students bring with them several years of work experience, enhancing the opportunities for peer learning. It also means that these students recognise the value of experience in real-life contexts.

The international students in our master's programmes clearly have high expectations for learning from the experience of working with environmental and sustainability issues in Sweden, with many citing this as their main reason for studying in the programme. Study visits and interacting with various stakeholders are therefore especially appreciated by these students, who also generally do not have personal experience with Swedish society, or the Swedish context in terms of academic topics. Since its inception, the IIIEE has promoted a practical approach to both research and learning, with emphasis on being situated closely and relevantly to real practice. Therefore, tasks situated and connected to local contexts and real life experience were integrated into the master's programmes from the beginning. However, designing and implementing authentic learning tasks involve several important challenges, such as aligning the tasks with the learning objectives of the courses and ensuring that all students are active and benefit from the exercises. These tasks can also involve substantial organisational efforts and risk adding pressure to the course budgets. Finally, there is a challenge in securing the participation of the organisations to host the study visits and interact with the students in more elaborated exercises. The latter challenge has grown with the increased interest in visiting the leading companies and facilities, as well as the desire to collaborate with those companies and organisations in various research projects. This ultimately requires that mutual benefits are identified and the tasks are also developed to give valuable input to such external "clients".

This chapter first describes key authentic learning tasks used in our master's programmes. We subsequently examine how they have been designed to cater to students with diverse cultural and disciplinary backgrounds, and bring forward practical components and considerations made during the design of the courses and tasks. Authentic learning tasks involving external partners also require maintenance and development of mutual benefits. How this is done is described and reflected upon. Lastly, we reflect on the continual development in bringing authenticity and the local context into the curriculum, and how this continues to develop through feedback from students about their learning, continued learning,

and capacity building of staff involved. We also reflect on the learning from this experience, the continuing challenges, and the value of these tasks from the teaching staff's perspective.

Authentic learning tasks with master's students with diverse backgrounds

Higher education recognises different levels of cognition and learning amongst students. The aim to develop deeper knowledge and more complex thinking is promoted and supported by a constructivist approach to developing a learning system (Biggs & Tang, 2011). Meyers & Nulty (2009) argue that achieving this requires developing courses with innovative teaching materials and learning tasks that:

1. are authentic, real-world and relevant;
2. are constructive, sequential and interlinked;
3. require students to use and engage with progressively higher order cognitive processes;
4. are all aligned with each other and the desired learning outcomes; and
5. provide challenge, interest and motivation to learn. (p. 567)

A growing number of teachers at universities are experimenting with more "authentic" teaching and learning environments in the past decades. This is driven not only by constructivist pedagogical approaches, but by recognition of the needs of a dynamic workforce (Herrington & Herrington, 2006). In stemming from a constructivist approach, such tasks are focused on meaning derived from student activity; i.e., student-centric rather than teacher-centric learning (Biggs, 1996; Tynjälä, 1999). A constructivist approach is often focused on a problem, case, or project (Reigeluth, 2013).

Authentic learning tasks are key components of IIIEE's two MSc programmes. In line with the motivations described by the literature, authentic learning tasks in the programmes create dynamic learning environments for interdisciplinary and international cohorts of students. In general, there are three types of authentic learning tasks that are used consistently in each programme. These are described below:

Classroom-based cases and simulations

Cases and simulations present a real-life problem or situation that has been encountered (and stylised for the learning at hand) in which students can apply the knowledge they have learnt prior in the classroom. Cases and simulations stimulate peer learning, synthesis of knowledge, and creative application of this knowledge to new contexts (Theodosiou, Rennard, & Amir-Aslani, 2012). The educational setting for these tasks in the IIIEE programme is typically the classroom. The programmes include cases (for example business cases from real experiences) presented by the teacher, who then assumes a more supervisory role as the whole class or small groups work with the case. The cases can be carefully chosen to align with other learning materials and the course objectives. Simulations, like cases, involve a task indicative of a real-world problem or situation. These are also presented by the teacher, but tend to have more open-ended responses than cases. These may also involve interaction with other programmes and student groups within the university.

Field visits

Field visits have long been established as part of many educational programmes. Field visits can be especially relevant in education for sustainability, where the site visited is used to gain understanding of sustainability challenges. In the field, students can explore and engage in the true complexity of sustainability issues (Alvarez & Rogers, 2006). Within the IIIEE programmes, most field visits take place within the industry-related course components of our master's programmes, and typically involve visits to industries where processes and concepts already learnt in the classroom are taking place. Field visits also entail students sharing or working with the industry hosts to enable learning beyond the traditional teacher-student paradigm. Mintz & Tal (2013) argue that field visits support learning objectives better when they are not isolated as learning activities, but integrated with other prior and follow-up learning activities, making the link to course objectives more explicit. Further integration into the overall curriculum has also been part of the evolution of field visits within the master's programmes at the IIIEE.

Projects and cases with real partners

Projects with real partners are an example of problem- or project-based learning with an inquiry approach. While the initial set-up can be designed by the teacher, the activity itself is ideally initiated and driven by the students working in teams. These tasks have similarities with the cases and simulations described earlier, except that the cases, problems, or projects are not designed by the teacher, but come from real problems and projects within companies, municipalities or other actors. Such tasks often take a long time (Frank, Lavy, & Elata, 2003; Helle, Tynjälä, & Olkinuora, 2006). In addition to time, real partner projects present students and teachers with a number of challenges, but also with important learning opportunities and the most authentic contexts because they are real problems with real partners who are "clients", and the students are working in authentic consultant roles. The students work in teams with these actors on the problem, and the outcome of the project is a deliverable of use to the clients in addressing their real-life problem. Thus, the learning is always inquiry-based, highly interactive, and complex. It is also situational, with most of the work taking place outside of the classroom and in the field. The real-life experience itself is the focus of the learning rather than objective knowledge, which will vary from group to group depending on the problem presented.

In the next section, we describe the design of these tasks within the master's programmes in more detail. While the different types of tasks described above are all part of the programme curriculum at the IIIEE, we focus on cases and field visits only in the description and their role in scaffolding students towards the more complex tasks with real partners or as part of reflection on authentic learning tasks in general. In our experience, we have found projects with real partners are less common in other programme curricula as well as academic literature dealing with authentic tasks; therefore, particular focus is given to the experience gained with these tasks.

Designing authentic learning tasks

The problem-based approach underpinning the authentic learning tasks described has worked well with the multidisciplinary background of the master's students, and has helped address the fact that they are not all coming to the programmes with the same level of knowledge. In order to prepare students for the more

challenging projects with real partners—set in later semesters of the 2 year programmes—the timing of the real partner projects intentionally ensures that the students have had experience both working in groups on common cases, as well as in the field with companies during field visits in prior semester coursework, thus scaffolding them in building the skills and knowledge required to carry out more independent projects with clients. An example of this is demonstrated by the sequence of tasks outlined in the EMP programme in Figure 1.

We have found a real issue in a multidisciplinary educational setting is when students tend to have their own versions of key concepts and objectives, making effective communication and learning more challenging. Common cases are a necessity to bring different perspectives together for collaborative and constructive learning. In early stages of our programmes, we run a so-called "product chain exercise" where students explore a life cycle of a selected product (for example, cheese— from cows to consumption), both from an environmental/resource perspective and from an actor/stakeholder perspective. This three-day exercise intends to give a holistic, life cycle-based case illustrating the broad range of issues involved in understanding and assessing a system surrounding the product before going into more details of different aspects in later courses. An important outcome from this exercise is that it provides our multidisciplinary group of students and teachers with a common point of reference on which to base discussions and individual learning.

EMP authentic tasks	**SEMESTER 1**	**SEMESTER 2**	**SEMESTER 3**	**SEMESTER 4**
	6 credit online Technology course with individual and group case study assignments and (optional) field visits in home country	11 credit Industry course with field visits, product chain exercise, and business cases, followed by 5 credit Reference Company course	9 credit Client - Consultant course	Thesis

Figure 1. Outline of authentic tasks in the EMP curriculum. Note that we refer to the *Reference Company* and *Client-Consultant* tasks collectively as "projects with real partners," or "real partner projects" throughout this chapter.

Like cases, field visits also provide common examples that students from varying backgrounds and cultures can use to compare and evaluate. It is also key for international students to gain insight into local perspectives, which are different from their own experience. As the majority of students in the master's programmes are not Swedish, each visit constitutes a learning experience about Sweden as an overall case study. Over time, we have increased the integration of

study visits into the overall curriculum. We have been addressing this with different strategies. Master's students who are online the first semester are asked to complete a series of tasks exploring and reporting on aspects of different systems within their own local context; for example, the energy system, the waste water system, and the solid waste system. On-site field visits the following year are designed for students to explore these systems within a local Swedish context, with visits to energy plants, wastewater treatment facilities, and solid waste management facilities.

Students prepare for these visits by first reflecting on prior learning in their local contexts and preparing questions to compare the Swedish examples to their local context. By using previous learning in the programme as a basis for the visits and later using the visits as examples to illustrate phenomena discussed in other courses, we are trying to make connections more explicit for holistic and deeper understanding of the complex topics. We also seek to increase learning during a particular field visit by ensuring that the students learn basic terminology and core technical processes beforehand in class or through individual preparation at home. We have found that this brings a richer interaction between the host companies and the international students, and Swedish companies are often remarking on the level of questions and discussion raised by the international group, in contrast to the more homogenous groups of local students. Lastly, after the visit we try to run a debriefing in class in which students and the teacher discuss key issues observed and the broader context to the visit.

As mentioned, the IIIEE master's programmes cater to mature students with work experience. To enhance the learning of these students and build upon their existing experience, the IIIEE decided with its first master's programme—the EMP Programme—to create courses based on authentic projects with various external clients. These projects give students real experience in a consulting-client arrangement. Such projects tend to need more time and effort from the students, and as such, they comprise courses over two months. Unlike cases or field visits, most of the time student teams are interacting independently with the companies and other local actors. Direct supervision is minimal beyond progress checks, and again, this aspect elevates the authenticity of the task and the local learning potential.

Initially, there was one course that contained two components. The first component involved close cooperation with a Swedish company focused on improving the environmental performance of their production, management and design. The second involved cooperation with a company or municipality for a comprehensive sustainability-oriented review and identification of improvement

options. With time, the course became two different courses, with different learning objectives for the courses, allowing a greater focus on each of the tasks. This also added flexibility, with the two parts now being offered in different semesters of the programme (see Figure 1). The first course—referred to as the *Reference Company* exercise—is offered as a 5 credit course in the second semester of the programme. The second course, here referred to as *Client-Consultant* projects, is offered as a 9 credit course in the third semester and as the last course before thesis work.[3]

Designing projects with real partners

The *Reference Company* course, in which the first real partner project takes place, is preceded by more regular classroom-based activities where various approaches to environmental management in organisations are taught. For the course, we need 5-10 companies each year who are willing to share their time and information on how they operate. A key factor here is the dedication and good network that our course has developed over time, coupled with the overall positive reputation of our organisation as a partner in this respect.

The first *Client-Consultant* course was originally organised as an exercise for the full group of 25-30 students and supported by a group of teacher-supervisors. Until 2002, all the teachers and students went to the same destination.[4] The students were typically divided into groups of four students who focused on various aspects of the client organisation, such as energy use, water management, waste management, management systems, legal aspects, transport, etc. From 2003, the course was changed, and groups of typically four students with one supervisor were sent to various clients, representing enterprises, municipalities and regional or national authorities. The move from a large exercise to several smaller ones addressed a range of issues. Firstly, the challenge of finding a site that can accommodate the full group both logistics-wise and with meaningful content had been a limiting factor. Secondly, the new organisation allowed for coverage of more topics, and more clients could be part of the exercise. Thirdly, we could, in some cases, expand the geographical area covered by using specific travel funds.

[3] Due to time constraints, as the students spend shorter time at IIIEE, the first project course is not a part of the MESPOM Programme's curriculum.

[4] In the period 1996-2002 the exercises were conducted with clients in Sweden (a major ski resort, 1996), Poland (a hospital complex, 1997), Bulgaria (a major tourist resort, 1998), Czech Republic (a municipality, 1999), Russian Federation (a municipality, 2000), Lithuania (a municipality, 2001) and Greece (a island municipality, 2002).

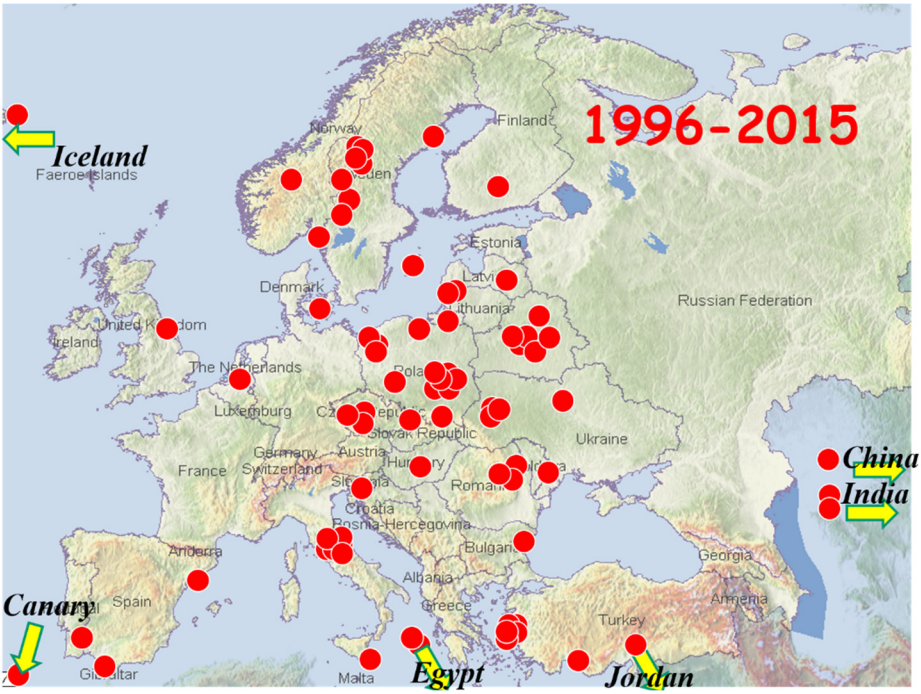

Figure 2. Locations of *Client-Consultant* project

A large number of clients from many countries have hosted groups since the start of the first course, see Figure 2. Most of the projects have taken place in Europe (26 different countries), but a few also outside of Europe (China, India, Egypt and Jordan). The *Client-Consultant* projects within the MESPOM Master's programme are, in contrast, very much concentrated to the region close to the IIIEE in Lund, and have gradually come to be more integrated with the IIIEE's participation in various research projects—in particular, EU inter-regional projects.[5] The *Client-Consultant* courses generally start with preparations on campus in Lund during a period of roughly a month (in parallel to other courses). The EMP programme is designed with a one-week stay with the client, and

[5] We have also been expanding the *Client-Consultant* projects with new groups of students by hosting an undergraduate study abroad programme from a U.S. university. The short course was similar to the other master's programme tasks with small groups working on *Client-Consultant* projects running over three weeks. The project involved substantial interaction with local Swedish clients and the outcomes were presentations and written client reports. The course was well appreciated by both clients and students and is planned to continue. Key success factor in this case were good client projects and a visiting student group with both capable students and an experienced supervisor.

finalised by work on reporting in Lund, while the MESPOM programme uses the IIIEE as the permanent base and interacts with clients through shorter visits by the client in Lund or at the clients' offices.

A key difference between the real partner projects, and the more structured cases and field visit tasks described earlier, is that real partner projects will involve much more initiative from the student in planning and carrying out the task, and teachers take a more distanced supervisory role. With the emphasis on students working independently, group selection becomes a factor when considering multidisciplinary backgrounds in order to ensure that the groups have the capacity and dynamics to fulfil the tasks. In the case of our *Reference Company* projects, students in some years were allowed to self-select their groups, while in other years teachers formed the groups. The latter has been a way to make sure that students get the experience of working with different peers—not only their closer friends—and this has now become the normal procedure. The staff forming of groups is also supported by student feedback after the course, as well as of student opinion before the course starts. Students work in groups of three and are randomly assigned a company, unless there is a language requirement (i.e. ability to speak Swedish), in which case a group with a Swedish speaking student will be assigned the particular company. *Reference Company* tasks involve checks with the group by teachers to address arising issues. However, these mainly pertain to quality control of the written report presented to the company. Otherwise, the initiative and tasks is almost entirely driven by the student group.

With more ambitious *Client-Consultant* projects it has also become important to balance groups in such a way that they will be able to work together for high-quality output. These groups are made through a mix of self-selection and teacher assignment. The different projects are presented in a classroom session, and subsequently students give points for their preferences to work on the projects. These preferences are considered when assembling the teams to work on the various projects, but we also consider the specific needs of the individual project, and skills of the individual students, to address those needs well. Again, observing students working with cases, on field visits and on prior *Reference Company* projects, gives teaching staff insight into the skills of the individual students in order to make informed group selection.

The assignments in the real partner projects have always been graded in order to incentivise student effort. The grades are individualised to the extent possible using the information gathered on how group members have contributed but the

overall level of grading is based on the quality of the group output.[6] There has been student interest in making the exercises pass/fail but we have still not found sufficient evidence to abandon the differentiated grading model. The challenge remains to develop a more robust model for acquiring a systematic basis for individualising a part of the grade.

Maintaining authentic tasks

In general, among the various authentic learning tasks, cases or simulations based in the classroom require less time for planning and organising (for example, there is no transportation or coordination with outside actors to consider). The level of authenticity and relevance to learning objectives relies on teacher competence in choosing an appropriate case and setting up the structure of the case, be it as presentations, a debate, etc. Field visits require contacts, time and flexibility. Often, once contacts are made, it is easier to arrange subsequent field visits. The timing of the visits must align well with the classroom based learning in order to enhance the synergy between the two. Tying field visits to prior learning in the student's local context is an aspect that has been developed further in recent years.

Real partner projects take the most time and resources to plan and develop, but they also offer the most authentic learning experiences. A central first task is to identify, inform, persuade, agree and communicate with potential clients. In the case of authentic tasks with real partners, the time needed to get, and keep, companies involved is not insignificant. The companies need individual attention in all phases of the projects, and it is hard to bundle them to reduce transaction costs. To regularly manage engaging companies, we have found a need to have both an individual teacher responsible for a given task—i.e. someone who ensures that contacts are made in time and follows up with them—but also a team who supports this teacher with additional ideas and input. Running exercises with companies on a continuous basis becomes a tough burden to cope with over time and sharing this burden is very helpful. In the long term, it is imperative to have colleagues to discuss the multitude of challenges and opportunities involved. In the short term, administrative support is very helpful.

When tasks involve real partners, there is also a need for flexibility. There is a need to have class schedules that provide task planners with sufficient time to respond

[6] We implemented student peer grading for the first time in the spring course 2015, as suggested by student evaluations, but there is yet no organized feedback yet on how this was perceived by students and staff.

to opportunities. For example, businesses sometimes lose interest if the activities will occur too far in the future; for them, it is not always possible to plan too far ahead. In many cases, as clients are unclear about their needs and what is feasible, a thorough dialogue is necessary before the exercises start. While advance agreements are a fundamental part of the preparation, it should also be acknowledged that many issues become clear during the interaction with the client and as the work proceeds. This means that there is a need for continuous dialogue with the clients, and hence, for a dedicated contact person. This also helps to address all of the practical issues connected to travel, accommodation, working spaces and schedules for meetings. The practicalities around more local based projects are fewer, but to maintain good contact with the clients, and to see to that the work is of interest and use to them, it demands good dialogue and organisation to ensure that mutual benefits are achieved.

There are, of course, also challenges with flexibility. For example, working with short time horizons mean less time for specific planning and that background preparation is necessarily more general in nature because the specifics of the task are not yet known. This also means that when these details are known, there is a period of intense and often rushed preparation before the task. While programmes at the IIIEE operate within the academic timetable of the university, specific courses are organised according to content and requirements. In order to accommodate real partner courses, whole weeks of the schedule must be set aside, but more specific scheduling is not possible until only a few weeks before. This requires students to ensure they have also set aside the time in advance, and to work without specific schedules for parts of the term. Groups have to use the allocated weeks differently depending on the availability of their clients. For example, some may do more preparation work in the beginning before working with the client while others will meet the client at the beginning, but then have more follow up work on their own.

To conduct *Client-Consultant* projects in a successful way will also demand input from the clients in time and resources. For example, clients normally pay most of the costs of bringing the students and supervisors to their organisation and the local costs during the stay. To be able to continue with such a course, it is also necessary to deliver substance to the client, as there are few clients who will decide to support such an exercise without receiving valuable work in return. Therefore it has been essential to find good ways of reporting to the clients and to ensure a high quality of work. The latter part puts requirements on preparations, organisation and supervision. It is further essential that tasks are agreed in a way

that the expertise of the students can be used, and that the exercise contributes to the comprehensive learning of the master's programme.

International groups are often of interest for companies to work with, but as mentioned, a big challenge is the need for mutual benefit to companies and partners so that these learning activities can continue each year. We have gained experience in having students produce assessment work in a way that is also interesting and attractive for companies (e.g. as consultant reports). Another benefit of this is increased quality assurance of student learning, but also that students see their work being used, which further emphasises the authenticity of the task. In general, the client tasks require involvement of experienced staff for quality assurance reasons; the level of such involvement varies depending on the task and the team. The level of complexity of the tasks selected has to match the capacity of the supervisors in this respect.

As mentioned, the *Reference Company* projects are maintained by networks, but also by the benefits perceived by participating companies. The good reputation stems from the value the participating companies get from the exercises, and the central piece here is the report prepared for the company by the student group. This report is written in a consulting format clearly differing from the academic format required in other papers and the thesis; previous reports are used to explain to potentially participating companies what they can expect from the exercise. In many cases, the value for the organisation is also alerting a broad group of managers to an issue, and them being forced to think when the students come and pose questions. The combination of this awareness-raising and the written report has been well received by the partners.

Reporting is also of crucial importance for the *Client-Consultant* projects and creates possibilities to continue cooperating with various clients. Having examples from previous projects also helps to secure positive references for work with new clients and subsequently, to maintain the courses over time. The forms of reporting in these projects have developed over time. In the earlier days of the courses, the oral presentations to the clients were very much the focus. Before leaving the client organisation, a session with oral presentations was always organised. These sessions were typically organised with the participation of leading representatives of the client organisation, such as the managing director of the company or the mayor of the municipality. As many of the exercises took place in countries where the command of English is limited, the results were frequently presented by students who spoke the local language.

The earlier written reports were initially more for internal use of the client organisations and not very detailed. As the courses evolved, as well as computer programs and students' skills to use them, the form of written reports has changed considerably. Since the autumn of 2009, all *Client-Consultant* courses have resulted in a common compendium publication, where all student groups report on their work and findings in a way that makes the publication suitable for a general audience. To put together the collective report, a system has been developed that makes it possible to engage the full student group (i.e. approximately 25 students) in the preparation of the report. To make this possible, we have learnt that we need a quite elaborated document template and rules on how to write. We use Microsoft Word to make it possible for all students to take part in the writing and editing. While each group of students who worked with a specific client is responsible for reporting on its work, they also form ad-hoc groups that take care of the common parts of the report, such as cover pages, general introductions, content pages, etc.[7] The end result is a common publication available from the university website, and for each client and student in hard copy.

For some *Client-Consultant* projects, we also need to provide more specific reports to the clients, containing more details; these reports are only occasionally printed. The fact that we are publishing reports of a more general character has added to the value for the clients. Besides the information, they also see it as a way of marketing, showing that they are active and interested in working with environmental and sustainability issues. It should be noted that the way the clients are using the reports and the cooperation have many aspects. At the centre is the thorough investigation into the present work, and suggestions for how to improve their performance. However, for many clients it is a way of engaging staff internally and a signal from the management that they are putting emphasis on these issues. Several clients have also used the work and the reports for securing funding—internal and external—for continued work with the identified issues. It has, for instance, turned out to be valuable to have an initial study presented in an English language report when seeking national and European funds for further work. With a number of clients, we have established a continuous cooperation, meaning that student groups will continue to work with the same clients over several years, and thus be able to build on the work of previous groups.

[7] Realising the challenges of bringing together documents from different computers, often with a set of various versions of MS Word, as well as different operating systems, we finalise the various parts of the publication in separate documents and make pdf-documents of them before bringing them together. In this way, we avoid problems with less compatible versions of Word documents and can also allow the various students groups to work in parallel until the very last stage of joining together the set of pdf-documents – which is just a question of minutes.

Continued learning

Student learning

While we have gained significant capacity and learning in design and incorporation of authentic learning tasks into curricula for interdisciplinary, international master's programmes, there always remain areas for improvement. There are still challenges in using exercises to learn in a systematic way and linking these tasks to the in-class curriculum. The skills and knowledge needed for authentic tasks involving real partners' change depending on the partner, and as such, it is not possible to fully prepare students every year. However, this is also part of the learning experience; i.e. having students become pro-active in their learning and emphasising the application of skills learnt in courses rather than content. Scheduling time for formal reflection on the learning after such courses remains challenging with the full schedule of the programme, and the amount of time already taken by the authentic tasks. To live up to high expectations from a client, in addition to ambitions to get a high grade from the exercise, there is strong sense of fulfilment—and also of fatigue—when major tasks such as *Reference Company* or the *Client-Consultant* projects are completed. We do, however, collect student feedback after courses involving authentic learning tasks, and this has generally revealed the challenges and benefits of this type of learning.

The fact that authentic learning tasks can deliver different experiences depending on the client and context is reflected in the student feedback, with some students often commenting that their client, group dynamics or task involved more complexity, or was more difficult than other groups, while others recognise that this is an inherent part of the project:

> I am very happy about this assignment. I think some people complained about the companies they had been assigned, but I sincerely think that any company could be a challenge. The most important thing is to have a contact person in the company that is available and willing to help. (Reference Company course evaluation 2012, Q. What is your overall assessment of the course?)

> Not all companies were equally easy to work with. However it made it more close to real-life experience. (Reference Company course evaluation 2012, Q. What is your overall assessment of the course?)

In *Client-Consultant* tasks requiring substantial staff involvement, there can also be variations to the approach of the assigned staff member in assisting or supervising the students, and this is also perceived as an inconsistency from time to time. While such feedback is incorporated back into the organisation of the tasks, such as the careful choice of student groups and supervisors for the *Client-Consultant* tasks to ensure there is a good mix of capabilities, this remains a challenge for these types of tasks. There continues to be a range of abilities in any group and mixed reactions to this reality:

> Either you are lucky to end up in a group that is able to structure the task in a way that reasonable results are being produced or not. There is no "automatic" content learning - but that is perhaps not the point of it. (Overall EMP programme evaluation 2012, Q. What is your evaluation of the applied parts of the programme - study visits, exercises with clients etc.?)

Despite the complexities, the overall student feedback on these tasks has been positive over the years. Student comments have captured a myriad of key learning from the *Client-Consultant* projects, as well as the higher order learning involved:

> The valuable learnings were threefold: 1) what I learned about my specific topic, 2) what I learned about the interconnections of problems/questions and 3) the process of creating a whole publication. (MESPOM Client-Consultant course evaluation 2012, Q. For you, what was/were the most valuable learning(s) from the course?)

> The best part was the freedom of learning provided to us by [the teachers]. Absence of concrete delineation of the structure of the course was extremely conducive to look at the evolving concept of distributed economy and apply and challenge our analytical thinking ability (Overall EMP programme evaluation 2010, Q. What is your evaluation of the applied parts of the programme -study visits, exercises with clients etc.?)

The value of the authentic learning tasks is also recognised well after the students have completed the master's programmes. As of early 2015, we have surveyed over 70 alumni from the first 20 years of the programmes about their most memorable aspects of the various courses. The majority mention practical components, and the *Reference Company* and *Client-Consultant* projects were the most common courses to be highlighted specifically. Also, in response to the question about which courses are the most relevant for their work after the programme, several again identified these courses. This is consistent with literature that has shown

authentic learning tasks promote development of deeper knowledge that is better retained and more transferable to real future practice (Herrington, Reeves, & Oliver, 2014; Norman & Schmidt, 1992). Overall, we have found that it is still at times difficult for some students to realise the full value and scope of different learning done in these complex and challenging tasks, but the overall response has been positive.

Staff learning

The teaching staff is in many ways the key actor driving the authentic learning tasks, and there are dimensions of pedagogy, as well as staff learning underlying the will to engage. On the pedagogical side, teachers like to see that students get a realistic understanding of practice. The enthusiasm inspired by the exercises is observed in both staff and students, and serves as a fertile ground for learning. Lastly, the ability to refer to practical cases and experience strengthens classroom teaching. In terms of staff learning, it can be concluded that the authentic learning tasks allow staff to observe and interact with practice in a substantive manner. Staff ownership of the tasks and interest to prioritise these parts of the teaching becomes a prerequisite to continue to drive these components of the curriculum. In our case, this stems from an internal organisational culture where opportunities for authentic learning have always been sought and valued, coupled with learning processes where PhD students and junior staff acquire skills and familiarity with managing authentic tasks.

In terms of real partner projects in which teaching staff take a more guiding role, we have learned the importance of matching the requirements of the specific task with the capacity in the student group is important for successful completion of the tasks. Staff experience in handling a specific task is also important, and the supervisor will often be required to set a limitation to the complexity of the task undertaken. Thus, matching the capability of the teacher-supervisor to the task has also turned out to be a core part of the initial process. The is also the need for the teacher-supervisor to react flexibly to the needs of the group, balancing the need for valuable output for the external partner, with the freedom of the student group to learn by doing on their own. The capacity of the group will largely drive the role of the supervisor in determining the level of support.

The fatigue mentioned after major tasks such as *Reference Company* or the *Client-Consultant* projects primarily relates to the students, but will inevitably also be valid for the teaching staff involved. To then engage with structured debriefing

and cross-learning, beyond listening to presentations and discussing the various projects, is something that we have found challenging to do. The real partner projects are rich learning experiences for students and staff, and in that respect are highly deserving of further attention and analysis, but at the same time are exhausting. The double drivers, with external client needs and course grading, tend to use all effort and attention, and leave less than usual room for formal post-reflection. Thus, the evolution of these tasks has tended to come as issues arise requiring a different way of working. In these cases, the insight of staff involved is sought to suggest different ways of designing and implementing the tasks. As is evident from the continuous development and maintenance of these tasks already described, this is a continuous process.

Conclusion

Authentic learning tasks seek to deepen understanding and achieve higher level aims in the curriculum. The real-life contexts challenge multi-disciplinary students to use their diversity to address complex and often open-ended tasks. Integrating the local context into authentic tasks also provides an opportunity for international students to interact with a new learning context. The real partner authentic learning tasks do take more time and resources, and require mutual benefits for clients to be demonstrated to ensure success and future collaborative opportunities. We have, however, also found that the advantages of continuing to work with real partners are several. It provides the opportunity to apply the various sustainability concepts, tools and strategies in a real-world context, and to get immediate feedback from practitioners working with such issues in their organisations. The context of the organisations also illustrates well the complexity of the environmental and sustainability questions and the problems facing practitioners in these organisations. There is evidence that the learning from authentic learning tasks is also of a higher level and many students specifically mentioned these as the learning tasks that they remembered, applied, and valued most for learning. Tasks involving external clients are constantly evolving with the real-life context, and as such, continued staff learning and engagement are key aspects.

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Part II
Positive Learning Environment

Chapter 6

Crossing cultural borders – how do we prepare and support our international students?

Karin Frydenlund[1]

Universities around the world are melting pots of students and staff coming from across the globe. Attracting and recruiting international students has become increasingly important for universities in the last decades to position themselves both in education and research. Students choosing to study in a foreign country come with expectations that may differ from those of domestic students' who have good knowledge of the country's educational system, cultural norms and values.

In this chapter, I will argue that universities need to give support to students in order to help them settle in. If they fail in doing so, the student will not gain a positive experience nor succeed with the learning outcomes expected. In addition, other students and staff at the receiving university will lose valuable cultural links and knowledge through the student if they are isolated. The latter is a great opportunity and should be an important goal for universities when mixing students from around the world. As universities, we should therefore identify support mechanisms that help students understand the academic setting and cultural norms. Most universities do so already, but mainly focus on the beginning of the students' time on campus. I argue that we need to look at the entire study cycle. As a starting point, I reflect on my own experiences working with international students, as well as being an international student myself in Sweden and England. This chapter suggests specific times in the students' study cycle where support and information is extra important: pre-arrival information, arrival information and activities, the study period, departure, and becoming alumni.

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These cycles are linked with specific cultural aspects that might affect the way students interpret what is being communicated, and therefore need to be taken into account. The chapter aims to provide practical hands-on suggestions to becoming successful in receiving international students. At the end of the chapter, I have listed literature related to the topic on how to become culturally aware and inclusive as a university.

Background

What workplace can be better than one where a person is surrounded by students and staff from around the world? A heavenly cultural blend of nationalities, ethnicity, religions, educational backgrounds and ages. Every day for ten years, I had the privilege to come to a workplace full of diversity, and the great possibilities and challenges this includes. Working very closely with the student cohort, I learnt a great deal about myself and my own culture. But most of all, I learnt not to take anything for granted.

Studying in another country differs from other experiences going abroad. It requires that you quickly adapt to a new academic setting and cultural norms in order to be a successful student and pass the exams. This is an adaptation that universities must consider and be willing to give support to. This chapter will explore how universities can support international students in adapting to a new study environment. It aims to identify some mechanisms that can help transit and integration into a new university, as well as identify cultural differences that might affect students' study performance in a new academic setting if we do not pay attention to the different experiences and expectations.

In order to do so, I will start by sharing some of my own experiences as an international student. The examples of self-experienced "cross-cultural student situations"' described below cover some of the key areas I believe we need to pay extra attention to when we receive international students at our universities; namely communication and expectations of different academic behaviours, procedures and practices. Drawing on my experiences of working closely with international students for many years at Lund University, combined with my reflection of being an international student in the UK, I seek to discuss what it means in practice for different actors in universities to pay extra attention to these issues. Concrete suggestions are given for student support that could be provided in four periods of a student cycle: pre-arrival, arrival, during the study period, and

departure. I then reflect upon some issues that may lead to misunderstanding along this cycle due to cultural differences in interpretations, and consider concrete measures that could be taken to help resolve such challenges.

As mentioned, the chapter is written based on the reflection of my own experience both as university staff working closely with international students in Sweden, and as an international student in the UK. Although the article is built on my own experience from two specific universities, it is my hope that it can be of general use for other universities as well as other countries. It is important to stress that there have been many works done in this area by others, both in research and in practice, which have inspired and provided ideas to my concrete actions. At the end of this chapter I have listed an inspirational literature list.

An international student experience

After ten years as Head of Student Affairs at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University, I left my position and moved to England. Having worked with international affairs and foreign students throughout my entire career, I decided to take a break and become a student myself. I applied and was accepted to a Master's Programme in Communications Management in London. Considering the massive backpack of experiences I brought with me, I didn't pay too much attention to being a foreigner in England; I thought I knew it all. But little did I know.

Registration day and my first day as an international student in London: I arrived at campus full of excitement and expectation, and wandered around with a map looking for the faculty building. When I finally found it, the building was empty. None of the people I had hoped to meet were there — no grand welcome, no professors, not even a sign. I was puzzled, and the disappointment started to grow. I finally found the registration building, lined up with all the other newly arrived students, received my welcome package and went home. No personal welcome, no speeches, only a line-up at a reception desk. My thoughts went back to Lund, and I compared myself to all of those students I had greeted throughout the years. Two hours of great excitement followed by a final disappointment reassured me of how important it is to meet and greet newly arrived students. Students need to feel welcome. The disappointment that may take over students' feelings can affect their attitude towards the new study environment in a negative way. This is true for all students, but is especially important to foreign students coming for the first

time. We cannot expect that the foreign students are fine with a folder of information; they need a personal contact to feel welcome and supported.

A week later the programme started. My classmates consisted of approximately forty per cent Chinese students, forty per cent Indian students, and twenty per cent European students (including the native English students). Unfortunately, we didn't have a welcoming event to knit us together, but were thrown into our studies immediately. With regard to the global mix of students, I believe it would have helped us as a group to have had some ice-breaking time allocated. We quickly divided ourselves according to our geographical origins — Europeans with Europeans, Chinese with Chinese and Indians with Indians. I was surprised with myself in how easily I settled with the Europeans, but struggled finding study peace with, for example, the Asians. Memories from my former workplace came back to me again. This new insight into how students form groups and communicate with peers when not offered assigned groups made me think of all those groups I had forced together during the years. Here I was, the person who had always believed mixing groups that cross all boundaries was the key to success for best learning outcomes, only to find myself acting exactly the opposite. I had NO intention to engage with all of my classmates, but focused on finding the ones I could easily communicate and work with. My focus was entirely on passing the exams. It is interesting how this perspective never occurred to me during the time I worked giving support to students. Students prioritise reaching their academic goals. In order for universities to enhance the understanding of students and develop skills to work in our global community, they need to actively address the multicultural classroom and allocate time to balance individuals' different backgrounds and experiences. Working and communicating across cultures and disciplines requires more time for a group to balance and understand each other's differences. It does not necessarily come naturally to students to mix in culturally diverse groups, but it is indeed an important opportunity for students to learn to work together with people not necessarily acting exactly like them. Universities need to show students that studies are not only about assignments, results, and grades, and that without the collaboration of their fellow students, some tasks are not possible to complete. Failing in doing so, we risk that students will take the easy way out in order to reach their short-term study goals. Like I did.

My next daunting experience was my first assignment. I carefully read the instructions, listened to the teachers, and spent hours at the library writing my first report in English. I have to admit, I was a bit nervous – would I pass? Working with English as the language of instruction is not the same as academic writing in English, having to write well-formulated sentences, and applying

critical thinking. It was slightly overwhelming the first couple of months. On the day I was to hand in the report, I went to the registrar's office and received a dated stamp as proof of submitting it in on time. Two weeks later my lecturer sent me an email to inform me that I had failed. Her reason for failing me was that I should have given her my assignment for final approval before I handed it in. For reasons obvious to me I got very upset and felt simultaneously disappointed and angry. Did I fail because I misinterpreted the instructions? Could I have read the instructions differently? Probably not. I was convinced the academic system was the same as in Sweden so I clearly did not pay attention to the instructions in the way I should have. I read and interpreted according to my experiences from my years studying in Sweden, as well as my experiences from working at a Swedish university.

I felt lucky to be an adult learner with my family alongside me. I had a safety net, which I felt was important. But many of the other students were young adults, outside their countries for the first time, and were lacking a comfort zone that prevents them from becoming insecure and homesick.

Practical administrative and academic support

Dealing with international student affairs and with students as individuals is time consuming, and must be given time and resources. Support to international students is crucial for their successful stay as well as securing good study results. From a university's perspective, a well-received student would have a higher likelihood to generate successful outcomes, which would most likely lead to more applicants. From a student's perspective — based on my own experiences as a foreign student — if you feel welcome and receive support dealing with practical issues, you are more likely to settle in faster and be able to concentrate. The study experience becomes more positive. Of course, not all students need support, but many do. If universities, for various reasons, decide not to provide support, newly arrived students run the risk of taking a longer time to get started, and valuable study hours might get lost while they try to figure out how things work. The students may also feel depressed by not being able to understand their new cultural setting, and their focus is taken away from their academic priorities.

The founder of the IIIEE was aware of the need for support and invested resources accordingly. When I was hired I had the job to "*make the students feel as if they are carried in on golden plates.*" I was very fortunate in being able to work in an

organization where support to students was prioritized. At that time, Lund University had few support systems in place, leaving individual departments to organize all support by themselves. Today this is different, with good support provided both by the central office as well as from the faculty offices. Yet personal and close contact at departmental level is equally important and should, and cannot, be totally outsourced.

The support we need to give to our international (as well as domestic) students can be divided into four areas of a student's study cycle:

- Pre-arrival
- Arrival
- During the study period
- Departure and role as alumni

The following sections will discuss the need of information and support during the above four study cycles, and bring forward some examples of good practices. The areas of support are relevant to all students, no matter where they come from. However, cultural identity may affect the way they interpret and react to information depending on their background. This will be discussed separately later in this chapter.

Pre-arrival

The more information a student receives before she or he leaves for a new study destination, the safer and more prepared the student will feel. E-mails, a letter with pre-arrival information, easily read website information are examples of communication channels used. In addition, the use of social media helps in reaching out with information to all students in an informal way where questions and answers can be shared among all who are participants. The use of social media is also an excellent way to build a sense of a welcoming community, as the students will get to know each other a bit before arriving. This can be done, for example, through a Facebook group or on a university-owned communication platform. This also enables the students to connect with each other.

Connecting new students with each other as well as providing access to communication with alumni or currently enrolled students is another excellent way to inform them about their new destination. However, the university administration should not leave it entirely up to the students to find the answers.

The university needs to play an active role in the discussion to secure that information is shared correctly. Concerns such as housing, academic expectations and performance, and study environment are some areas that may worry the students. Correct and easily accessible information on the web along with interactive discussion groups can be key to a well-prepared arrival. If personal emails are overwhelming in numbers, one student's concern can be shared in a discussion group and time can be saved. In addition, students with special needs, like for example students who are bringing their families, can be connected to other students with the same experience, and they can share ideas and concerns with each other.

What should not be forgotten in the pre-arrival communication is the personal relation to staff members. The university as a sender is not enough; it needs to be a physical person representing the department at which students will study. International students need to feel that they have a person or coordinator expecting them. This applies especially to those students who are less experienced travellers and come from countries culturally very different from Sweden.

Box 1 suggests some areas of information that are important to provide in good time before students arrive. It can be, as discussed above, delivered through various media such as the web, emails, and postal letters, as well as supported by interactive dialog on social media.

Box 1: Some important pre-arrival information from the department/university to the students

- Visa, residence permit, and right of residence
- Accommodation
- Travel information
- Arrival day
- Introduction programme
- Financial matters and bank system
- Insurance and health care
- Academic calendar and schedule overview
- Student life
- Check-list of documents students need to bring
- Glossary, and some basic good-to-know phrases if the language of the country is not English.
- Contact information

Arrival

A friendly arrival is key for a successful start at the study destination. Whatever went wrong during the pre-arrival preparation, it can be repaired here. If students are not being properly welcomed, negative feelings can be easily built up, which may affect their academic performance. Providing all of the information should not be concentrated to one day, but rather distributed over a period of two to three weeks, if possible. Box 2 below lists some of the areas that need addressing during the arrival/introduction weeks. Indeed, it is also important to involve the academic staff at this point. Students are curious about their departments, programmes and courses and appreciate a presentation by an academic. Equally practical information should not only be handed over in a folder, but should be presented by the members of the administration that can answer individual questions on the spot. My own experience of being directed to a help desk where a folder was handed to me is not recommended for a successful first impression. Giving time to introducing the programme and faculty, as well as an introduction to the society and its culture is vital. The time set aside at the beginning will be saved when the programme starts, as students will hopefully be able to concentrate on studying rather than solving practical issues.

It is equally important to give time to the students to get to know each other, which will help them work together in groups later. In having different ways of communicating, relationships to leadership, and study routines, students need support in reflecting on this new situation. In addition, students have different experiences in taking care of themselves. What seems to be easy for some of us — like boiling and egg — might be completely new to some students. Helping students navigate buying groceries can seem like a task not for a university, but the stress it can create may affect their academic performance. Using mentors for these kinds of practicalities does not take too much effort to organise, and results in a positive outcome.

In addition to all practicalities, allocating time in the very beginning to present and discuss the rules and regulations, exams, submission of papers, as well as time lines will help the students to understand the new study environment more quickly. It is also important, however, that we do not ignore the student's own background and take the opportunity to learn from, and listen to, the student's former experiences, so that we can compare and recognize possible differences at an early stage to prevent misunderstandings.

Box 2 summarises areas of subjects that benefit from being covered at the beginning of the semester.

Box 2: What a successful arrival includes

- Structure and introduction to the university, faculty and department.
- Show "faces" – present the department, the study director, and perhaps the Dean.
- Introduction to student services.
- Academic rules and regulations.
- Team building exercises and cultural discussions.
- Social events.
- Offering mentors/buddy groups giving social and practical support.

Be prepared to repeat after a couple of weeks! Arrival and introduction weeks can be daunting and important information can be forgotten.

In fact, many institutions put a lot of effort towards welcoming activities for students as they arrive. The institutions provide extensive arrival packages, expecting students to be well integrated after one to two weeks. This expectation may not necessarily hold true. The first weeks at the new campus are energy consuming. A lot of information is to be processed, and runs the risk of being forgotten. We need to be prepared to repeat quite a lot of what has been said in the first couple of weeks later in the semester. Rather than concentrating everything at the beginning and considering it done, it could be advisable to set aside a couple of hours a month into the programme to gather all students to do a quick re-cap of what had been discussed during the introduction days.

During the study period

When the exciting and fun introduction is over, the academic part of university life takes over. After some weeks or months, loneliness and homesickness may arise, as well as the pressure to perform in a new academic setting. It's important that we quickly show that we can give support, with staff willing to listen and able to set aside time, and not just referring individuals to a website with all of the information we have for international students. Sometimes a personal meeting with someone who cares is all the student needs in order to resolve a personal issue. However, we do have students who suffer more and need more than personal contact; they need support from the student health centre. When not knowing how the university is organized — even if the information was given during the first weeks — a hand pointing in the right direction can be very

valuable to the student. Mentor groups consisting of both local and international students can also provide very good support to both the organisation and the student.

When students are brought together from many different parts of the world, it is important for both academic and administrative staff to give support to a group representing different study backgrounds, different language roots, and different expectations. We should not, and cannot, expect the students to work this out on their own. A workshop that brings up these differences can provide an opportunity to learn from each other, and can lessen some frustration as well as answer questions. This could take the form of, for example, a social gathering organized by the department. By failing in doing this, departments run the risk that students will gather and work with students who look like, act like, and seem like themselves. Like I did in my experience, which resulted in losing out on a valuable opportunity to learn about others.

Box 3 brings up areas of communication that need to be reinforced during the study period.

Box 3: During the study period

- Secure support mechanisms to where students can turn in case they have difficulties studying or if they feel lonely and depressed.
- Provide academic study support (could be on central level).
- Discuss different expectations openly with the group during the period of study.
- Provide social events at departmental level.
- Secure students have mentors/student buddies.

Departure and alumni

Keeping in contact with alumni is important both for the university as well as for the student in several ways. As a student she or he has spent a long time in a foreign country, made friends from all over the world, and connected with the department and campus. This experience is unique to the student and they will not want to lose these contacts. Offering a network for the students after graduation helps them keep in contact both as a group, and with the department, and their experiences can continue to develop. This, in turn, will help the university to indirectly advertise its education and help in recruiting new students. For most students, it is important to know what can be expected after graduation.

Keeping track of the careers of alumni is a quality assurance for the new applicant, and is a way for the university to confirm that the education offers an adequate career path. In addition, alumni can offer a platform for job opportunities, as they will know the educational background of the newly graduated. At a departmental level, alumni can be excellent asset, for example, when evaluating the curricula. Evaluation is often done by current students in connection to a course just carried out, but with some distance the student can give a different perspective that in turn will help the department secure, develop and improve the content.

International alumni can also act as remote mentors for the new students as they know what they will need to know, and can share their experiences, for good and for bad. Linking alumni coming from the same country as students who are about to start can help in clarifying expectations and alleviating anxieties of incoming students.

Box 4 provides some important reasons for not seeing the study cycle as ended after the student graduates, but to rather build on the relationship.

Box 4: Departure and alumni - Why remain in contact and how?

Why?

- Alumni can attract new students to your programme
- Alumni can be used as quality assurance to new students reflecting on the job market after they graduate.
- Alumni can be used when evaluating the programme curricula – as a reality check to what academic aspects are important in a fast shifting world.

How?

- Secure an alumni platform where you can reach the students easily.
- Share information with the alumni on department news as well as other information that can be of interest to the field of study.
- Update the alumni on success stories among the alumni.
- Create conference (virtual as well as on campus) to bring together and broaden both the students' network and the department's strength.

What can possibly go wrong? Some cross-cultural aspects as a foreign student

One challenge for both the administrative and academic staff is to understand, and work with, the differences we have across cultures. Rather than addressing them, we as university staff tend to do the opposite, probably because it is not obvious how to approach the topic. However, it is important that the university take note of the differences as something we can learn from each other, both as staff and as students. Working at an international university, Lund University's staff has an excellent opportunity to develop cross-cultural communication skills by working closely with students at all levels. By engaging staff members in the introduction of new students and setting up seminars that are easy to conduct, where students get to discuss their background and expectations, can help students to settle in while developing staff's own competences.

Throughout the years, while I was working closely with foreign students both at Master's and PhD levels, I used to discuss cultural issues with the students that affected them while studying. Through these conversations, I have identified the following areas of difficulty where cultural belonging may create misunderstandings, and where we would benefit from bringing up the topics for discussion in an informal and sharing way, and not necessarily only during the early days upon arrival, but also a couple of weeks into the programme when students begin to feel the differences:

- Communication patterns
- Pedagogic approaches
- Power/hierarchical relations
- Time perception
- Student expectations

Communication patterns

Different ways of interpreting information can affect a student's academic performance. I became aware of this very important area of cultural differences in communication patterns one autumn semester at IIIEE when I noticed that most of the international students looked tired compared to the group of Swedish students. It puzzled me as they all used English as means of instruction and they

were pretty well integrated as a group. After several discussions with the students, it turned out that one of the teachers kept on handing out reading materials encouraging the students to read. The Swedish group knew that the reading material was "recommended" and not compulsory, but most of the international students interpreted the lecturer's recommendation as "a must read." Due to different communication styles, some students looked for underlying messages while others did not, causing different reactions. A similar experience happened to me in England when I interpreted instructions "my way" — not paying attention to potential differences.

It is important that teachers as well as supportive staff are aware of different communication patterns. Indirect communicators do not necessarily express everything with direct wordings. Conversely, a direct communicator interprets only the exact words being said. For the latter, there is no hidden meaning. In the example given above, it would have been beneficial if the lecturer had said: "Read this article in your spare time, it is not part of the course." In addition, avoiding communicative misunderstandings can also be accomplished with detailed course descriptions.

Communication patterns affect our wellbeing when we are not feeling understood, or are not understanding what is really being said. It is therefore important that we bring it up for discussion. Misinterpretations are often based on communication patterns, and are not necessarily easy to resolve. In a group of new students, the topic can be brought to the table with questions such as: *How do we communicate a disagreement and express a 'no' in different situations*? The answers are certainly different, and are both engaging and interesting for the group to discuss and listen to. Other practical and easily conducted exercises can be found among recommended reading listed at the end of this chapter under the section "training books".

It is important to spend time on different communication styles both in the lecturer-student relationship as well as in the multicultural student team. The communication style was probably also part of the reason for me turning to the Europeans for group work. I subconsciously believed we used the same communication pattern, by being geographically close. As much as we try to create multicultural diverse study groups, students will look for teams where they feel "at home". Helping students understand each other's differences as well as the cultural communication pattern of the host institution can help both the students and university staff overcome misunderstandings. This, in turn, will enable better study results as we broaden our minds and knowledge about the other.

Pedagogical approaches

The pedagogical approach is another area on which most international programmes spend time during the beginning of the new semester. However, this is not necessarily done with a focus on "trying to understand the student", but rather "this is the way we do it in x-country". For example, we tend to bring up no tolerance to plagiarism assuming students have a different experience. We encourage students to be active during lectures but pay little attention to students backgrounds and how used they are in making presentations, questioning the teacher, or speaking English in public. It can be difficult for a student to shift from one pedagogic approach to another, and it may take time. Even during my short experience in England, where the pedagogics are fairly similar to those of Sweden, I got confused from time to time, which made the experience less pleasant due to insecurity. Even what appeared to be the easiest thing, as when to hand in an assignment, went wrong for me. Applying critical thinking, working in groups, being interactive during lectures, can all be pretty scary if you are not used to it from your earlier education, and even more so if the language of instruction is different from your mother tongue.

Educators need to put aside time to discuss differences and similarities with the students, not only in the beginning but also later during the programme. Sometimes, it can help if such a discussion session is not organised by a teacher, and to let the students discuss with a "neutral" person with whom they do not feel they need to perform in a certain way. Communicating with, for example, an administrative staff member can be less threatening to the student who can be reluctant to reveal to the teacher that they are having difficulties in understanding the academic structure.

Hierarchical relations

Hierarchical distances differ between countries, and between students and teachers. In the case of Sweden, the hierarchical relationship is known to be fairly low. However, this low hierarchical relation is not always easy to adapt to for an international student if she or he comes from a culture with a high hierarchical relation structure. Let me share an incident where it became clear to me that we should not neglect talking about different ways of relating to each other. A group of 35 students representing 24 different nationalities developed a hostile feeling against the academic and administrative staff during my first year in the role of Director of Student Affairs. It went on for a couple of weeks until I was finally

told that the students believed that one of their classmates reported to the management team on what the scholarship holders did with their money. The student was considered by their classmates as a good friend of several staff members, and had been seen coming and going from their offices. The familiar and friendly relationship between the student and the staff was not seen as "normal" amongst the group members, and therefore became subject to misinterpretations. The low hierarchical, and familiar teacher and student relationship was taken for granted among the staff, but not necessarily among the students. The stress of long study days, as well as living closely together, stimulated negative feelings and a sense of suspiciousness grew even more.

At that time, I had few experiences in teaching cross-cultural communication, and did not know where to turn. We needed to do something to help the group move in the right direction and it was urgent. A lot of energy was spent feeling upset amongst the students. Finally, we invited a colleague from another faculty, who himself came to Sweden as a PhD student and had struggled to settle in. His talk to the students was relieving, joyful and full of "taking the mick out of the Swedes." He didn't give any deeper intercultural theoretical framework about living in Sweden and Swedish culture. Rather he talked about himself and the struggles he faced when he first came to Sweden, especially how to fit into the non-existing, and yet existing hierarchical pattern.

Time Perception

How we interpret time is not such a major issue as we might think when it comes to following a given schedule. However, it is a topic that is easy to talk about, and we can joke about how late one arrives at appointments in some countries and vice-versa. Time in relation to a schedule is probably more individually oriented than cultural in a university setting. Time perception is, however, a much more crucial issue when students are involved in group work. How do they meet the deadline? How do they follow the structure set up by the group? And how do they come on time to the meetings decided by the group? Most of the time it works out brilliantly, but when things go wrong it can jeopardize a student's study results. Therefore, students need help setting up their multi-cultural teams to gain the most out of the experience. I have witnessed two students having their relationship ruined, it never recovering due to different views on time — alongside some differences in communication patterns. It could have been avoided if they had mentoring support when setting up the group, in order to bring forward and discuss different expectations. For example, avoiding students being accused of

being free riders due to differences in interpretation of time and deadlines. Setting aside time for students to discuss with a facilitator how to best act in team environments, dividing tasks, and identifying strength and weaknesses benefit all parties. Time is an area we focus on in many other international working relationships, and so it should also be done for students.

Student expectations

Finally, dealing with expectations is crucial for a successful study period as an international student. What do they expect from the teachers, from the university administration, and from their peers? The expectations are clearly linked to where the students come from and what they are used to. Spending time to elaborate on this can help the students understand how things relate to one another at a new university. A good starting point for discussion could be to ask the question: "*What are you used to*?" This could be valuable to do not only in the beginning of the semester, but after a couple of month when the students have had time to reflect on their new study environment. For example, bring up discussions related to expectations during the arrival and introduction, and then follow up after two months (see Box 2 and Box 3).

As mentioned in the introduction chapter, most universities today charge high tuition fees for international students. How do we secure that their expectations are met? Securing availability of staff support and student services is essential to meet the students' expectations.

Concluding remarks

A student studying in another country needs to quickly adapt to the new environment in order not to lose valuable study time. This adaptation process needs support from the receiving university in order to smoothen the transit. Students need to learn about the academic setting and cultural norms in order to successfully settle in. This process takes time and should be given support by the receiving university. Both administrative and academic staff play key roles in securing a smooth adjustment to a new study environment. A lot of the information and support can be handled by joint coordination, for example, on a central administrative level at the university. However, it is important not to lose personal contact on a departmental level. A close relationship to the students helps

overcome misunderstandings that may occur during the study period. Staff across the university need to understand the different needs international students may have. Former students, as well as currently enrolled students, can also be of great help supporting new students by sharing their experiences and providing a quality assurance to the education.

Communicating expectation and learning about different academic behaviour, procedures, and practices are key to a successful stay and a future relationship to the international students' study destination. If we do not provide information prior to arrival, and do not discuss the students' expectations and different needs during the course of study, we will not only have unhappy and perhaps badly performing students, but also risk developing frustration and ignorance among staff. The first seminar I participated in on cross-cultural communication put the smiles back on the students' faces. We could talk again. Why? Well we used the personal experiences of a guest lecturer and added our own experiences, which helped to de-personalize the tense atmosphere and made us laugh again. Bringing cross-cultural communication to the agenda helped the students loosen up ties and frustration. Not as a theoretical topic, but rather giving the students and staff the possibility to share and learn from both each other and the new community they are in.

Education to both academic and administrative staff on cultural differences and expectations can help prevent misunderstandings. In line with these goals, during Fall 2014, staff at Lund University working with Master's students was invited to attend a course on how to arrange their own cross-cultural seminars on a departmental level. The aim was to give tools to staff members working closely with the students to run easily-administrated workshops that will facilitate the students to bring forward questions and concerns at an early stage in their study cycle. Communication is key, but we need to ensure that all counterparts interpret what we wish to communicate in the same way.

An international university must be inclusive, bringing different views to bloom. Working with international students does not mean blinding ourselves to differences, and wagging a finger to explain that "this is the way we do it in this university". Rather, we need to take advantage of being an international multicultural community and use the different knowledge and experience to learn about others. Coming to a workplace every day with the world in front of your feet is inspiring, challenging and educating. We need to secure supporting mechanisms that wake up similarly positive feelings in students aiming to study in a country other than their own.

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Chapter 7

Ensuring an equitable learning environment for students enrolled in international educational programmes

Martin Stafström and Anette Agardh[1]

Equity in the educational environment is a major challenge for higher international education programmes. Drawing from our experience of teaching at Lund University 's International Master's Programme in Public Health, we have identified four key areas where strategies are required in order to ensure equity for those enrolled. An equitable learning environment must be able to deal with diversification of students' English language proficiency, adaptation to the Swedish academic culture, access to social capital, and the underlying motivation for participation in the programme. Strategies for ensuring equity include encouraging pluralism, raising awareness of issues related to diversity, and encouraging student input. The increased intensity of global disparities, together with increasing heterogeneity in students' perspectives and backgrounds, point to the need for continued efforts to ensure that every student admitted to the programme has equal potential to gain the knowledge required for a master's degree.

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Introduction

Equity is a term used to define an array of phenomenon. In education, it particularly pertains to fair access to the educational institution, i.e. equal opportunity for enrollment regardless of personal or social conditions (e.g. ethnicity, gender or social class). Equity in education has predominantly been an issue for school systems. As a main outcome measure, equal opportunity has often been operationalized in terms of participation rates in higher educational programmes, i.e. education beyond the minimum required level of schooling (Croninger & Lee, 2001; Hearn, 1991). In the US especially, equal access has been regarded as an ethnic or racial issue (O'Connor, Hill, & Robinson, 2009). In Europe, equity in education has been an important development area in higher education ever since European student revolts in 1968. At that time, students protested against an educational system that reproduced class hierarchies rather than diminishing them. Since then, the European higher education system has seen dramatic changes, with increased equity regarding access to admission, as well as an increased emphasis on a student-centred pedagogic approach, whereby knowledge acquisition is seen as primarily the student's rather than the teacher's responsibility. In Sweden, equity with regard to admissions has been much improved ever since the higher educational reforms that took place during the late 1970s. Currently, the majority of students are female – also in elite programmes such as medicine and law – and ethnic minorities are well represented (SCB, 2012).

However, ensuring equity in the learning environment is a far greater task than merely ensuring equity with regard to admission strategies. Equity in education also means that the standard of education should be equal, regardless of personal or social circumstances (Simon, Malgorzata, & Beatriz, 2007). Once they have been admitted, all students must have an equal opportunity to derive the full benefits from participation in academic programmes, despite disparities in socioeconomic background, culture, and previous educational experiences. Improving equity has, from this perspective, meant that schools should incorporate a wide range of different concepts such as multicultural curricula, differentiated instruction, equal access and equal expectations regardless of student background, and the avoidance of stereotyping (Brown-Jeffy & Cooper, 2011).

In higher education, especially in a European setting, these concepts were—in general—not addressed until recently (Bohonnek et al., 2010). Improving equity

with regard to multicultural curricula and differentiated instruction has until recently not been prioritized within the typically rather narrow national higher education systems, i.e. primarily designed to meet the needs of the native-born. In countries such as Sweden, a very high proportion of students are Swedish, and they have gone through the Swedish educational system, and thus are informed by and trained in the demands of higher education within that particular setting. Through that schooling, they have acquired the necessary pre-requisites—both academic and socio-cultural—in order to perform adequately well within that national higher education system. In international programmes, however, the conditions are quite different.

Heterogeneity in student background may represent a particular challenge for programmes that attract non-European students, and especially students from low- or middle-income countries. Yet, such students may be especially valuable resources for these international programmes, due to the very nature of their differing perspectives and unique practical experiences. Apart from enriching the learning experience of their fellow students, these non-European students in many cases represent enhanced human resources for their countries of origin; attainment of an advanced degree has implications that go beyond the individual's own academic development. Seen from this broader point of view, international master's programmes should have a particular interest in ensuring that all students enrolled have the same opportunity to benefit from the educational experiences that are offered.

The international master's programmes in Sweden have a rather short history, as described in this book's introduction. For this particular chapter, it is worthwhile to point out that these programmes, due to the fact that they were tuition-free, were able to recruit students globally and were seen as an attractive opportunity by those who did not have the financial means to attend programmes at more prestigious institutions in the UK or the US.

The Lund University International Master's Programme in Public Health was initiated in 2001. Then, it was a one-year programme and mainly targeted public health professionals wanting to further their knowledge. In the first few years, there were very diverse student groups, with the majority of students coming from low- and middle-income settings.

With the EU objective to harmonize education throughout Europe, the programme became a 2-year programme in 2007. The new curriculum seemed to draw the attention of new groups of students, in addition to the ones that had attended the 1-year programme. Notably, an increasing number of Swedish and

Northern European students with Bachelor's degrees started to apply. This meant that the student group became even more diversified.

Since its inception, the Lund University Master's Programme in Public Health faculty has faced a plethora of equity challenges. Throughout the years, we have had to address these and find ways and strategies to turn them into strengths. The aim of this chapter is to describe these processes that have evolved through more than a decade of experience. First, we will present the four major challenges to an equitable learning environment within our setting, and then we will present and discuss the strategies and concrete measures we have used to counter them within a constructive alignment framework.

A note on methodology

This chapter draws upon the two authors' combined experience of teaching master's students in Sweden, and thus represents more than 25 years of pedagogic involvement with this programme. The two authors have—for at least a decade—been engaged in an ongoing dialogue with colleagues and students concerning aspects of the programme that have been perceived as challenging. The chapter is thus founded in the tradition of the reflective practitioner (McKernan & McKernan, 2013), meaning that it is based on the authors' own experiences rather than any systematic research designed to provide an analytic framework. The ideas that are discussed below represent an attempt to identify issues that have emerged during the programme's history and to describe some of the measures that have been implemented to address them.

Equity challenges

The four main equity challenges we have encountered during the history of the programme are the considerable diversification in students' English language proficiency, adaptation to the Swedish academic culture, access to social capital, and underlying motivation for participation in the programme.

Language

The first and foremost challenge that all international programmes have is commonality of language. Our programme has English—the contemporary lingua franca—as the language of instruction, in similarity to most other international programmes. All course modules demand proficiency in English, with varying emphasis on written and verbal skills. Yet, only a very small minority of our students has English as their mother tongue, i.e. approximately 15% on average per course group. In addition, none of our current faculty were born and raised in an English-speaking country. This creates a complex learning environment, wherein the students who come from an English speaking background have an obvious advantage, but also wherein students from Scandinavia have similar level of language skills as the faculty. However, all other students, who constitute about half of the student body, have a language background clearly different from that of the faculty's—to varying degrees.

Overall, our experience is that there is a greater discrepancy among students when it comes to verbal rather than written English. Many international students have presumably performed well in English within their native school systems, and are therefore confident in their language skills within these settings. However, when placed in a truly international environment, that particular language skill level often turns out to be less than adequate. Thus, assignments requiring verbal command, such as group discussions or oral presentations of projects, are less equitable for those who do not possess such fluency.

Although the extent to which lack of oral fluency represents an academic disadvantage depends upon the nature of the assignment and the weight given to it, written English language skills are particularly crucial for completion of the final degree requirement, i.e. the thesis course. A recurring issue has been the discrepancy between the level of written language skill required to fulfill more basic course requirements and that which is required for the master's thesis, and how to ensure that students have this proficiency at admission. Since 2009, we have had a handful students from non-English speaking countries who still, after several years and attempts, have not been able to finish their thesis projects. They have passed all other courses—more or less on the first attempt—including those requiring shorter written papers. Even though those shorter papers had also been poorly written, the course examiners had focused on the content rather than on the language. However, the thesis project revealed that these particular students did not have the writing skills needed when the scope and the complexity of the paper became that much greater. Indeed, disparities in students' language skills

represent a common challenge for any type of international education programme where language proficiency is assumed on the basis of adequate scores on foreign language tests – an assumption that may not be valid.

Understanding Swedish academic culture

Lack of familiarity with the Swedish academic culture represents another source of potential inequity. Students generally learn what is effective within their own educational system and act accordingly. In other words, a Swedish student will have already acquired, through his or her undergraduate training, certain study techniques that are unique to the Swedish educational system in order to perform, while a student from, for example, Ukraine will have adopted study techniques unique to the Ukrainian system. The same applies to faculty members, who in their professional development have adopted teaching techniques appropriate for their particular academic cultures and curricula in order to achieve optimal student learning outcomes as defined in that setting.

One challenge for our programme has been to achieve a balance between the varying perspectives, both on the part of the students and of the faculty, as to what constitutes an acceptable level of academic performance, and how to achieve this. In our programme, faculty members have on numerous occasions discussed what they perceive to be a discrepancy between their own expectations and students' expectations. In this regard, a recurrent theme has been the nature of the role played by the teacher in facilitating the student's acquisition of knowledge. Some students have had difficulties adapting to certain implicit aspects of the Swedish academic culture that underlie our teaching techniques and, as a consequence, have been struggling to perform.

A frequently expressed challenge is the tacit assumption within the Swedish educational system that the university teacher is there to "guide" and "coach" students in their learning, rather than to "tell" and "instruct" students about the content. This implies that a Swedish university teacher typically does not present students with "truths", but rather "ideas" and "problems". Students who are not accustomed to this type of teaching environment may have difficulties when faced with the task of synthesizing the material that is being presented to them in lecture format, and when expected to reflect further on their own.

Another key challenge related to differing perceptions regarding the academic culture is the Swedish emphasis on formulating a critical stance. A typical course syllabus will require that the students should be able to critically review, discuss

and draw conclusions from scientific work and studies within the subject area—both in oral and written presentations. Here, for students who have had their undergraduate training in settings such as the Confucian cultures in Eastern Asia, by emphasizing a hierarchical relationship between teachers and students, they will find it challenging to present their own reflections in text, and even more so orally in front of an audience. A major obstacle for these students is that they apparently consider themselves as having a "subordinate" or "junior" status compared to their teachers. Perceiving themselves as lacking in authority, they do not believe that they should, and could, contribute to their peers' learning.

Over time, we have had several students who have encountered clashes between academic systems. A typical clash has been the issue concerning how to paraphrase. In some academic cultures students have been taught that if someone has already said something wise, it is better to use that exact text and make it your own—without referencing. As we understand it, these systems have valued the students' ability to identify what is "correct", rather than encourage their ability to analyse concepts and draw conclusions of their own. As a result, we have had several cases of plagiarism reported to the university's disciplinary committee. Although we have put several strategies in place to counteract this practice, it took several years for us to grasp that this was indeed a practice that had been taught by other educational systems, rather than any intentional act of outright academic dishonesty.

Social capital

A broad definition of social capital is that it represents the value of social networks, both for society at large and to each individual within (Brehm & Rahn, 1997; Putnam, Leonardi, & Nanetti, 1994). Although social capital as a concept encompasses various aspects of social interaction, including social trust, participation in activities with others and the networks that may evolve through social participation, the primary aspect for students who come directly from abroad is the extent to which they, as outsiders, can obtain sufficient social support in order to perform well academically. In this respect, we regard social capital in education as the resource embedded in the individual's contact with others. Resourceful relationships can empower students by providing social support as well as social trust. Both of these aspects of social capital play a key role for academic success. Nevertheless, most students within an international university programme, regardless of level, will tend to have challenges in relation to social capital, although perhaps to different degrees.

With regard to social support, this may represent a challenge not only for students moving to Sweden from abroad, but also for Swedish students who may have moved from another city and who therefore must establish themselves in a new setting. Yet, there are some major differences involved in moving from abroad and moving domestically. Firstly, the encounter with a new language is, for most students from abroad, a huge barrier. Secondly, the cultural differences are often considerable compared to the largely negligible differences that may exist within countries in Scandinavia or between different regions within Sweden. In our experience from the master's programme, international students demand far more social support than Swedish students do.

The need for social support has several consequences with regard to the teaching environment. We have found that the international students have their "ups" and "downs", which mainly are determined by the level of social support they receive. They suffer from homesickness, with all that it entails lacking family, friends, weather and food to which they are accustomed. The extent to which they perceive themselves as negatively affected by their new environment can have an impact on their academic performance as well. Usually, this means that they struggle academically, as social capital is an important resource in terms of comfort and support in times of difficulty and despair.

Another important aspect of social capital is social trust. This is embedded within any educational system as trust between students and between faculty members and students. A high level of trust implies that there is mutual respect between the different actors within a system. Students who trust each other can develop both social support outside the education system and productive division of labour within. Trust between faculty members and students can evolve into student centred learning, as teachers have faith in students reaching course goals without being micromanaged.

However, trust is displayed and practiced differently within different cultures, and at times these differences have had unwanted consequences in our educational setting. In our programme, we have found that some students have been taught that trust equals a notion that the teacher is always right. As discussed previously in the section concerning cultural adaptation, such students find it difficult to get involved in discussions, as this is contrary to their perceived role as "student". We have had students who have found classes difficult and stressful when they have been expected to have an opinion of their own. They have told us that they have felt that other students receive praise when they question or criticize the teacher, which has turned their world upside down. In contrast, other students do not perceive the expression of contrary opinions as representing a violation of trust in

the teacher's expertise, but rather view this as an opportunity to gain intellectual prestige. Being able to decipher these different manifestations of trust is important, both among students and staff.

Competing interests – intrinsic vs. extrinsic motivators

An equitable learning environment must also be able to accommodate differences in individuals' underlying motivation when undertaking a task. In social development theory, the two main types of motivators have been classified as either being intrinsic or extrinsic, where the former is linked to being inherently interested in performing the task, while the latter is related to doing something because one wants to attain a specific outcome (Ryan & Deci, 2000). In a learning environment these different types of motivators have been operationalized in terms of the following: intrinsic motivators correspond to an interest in learning, while extrinsic motivators relate to an urge to achieve good learning results—two interests that are not necessarily the same, although they may be interrelated (Biggs & Tang, 2011).

As our programme has evolved through the years, we have seen a clear shift in the reasons for students choosing to apply to our programme. Initially, intrinsic motivators drove most of our students. They chose our programme to develop professionally, as most of our students already were employed within the public health field. As our programme evolved into a two-year programme, we experienced a slight shift in student motivation. Suddenly, some of our students were more motivated by extrinsic factors, such as gaining a degree from a top 100 university, rather than gaining the skills and knowledge associated with an advanced education. In addition, as mentioned in the introduction, when Swedish higher education in 2011 began to require tuitions fees for students from outside the EU, our non-European students predominantly financed their studies through conditional scholarships—meaning that one has to perform in order to keep them. Another sign of this development was that the students requested—and received—an augmented scale of grades. Up until 2012, students received only a "pass" or a "fail", but since then the grade of a "pass with distinction" has been added.

This development does not appear to be solely culturally determined. In general, students from all settings have become more extrinsically motivated, regardless of geographical background. We do, however, notice that those still driven by intrinsic motivators are often older and well anchored within the labour market.

Most likely, the extrinsically motivated students are those who hope to find a job because of their attained education, rather than hoping to develop further within their professional lives.

From a faculty perspective, this constitutes a delicate dilemma. In the past, education was valued as an opportunity to gain personal knowledge, with perhaps more emphasis on the purely intellectual component. This tendency to regard the pursuit of knowledge as an aim in and of itself, without any further practical implications, originated from the era when education was available only to an elite portion of the population. Yet, some teachers still adhere to these notions despite an increasing emphasis on pragmatism and career advancement. For such teachers, it may be difficult to set aside a tendency to prefer students who are driven by inner curiosity rather than an eagerness to receive high grades. Previously, however, this was not an issue. Almost regardless of how we designed assignments and test, students performed according to their motivation. Today, the picture is somewhat different. In summative evaluations of course goals attainment, students driven by extrinsic motivators seem to do better than those driven by intrinsic ones, which does not seem to be a mere coincidence, given the existing socioeconomic pressures on these students to perform well. Within the faculty, this has resulted in a discussion regarding how we should design our examinations.

From an equity perspective, it is important not to perceive different types of motivators as *better* than others. As a matter of fact, the motivations for knowledge acquisition should not matter. If education is truly to be regarded as equitable, then it must be designed to take into consideration the fact that different students have different needs, etc.

Strategies to cope with equity challenges

Over the years, we have developed a number of strategies to cope with the various equity challenges outlined above. The key strategies that will be discussed are encouraging pluralism, raising awareness of issues related to diversity, and encouraging student input.

Encouraging pluralism

Currently, in 2015, within the Lund University Master's Programme in Public Health, we have about 40 nationalities enrolled. This means that the programme faces students who have been trained in 40 plus different university settings, and thus the challenge is to make them perform— i.e. to learn—to the best of their ability. Still, this is also an enormous asset. Many students apply to our programme because they want to engage with an international environment, or at least according to the motivational letters prospective students submit during the admissions process. From this, we conclude that the students perceive themselves as actors in an international arena. However, we as faculty at a Swedish university, do not necessarily see our work as taking place in an international setting per se.

To turn such an international environment into an asset, we have found that one of the most important behaviours we, as teachers, can encourage is to promote students to use the classroom as a forum for sharing their viewpoints with their peers, and subsequently to take an active role in the knowledge transfer process. Traditional lectures, where a teacher applies one-way communication techniques, have not succeeded in adding the expected value. However, if teachers are encouraged to get students involved in the teaching process, all students—even those who usually do not to like take such an active role—gain a richer experience and learn more.

To encourage this type of interaction, it is vital that teachers draw upon examples from various international settings, and present these in the classroom. By distributing global study materials, and by taking an open-minded stance, teachers can convey the message that knowledge obtained from a wide variety of settings has intrinsic pedagogic value. Through these examples, students thus learn that what they have experienced in their own setting is of value to their peers, thereby encouraging them to share their experiences openly. Engaging students in two-way communication processes promotes peer-to-peer knowledge transfer for mutual benefit.

Another important way to enhance pluralism is to address and cover subject matter that reflects the variety of professional backgrounds represented in public health research and practice. Within courses concerning research methods or public health or health policy, it is vital that the lectures, seminars and discussions not only illustrate the broad scope of the public health field, being in the intersection between social sciences and medicine, but that this breadth also provides a platform for discussion among students with different professional and academic backgrounds.

In summary, although students in our programme tend to see themselves as actors in an international arena, we can only achieve true pluralism through the students' active participation in the learning process. It is through their contributions to the learning environment in the form of, for example, classroom debates or student-led lectures that pluralism can occur. Thus, for us, it is vital that we create a learning environment that encourages all students to share their narratives, regardless of cultural background or professional experience.

Raising awareness of "differences"

In our programme, we have found that it is productive to address student diversity as a potential source of inequity in the learning environment. By doing this we have found that the students become aware of the teaching challenges embedded within an international master's programme. As an added benefit, it also increases the students' understanding of their peers. As our students often are engaged in group assignments, this understanding enables not only smoother group dynamics, but also provides a more honest platform for this type of work. Awareness of differences helps to build social trust, which in turn is an intrinsic aspect of successful collaboration.

What do we tell them when we address the apparent differences that exist among students? Initially, we address the language challenges. We inform our students that we are aware of their different language skills, and we tell them that those having a tough time writing in English will struggle initially. However, we design the first assignment in such a way that the students are made aware of their capacities—both their strengths and weaknesses, as we believe that this will enable them to improve their written skills even further.

Another area in which our students differ considerably is their epistemological starting point. Many students come from backgrounds where anything published is considered valid, or where a student is reduced to a receiver of knowledge and is not fostered to think independently. We address this within the programme mainly through emphasizing reflection as an important concept in most examination assignments.

In another attempt to address this challenge, we place particular focus on learning how to paraphrase during the early stages of the first semester. Paraphrasing is, as a tool in academic work, a quite ingenious way to develop an individual approach to knowledge. The student needs to describe the knowledge they have processed, and then interpret that information, and in a final step present the reader (in our

case the teacher) with that interpretation. What is also very interesting, when we work together with the students developing their paraphrasing skills, is that all students can improve in this area. Correct paraphrasing is a challenging task for everyone, and a skill that must be mastered early on in order to be able to describe and relate to existing knowledge in the field.

Another strategy that many teachers use is to relate their approach to teaching from the perspective of the didactic triangle (Kansanen & Meri, 1999). The triangle problematizes the relationship between three nodes: the learner, the teacher, and the subject matter. For example, an authoritarian approach to teaching puts the teacher in the centre. The teacher will then decide what course content the learner should learn. In a student-centred approach, however, it is the learner who decides what course content she/he has to learn and what support she/he needs from the teacher in order to do so. As this is a rather simple model to grasp—both for teachers and students—and easy to relate to, it has been found to be quite thought provoking. Many students have reported to teachers that this particular model has helped them to understand how they, as students, should navigate through our courses, mainly because the model puts a finger on what their responsibility is as students.

Specific strategies to address differences in students' backgrounds

As we described above, cultural differences and differences in social capital are some of the important factors that may set our students apart, and thus potentially represent obstacles for the establishment of an equitable learning environment. There are, however, a number of concrete teaching techniques that can be used in order to reduce the impact of those differences.

Firstly, even though international students generally appreciate the fact that the international classroom is an international experience in itself, we have found it wise to allow students the option to write course papers and to do presentations about their domestic setting, rather than solely focusing on international issues. This has two considerable advantages. The students' familiarity with their own setting increases their self-confidence, and they find it—at least at times—more useful and relevant.

Secondly, we have for several years implemented an anonymous grading system. As a result all assignments and tests are graded without the teacher knowing the student's identity. There are many different ways to accomplish anonymous grading, but it usually involves giving students an ID code, which they put on their assignment instead of their name. Only the course administrator has access

to the code key. When the examiner is done grading, a list of ID codes, with a final score attached to each code, is given to the course administrator who then distributes the result to each student respectively. This way of grading has been in practice for university programmes in a number of countries. The big advantage when used in international programmes is that any potential preference on the part of the examiner for students from certain backgrounds or cultures cannot influence the grading.

Another strategy we deploy throughout our programme is random enrollment into groups for group assignments. This secures pluralistic group constellations that cut across differences in students' academic, social, and cultural backgrounds. Otherwise, group formation may be driven by the students' need to find group members with the same skills and attitudes in order to accomplish the task as effectively—not necessarily as productively—as possible. Moreover, as part of the required curricula, a course in Planning and Leadership is offered, during which the students are asked to actively reflect on group processes that might either facilitate or hinder working in a collaborative manner.

Finally, we encourage students to choose an internship as part of the elective courses offered during the programme. For many students with limited experience with other cultural contexts, the opportunity to participate in a hands-on experience in a professional organization working within the field of public health can serve as an eye opener for the importance of acknowledging different perspectives. Moreover, many of the organizations, which we have worked with in our internship programme, are directly involved in human rights work and thus represent professional approaches to capacity building regarding equity.

Encouraging student input

Apart from what happens in the classroom, what happens outside is almost as important. Within the programme, we have tried to involve the students as much as possible in different fora. The aim of this inclusion has primarily been to improve the programme, as students provide perspectives that are different from those of the faculty members who are mostly Swedish or Scandinavian.

The students are well represented in our programme steering committee—they are actually in the majority. In addition, in each course the students have two course representatives, interacting with the course leadership. We have student representatives in all committees and working groups related to the programme. Although Sweden has a long-standing tradition of promoting students' rights,

ensuring student representation in an international programme is especially vital to understand the challenges that our multicultural group of students face.

Another important point of student-teacher interaction that we have implemented in the programme is to make course leaders available to the students during what we call "office hours". This entails making the course leadership physically available to the students. Our faculty has its offices in the same building as where most of the classes are being taught. However, the office space is very inaccessible to the students due to security reasons. Instead, we allot two hours per week, when the course leaders move their "office" into the classrooms. Here students are welcome to address any issue regarding the course they are currently taking.

Discussion

In this chapter, we have chosen to emphasize equity as an important challenge within the framework of an international master's programme in a Swedish university setting. We have addressed four key aspects where lack of equity poses potential obstacles for equal opportunity for successful academic performance: language, differences in cultural background, social capital, and intrinsic versus extrinsic motivators. Moreover, we have described different strategies and measures that we have deployed in order to deal with the challenges emerging from these aspects, many of which are rooted in a student-centred approach. In this perspective, a student-centred approach seeks to allow each student to participate on equal terms, by emphasizing pluralism and equal worth. Although a student-centred approach can be a powerful tool for enhancing equity with regard to performance, it is necessary to consider the potential role of other aspects of the Swedish education system, namely constructive alignment and the subsequent didactic approach.

Constructive alignment is a concept in teaching that aligns the teaching activities within a course with the aims of the course (Biggs & Tang, 2011). This means that all activities should lead to the attainment of the course objectives. In terms of the topic of this particular chapter, the concept of constructive alignment could be problematized as follows:

If we, as human beings, tend to construct our reality based on our cultural understanding and social capital, and if we are driven by a set of motivators, then

how do different individuals relate to a specific set of course objectives? In our experience, most students approach this by first studying the course objectives. Then, they make an assessment as to whether objectives are intrinsically or extrinsically motivated – in other words, which course objectives are seemingly fulfilled through reading, discussion, and attending lectures or seminars, and which objectives require formal assessment of task performance. The objectives, that they readily can relate to, become embedded within their role as students in that particular course, meaning that they will strive to fulfil these aims *during the course*. Those aims they find harder to relate to will emerge as extrinsically motivated objectives, meaning that they will aim to fulfil these *on the completion of the course*. As teachers, we have only indirect access to the process by which students relate to the course objectives, but very often during the first sessions of a course, the students will request additional information about what aspects are obligatory, how they will be graded, etc. The ensuing dialogue about the course objectives tends to reveal a great deal about their primary concerns.

As a consequence, when we as teachers try to engage our students in interactive learning activities, some students will be more active than others, some because they are intrinsically motivated, i.e. the interaction fosters their learning, and some because they are extrinsically motivated, i.e. the interaction is one way of showing the teacher that they have learned. However, there will also be those students who will never interact without active encouragement, whether from peers or from the teacher. In our experience, the latter group is not lacking in motivation—extrinsic or intrinsic—but rather seems to have a personality that does not match the situation. This constitutes a dilemma that could potentially lead to an inequitable learning environment, especially if being active in class is given a heavy weight in the grading process. Those students who were willing to stick their neck out in plenary discussions would almost certainly, in such a case, be considered "better" than those who sat quiet. In addition, if papers and exams were not graded blindly, there would be those students who would get higher and lower grades, not necessarily based on the written text, but based on their performance in the classroom environment.

Yet, it is important that either task is given weight in the final grading—not only the written examination—as all activities should, within the framework of constructive alignment, lead to the attainment of course objectives. From an equity standpoint within this framework, it is imperative that all students are assessed on a number of different activities, and that examination actually assesses goal attainment rather than task fulfilment.

An obvious challenge relating to the above are the national Swedish criteria for

higher education and how programmes are being evaluated (UKÄ, 2014). These criteria demand that students are to be assessed by specific tasks—most specifically their degree thesis—which, based on the abovementioned challenges of language, cultural capital, social capital and motivators, does not necessarily equal an equitable learning environment. The emphasis on the thesis as a key indicator of knowledge attainment in the current evaluation system represents, thus a particular challenge for international programmes, and strategies must be developed in order to ensure that students from abroad will not necessarily be disadvantaged.

A key reason why this chapter was first considered was that we, the authors, have spent several years discussing and reflecting upon our role in achieving an equitable learning environment, given the great diversity of students in our classrooms. Within the framework of constructive alignment, a central element is that it fosters student-centred learning (Thadani, Kwong, Chong, & Wong, 2013); the student determines what to learn in order to reach the course objective, rather than teacher-centred learning, where the teacher defines what knowledge is valuable to the student. This student-centred approach is not universal, and we have throughout the years encountered a number of students within our programme who have been trained within teacher-centred learning environments. These students may be particularly challenged by having to take responsibility for their own knowledge acquisition, and it is important that such students do not become left behind. Thus, efforts must be made to identify such students as early as possible in order to provide additional support.

Raising awareness of equity issues is an on-going process, which starts anew with every new batch of students. Although we have learned a great deal during the history of our programme, the increased intensity of global disparities in terms of wealth and opportunity, together with increasing heterogeneity in students' perspectives and backgrounds, point to the need for continued efforts to ensure that every student admitted to the programme has an equal potential to gain the knowledge required for a master's degree.

Conclusion

In order to enable a very culturally diverse group of students equitable access to a defined learning environment, one must consider a set of potential challenges: language, cultural capital, social capital and different motivations. To meet these

challenges—within the framework of an educational system relying on constructive alignment—we have deployed a set of different measures that attempt to encourage pluralism, raise awareness of equity, make the examination blind to academic background and social capital, and encourage student input. Although we have gained a considerable degree of experience throughout the years, every course group represents a new potential challenge due to the ever-changing composition of the student body. All in all, the students themselves are the most important resource in our programme with regard to encouraging and acknowledging pluralism, and their role cannot be sufficiently emphasized. Ensuring equity in knowledge acquisition is a continual process and a primary objective for our programme.

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Chapter 8

Building a "Home": the role of administration in master's programmes

Shoshana Iten and Lena Örnberg[1]

The role of administrators has been largely overlooked in educational literature, especially in relation to interdisciplinary and international programmes. The need for creating a sense of belonging is likely more significant among student groups coming from different disciplinary and cultural backgrounds, undertaking their education with a complex structure. This chapter reflects on some of the practices introduced and maintained by the administration with the aim to encourage an enabling learning environment. Written from the perspective of the administration, attention is drawn to the activities and practices introduced at three master's programmes at the Faculty of Social Sciences. The concept of microculture and cultural artefacts are used to understand practices that contribute to creating an enabling learning environment. Finally, the chapter brings attention to the importance of a solid administration in order to meet the needs and expectations of international and interdisciplinary master's students.

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Introduction

Discussions regarding interdisciplinarity often focus on teaching methods, course content, and how the material is understood, integrated and applied by students. While these discussions are central, other significant dimensions of how students experience their education can be through the environmental, institutional and physiological support they receive from the university and a sense of belonging at a faculty, department or programme. These aspects play an even more central role in programmes that are both interdisciplinary and international, where students from various academic and cultural backgrounds are expected to interact, collaborate, and join each other in a meaningful endeavour towards their futures. This new culture and environment are inseparable from students' educational experiences.

One of the main goals of the administration, in addition to providing the expected administrative support to students and teachers, is to develop and implement practices that contribute to the creation of a "home" or shared "ethos" in terms of space, social interaction, and identity for both teachers and students. This ethos[2] can be seen as helping to establish bonds among members in a group and enhancing group performance (Kezar, 2007, p. 13).

In this chapter, we look at the case of three interdisciplinary and international master's programmes at the Faculty of Social Sciences at Lund University from the perspective of the administrative staff. These master's programmes—Global Studies, Development Studies and Social Studies of Gender (the GDG programmes)—are all managed by Graduate School at the Faculty of Social Sciences. Graduate School is an independent centre at the faculty level, with the dual commission to manage the three GDG programmes from admissions to graduation, and to provide a range of courses in theory of science and methodology to a number of the faculty's other master's programmes. The focus of this chapter will be on the first part: the GDG programmes. The three GDG programmes were created in 2007 as a result of the faculty's alignment with the Bologna process, after extensive deliberations and involvement with all the faculty's departments. Graduate School, with four staff members, handles all administration of the programmes, and has its own decision-making body in the Graduate School Board, where all involved departments and students are

[2] Ethos can be understood as "the fundamental character or spirit of a culture, and connects individuals to a group; it expresses a particular group's values and ideology in a way that creates an emotional connection" (Kezar, 2007, p. 13)

represented.[3] The teachers involved in the courses within the programmes are employed at one of the faculty's departments.

Multiplicity constitutes the core of the GDG programmes' pedagogical idea. Students from diverse academic and cultural backgrounds are brought in to the programmes, spend two years together defining complicated societal problems, deconstructing theories, testing methods and discussing research questions. When they graduate from the programmes, they are just as diverse as before, but at a higher level and with a wider toolbox. A combination of depth and breadth is strived for, and therefore a solid foundation in a social science discipline is required to get admitted. Courses through the programmes are given by interdisciplinary teaching teams, and during the fourth term the students return to their major to write the master's thesis.

Managing international and interdisciplinary programmes is in many ways a challenge in itself, and the GDG programmes have been particularly challenging ever since their inception in 2007. The teachers involved are spread out over the faculty and lack a natural meeting place, making coordination of courses complicated. At the start, there were also some doubts at the departmental level that the faculty office would be capable of running educational programmes. Furthermore, during the early years of the programmes, students did not feel that the three programmes had an ethos, and often voiced their complaints. Faced with these challenges, the management and administrative staff were left with little option but to develop a strategy which would improve communication, routines, a positive learning environment, as well as develop activities and structures to build a stronger connection with the hope of improving the overall ethos of the GDG programmes. Proactively addressing the challenges, in many ways, became a survival strategy for the three programmes.

The purpose of this chapter is to place the role of administrators in a theoretical context, to explore ways in which their efforts and activities can be better understood, and ultimately, to reflect on how strengthening administrators can help build an enabling learning and teaching environment in interdisciplinary and international learning contexts. This is seen as an interesting and often overlooked aspect of discussions in educational literature related to interdisciplinary and international programmes. The chapter will use the concept of a microculture and cultural artefacts to help explain the attempts made by administrative staff to

[3] There are several multidisciplinary and interdisciplinary master's programmes at the Faculty of Social Sciences. Only the GDG-programmes have their administrative unit at faculty level, while the other master programmes are managed at department level.

transition from the former, weak microculture to a stronger one. It is primarily a reflection, and uses views of administrative staff and students as anecdotal evidence on the changes that have taken place. This is not an attempt to provide a comprehensive summary or evaluation of these attempts, but rather to draw attention to them and consider their impact and usefulness for international and interdisciplinary programmes and in light of the broader goals of Lund University's internationalization strategies.

The chapter begins by discussing some theoretical perspectives of the role of the administration and different definitions of an enabling learning environment. The concept of microculture, and the artefacts that help define a culture, are presented as useful ways of understanding the effectiveness of a strategy to improve the studying environment. This is followed by a section where the three GDG programmes are described, along with the challenges they face. A presentation is then made of all the various activities that have been introduced by the administration to address some of the challenges. This is followed by a discussion where these activities and practices are related to framework presented earlier to help explain a transition from a weaker microculture to a stronger one at the level of the administration. Finally, questions are raised regarding the implications for other international and interdisciplinary programmes in light of internationalization.

Conceptual framework

The role of administration in higher education

There has been limited but growing research, especially from Australia, on the role of administration in higher education (e.g. Castleman & Allen [1995]; Graham, C [2012, 2013]; Szekeres, J [2004], Sebalj, D et al. [2012]), as well as a growing body by professional staff themselves (e.g. Conway, M [2000], Graham, C [2012, 2013], Szekeres, J [2004] and Whitchurch, C [2010]). These authors have been both drawing attention to this often overlooked group of staff and have been advocating for broader inclusion of this role when discussing professionalization and organisational development in higher education. The definition of an administrator varies, but is generally related to staff working to maintain an organisation, giving support to the core business: education and research. For instance, Szekeres defines administrators as "those people in

universities who have a role that is predominantly administrative in nature, i.e. their focus is about either supporting the work of academic staff, dealing with students on non-academic matters or working in an administrative function" (Szekeres, 2004). While most academic staff are also expected to perform administrative tasks, the focus of this chapter is placed on administrators who have administrative tasks as their main function.

Administrators are, in part, included in the larger community of university staff. At the same time, people in this group continue to carry a separate role to support (teachers and students) and nurture (primarily students). Szekeres (2004) indicated that administrators have been labelled "the invisible workers." Their invisibility can be seen in various references in the literature. One explanation of the invisibility, given by Castelman & Allen (1995), is that the role previously held the title of secretary with a supporting function, and it continues to be a predominantly female workforce.

There has been a global trend in professionalizing academic staff, and a possible shift in the balance of power between faculty and administration (for example, see Conway, 2000 and Lauwerys, 2002). However, the division between academic and administrative staff largely remains in place and continues to contribute towards a division and separation, notably in discussions pertaining to the quality of education.

In higher education, there exists a triangular relationship between the administration, teachers and students. Below is a simple visualization of the relationship that can be useful in this discussion. It is generally understood that all three groups are necessary in any educational institution, at least at institutions where teachers are not expected to primarily be responsible for administrative issues.

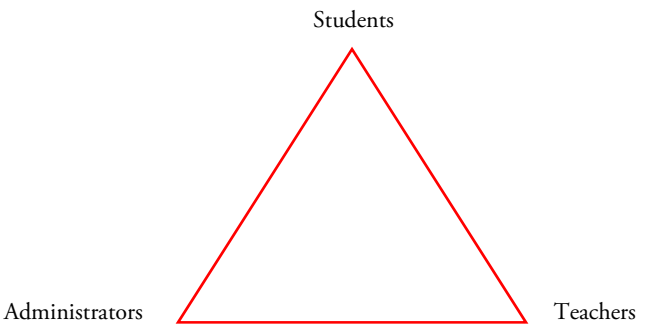

Figure 1. The triangular relationship between the administration, teachers and students

Shrinking the gap and discussing at a deeper level the interrelationship between the three groups could be beneficial in many ways. One notable result could be to bring to light the otherwise invisible work being done to improve students' educational experiences. It could also bolster other educational programmes with similar challenges related to diverse student bodies, lack of common ethos, and other aspects emerging with the internationalization agenda. Understanding how to better address these needs can lead to improvements in strengthening students' support structure, and raise the overall quality of higher education organisations.

Defining an enabling learning environment

As noted in the book's introduction, the discussions surrounding interdisciplinarity and its complexity and fluidity in regards to integrating and synthesizing knowledge across the disciplines helps explain the need for finding a common foundation, or an enabling environment, in which students' learning can be bolstered and encouraged to flourish. With great focus being placed on the quality of education, it is relevant to discuss not only the education as such, but also the environment in which this education takes place. This environment can lie on a spectrum between being enabling or disabling, but can also be understood as dynamic since it can change based on the context or experience from an individual, specific cohort or course. This environment can be understood as a "home", which can be vital for both students and teachers, and includes physical, cultural and social dimensions. Creating a positive, or enabling learning environment, which encourages cohesion is important for students coming from different disciplines, and perhaps especially so for international students.

There are numerous ways of defining an enabling learning environment. According to Ryan and Viete (2009), there are several important aspects for successful learning for international students: feelings of belonging; being valued as a person with knowledge; and being able to communicate effectively, creatively, and with confidence (p. 309). These aspects offer a sound foundation for understanding an enabling learning environment, but are difficult to translate into concrete terms.

In the Swedish higher education context, some of these dimensions are expressed, though less explicitly, in the Work Environment Act (*Arbetsmiljölagen*, 1977:1160), which has been adapted to cover students' rights and has been published on Lund University's website under "Studie och arbetsmiljön" (study

and work environment). In relation to learning and working environment, Lund University includes the following aspects:

- Attempts should be made for students to receive sufficient time in their schedules for allowing the possibility to get to know their classmates, through which they receive a good studying environment and increased chance to receive a higher studying result.
- New students, both programme as well as students taking single-subject courses, should be allocated time during the introduction to receive information to student life and how to receive support for study/social questions.[4]

The list also includes aspects of the physical environment such as adequate and equipped classrooms, group rooms and study rooms. In the points noted above, there is specific emphasis on the schedule. While this is easily translated into practice, and thus monitored, it does not acknowledge the substance of and meaning given to these moments, nor the time, space and interactions that take place outside classroom activities that contribute to the environment.

The document on Student Rights also mentions the Work Environment Act (*Arbetsmiljölagen*, 1977:1160)—where students are provided the same rights as employees—which states that "working conditions shall be adapted to individuals' different circumstances, that employees shall be offered the opportunity to participate in the design of their work situation and that the work shall offer opportunities for variation, social contact and cooperation (WEA 2:1)."[5] These aspects imply that student groups are composed of individuals with a range of experiences, backgrounds, cultures, and ambitions that should be acknowledged and supported. Students should also be encouraged to participate in shaping their experience, and provided with opportunities to develop social contacts with others. Lund University's interpretation of the Act notes that a good study environment includes a social dimension, especially in regard to fellow students, and acknowledges the strong connection between the social environment and studying outcomes. It is interesting to note that the emphasis is placed on studying outcomes, which in general terms can be understood as the accumulation of a certain number of credits. Other dimensions that could also be highlighted as goals in creating an enabling learning environment could be a

[4] This is the authors' translation of the points 7 and 8 on http://www.lu.se/studera/livet-som-student/rattigheter-och-skyldigheter/studie-och-arbetsmiljo, accessed on 02/12/2014

[5] http://www.lunduniversity.lu.se/sites/www.lunduniversity.lu.se/files/student-rights-2013-lund-university.pdf, accessed on 02/12/2014

student's understanding, achievement, satisfaction, and even longer perspective goals such as network creation and career options.

Ensuring that this enabling environment is met is delegated to the heads of departments. How this is then translated into practice is not stipulated. Some components are covered in classrooms by pedagogical methods, but a substantial time in a student's life is spent outside the classroom. While efforts are made by other university units (External Relations, student unions, nations[6]), as well as programme directors, a significant component closely linked to their classroom and education experience comes from the administration, especially in interdisciplinary programmes.

While the definition of an enabling learning environment could be further discussed, for the purposes of this chapter we will refer to an ideal type of strong microculture, which includes a sense of belonging, a high level of trust, and experiencing shared responsibility.

Microcultures in higher education

The dimensions that contribute to creating a "home" can be further understood with the help of the concept of microcultures. The concept of culture is broad and can refer to patterns of meaning, symbols and practices communicated, perpetuated and developed over time (for example, see Geertz, 1973, p. 89). In general terms, organisational culture refers to the norms and practices created, maintained and altered at the organisational level. Norms can be understood as "shared concepts of what must, must not, or may be appropriate actions or outcomes in particular types of situations" (Ostrom, 2005, p. 112). Norms are not usually written, and are therefore more flexible and open to interpretation. Ostrom maintains that norms are fashioned as "problem-solving individuals interact trying to figure out how to do a better job in the future than they have done in the past" (Ostrom, 2005, p. 19).

A university can have many different cultures, both at the central level, and more decentralized at the faculty and departmental level, depending on how it is structured. It can thus be useful to distinguish between broader cultures and microcultures, where the latter allows insight into a smaller sized institution and the meaning given to it. In relation to discussing a specific organisational culture at a smaller unit or department, one could propose that there exists a form of

[6] Social clubs for students

organisational microculture. Katarina Mårtensson and Torgny Roxå developed a project on microcultures using different departments and units at Lund University as a case study. In his dissertation "Microcultures in the meso level of higher education organisations- the Commons, the Club, the Market and the Square", Torgny Roxå analyses, through a series of articles, how individuals working together in higher education contribute to creating microcultures (Roxå, 2014).

Mårtensson and Roxå have developed a matrix including four ideal types (analytical constructs) of microcultures combining trust and shared responsibility that can be useful in discussing the role of microcultures in higher education. These types are referred to as the commons, the market, the club and the square (Figure 2).

	Degree of significance to each other: **High significance.** **Strong ties.** **High trust.** **Sense of belonging.**	*Degree of significance to each other:* **Low significance.** **Weak ties.** **Low trust.** **Sense of coexistence.**
Experience of a shared responsibility: **Do things together.** **Negotiate what to do.** **Are impacted by what the others do.**	**The Commons** Share a concern for a practice. Things are being negotiated in relation to the shared concern. An undertow of consensus. "We're in this together."	**The Market** Share a concern for a practice. Ideas compete. Things are negotiated with an undertow of conflict. Relationships are formalized through contracts. "I look after myself."
No experience of a shared responsibility: **Do things in parallel.** **Do not interfere in the others' doings.** **No negotiation.**	**The Club** Peers come together without sharing a practice. Descriptions from practice are not challenged. Friendship and consensus is secured. "We'll always support each other."	**The Square** Share a space with strangers. Things are negotiated only when necessary. Members enter into relationships and leave them continuously. "Who are these people?"

Figure 2. The four basic types of microcultures (Roxå & Mårtensson, 2015)

According to Roxå & Mårtensson (2015), the commons relates to a group of individuals who have a common sense of belonging, trust for each other, and share responsibility and is seen as the ideal form of a strong microculture. The market refers to contractual relationships based on low levels of trust, where people still

have a shared concern. The club refers to a group of people sharing a space and trusting each other, but having no interaction. The square refers to both a low level of trust and having no interactions, such as people standing in a public square, and refers to an idealized form of a weak microculture.

Roxå proposes that microcultures, in relation to higher education, can be understood as a culturally formed organisational entity that exists over some time in the meso level, and where its members are perceived, by themselves and/or by others, to share a context over time (Roxå, 2014, p. 39). The relationship between a microculture and a broader organisational culture is complex and, similar to the concept of culture, admittedly illusive and hard to define (Roxå, 2014, p. 53). Nonetheless, there are some distinguishing elements that are noted most often when moving across microcultures, bringing out a sense of "us and them", along with a sense of "this is how we do things around here."

In the approach adopted by Roxå and Mårtensson, individuals are understood to have agency and are able to follow their own intentions within the constraints of certain norms and institutions, as suggested by Giddens (Giddens, 1984) and his theory of structuration. According to this theory, an individual has agency within a certain limiting structure, while their ability to influence or create change is strongly related to their knowledge and power. Thus, culture is understood as dynamic and open to manipulation, and influenced by individuals and groups, usually with some constraints. Research has also shown that institutional culture can influence educational change, and to what degree change is possible (Mårtensson, 2014, p. 31).

These forms of microcultures can be seen as idealized. Empirical research is needed in order to suggest that a certain microculture would fit into one of these quadrants, and this is beyond the scope of this chapter. Nonetheless, the typologies provide insight into possible environments for students, administrative staff and teaching staff at interdisciplinary and international programmes, and also qualities that are strived after in strategically implementing a shift in the microculture. By looking at dimensions of significance (i.e. significance the members have to each other, the social ties, level of trust, and sense of belonging), and an indication that a sense of shared responsibility exists, further insight can be gained into desirable microcultures.

While this model provides a useful framework for our discussion, it does not adequately explain or describe strategic changes from one quadrant to another, or how such a change can be affected and perceived. It can therefore be useful to incorporate theories related to changing organisational culture.

Changing organisational culture: the role of cultural artefacts

One of the approaches to understanding strategic organisational changes includes observing aligning aspects with the new strategy in relation to organisational structure, systems, and processes; including leadership, staffing, and resources. Higgins and McAllaster note that the key to understanding an organisation's culture is to look at the cultural artefacts (Higgins & McAllaster, 2004, p. 66). Shrivastava draws attention to aspects from strategic organisational theory that can be helpful in describing organisational cultures, and more specifically, the changes that can be affected to lead in the direction of a desired organisational culture. A culture's values and norms can be defined with the help of cultural artefacts—myths and sagas; language systems and metaphors; symbols, rituals and ceremonies; and physical surroundings (Shrivastava, 1985). While these cultural artefacts still ask individuals and groups to interpret them in a similar fashion, they can be one indicator of a culture. Based on this approach, once a strategy has been adopted, these artefacts would need to be modified, or even eliminated, in order to help change an organisation's key values and norms. In other words, in order to influence a shift from one typology of microculture to another it can be useful to focus on cultural artefacts that can lead to the desired alignment with the new microculture. We will draw on these dimensions to highlight aspects the administration has focused on.

The GDG programmes: a flowerbed of challenges and opportunities

This next section will introduce the GDG programmes and go into further depth regarding the challenges faced by administrators, students and teachers. This is then followed by a larger section where various activities introduced by the administration that address some of the challenges are presented.

As previously noted, the GDG programmes constitute three interdisciplinary international master's programmes. Students from nine majors and about thirty different countries are brought in to the GDG programmes every year. It is assumed that the international students, who make up about 50% of the student body, provide rich and meaningful experiences and perspectives that contribute

to the overall quality of everyone's education.[7] Similar to the rationale for offering international programmes, interdisciplinarity is also seen as a means of enriching and broadening students' educations. Interdisciplinarity at Graduate School is prevalent in the student body, in teaching teams on the courses, and in the course material throughout the programs. Students are expected to integrate different approaches from various disciplines and build their own common thread. At the end of their two year studies (120 credits), students graduate with a degree in one of the programmes with a specialization in the subject area most closely related to their Bachelor's degree. In other words, students join the interdisciplinary programme from a range of academic backgrounds; enrol in shared thematic, social science theory and methods courses; and towards the end of their studies, return to their discipline to write their master's thesis at their respective departments. This structure allows for individualized learning goals and an integrative education, giving them both depth and breadth in their studies.[8]

The pedagogical idea—at its ideal—could be illustrated as below (Figure 3): all students have different roots, grow together, and support and influence each other for two years while sharing similar nutrients, and then blossom individually at the end of the programme.

While the image above presents an ideal vision for the students' experience with the programmes, there are also many challenges faced along the way. International students may need extra support as they are expected to adjust (rather immediately) to a new social, cultural and political system, language and academic culture in Sweden, and often have no established relations or social networks. They are faced with many adjustment challenges, both psychological and physiological, which are encountered alongside and inseparable from their studies. The students also start the programmes with different expectations and career goals, with some pursuing deeper knowledge and experience within a specific field, while others are still exploring, or simply prioritize obtaining high grades

[7] It should also be acknowledged that since the introduction of the study fees there is also a visible shift towards fewer international students from the Global South who accept their places in the programmes. So while the GDG programme students come from a range of countries, they are less diverse than they used to be. It is important for the programmes to include students from a range of socio-cultural backgrounds in order to have a good exchange of knowledge and experience. So far, we have been able to recruit a good number of scholarship holders provided by the Swedish Institute, but since the new government's decision to cut this funding, the number of students from the Global South will probably be dramatically reduced. Our aim remains to recruit a broad range of students, even if this will become an additional challenge.

[8] Another reason for this structure is to enable students to continue their academic studies by being eligible for PhD programs.

and a master's degree for the sake of the degree and title alone. Other aspects of diversity are the knowledge, experience and skills that the students bring with them. Even if students have studied the same discipline in their Bachelor's degree, their knowledge and skills related to methods, theories, subject matter, academic writing, the English language, and the academic culture at Lund vary greatly. In short, one of the main challenges is to create a common group ethos from a diverse group with a range of needs, expectations and backgrounds.

Figure 3. The ideal pedagogical idea where students have different roots, share a common growing space, and blossom in different ways (artistic credit: Tyra Örnberg).

Box 1: Main Challenges for the GDG programmes

- Culturally and academically diverse student body (9 majors, 30 countries).
- Variety of expectations among the students.
- Lack of common ethos.
- Complex courses and programme structures.

In addition to the challenges faced by interdisciplinary programmes and an international student body, the structure of the programme also poses several challenges for the students (see Box 1). Throughout the programme, students participate in classes taught by teachers from many of the departments and are expected to understand, apply and critically reflect on methods and theories from the various disciplines at the faculty.

During their fourth and final term, when it is time to write their theses, they return to the department which corresponds to their Bachelor's degree, where they write their theses[9]. This structure is sometimes confusing for students since they move away from the Graduate School setting into a different and often unfamiliar department with which they have had little contact until their last semester. At this point, they are expected to be able to demonstrate their grasp of methodologies and theories from various disciplines and integrate them into their theses to the standard that is expected at their specific departments. Some may see themselves at a disadvantage compared to students who completed their entire studies at their specific departments.

In order to function, the GDG programmes require excellent lines of communication and ongoing work from students, teachers and administration. From its inception, the leadership and administration were aware (to different degrees) of some of the limitations and challenges ahead. They consciously worked on addressing the problems and finding solutions to the challenges with the aim of raising the overall quality of the students' educational experience. They worked in close dialogue with the three programme directors as well as the course directors to test different methods that could contribute to the overall vision. Feedback from students, through individual meetings and course evaluations, also provides important input for further development. While many of the methods contributed positively, others were tested and later removed because they did not meet the expectations or no longer made sense under the current circumstances. It is also worth noting that the director of studies played a central role in bridging administrative and academic components. The section below outlines some of the efforts made by the administration to address some of the challenges mentioned above.

Practices introduced, maintained and developed by administrative staff

The following is a description of the actions taken by the administration to foster a stronger ethos among the GDG students at the level of the Graduate School administration. In addition to this level, each programme director works at the

[9] To write a thesis at a department means that students will follow the specific guidelines from the department, which can differ depending on the department. This includes the number of supervision hours, deadlines, as well as writing requirements. The supervisor and the examiner are assigned by the department.

programme level to foster an additional identity and ethos. While the administration supports these efforts at the programme level when possible, their main focus is on the level where the three programmes intersect.

Creating a programme identity/ethos

There are several efforts initiated by the administration to encourage social learning and interaction. Students are offered opportunities to build social relations with each other early in the programmes, often combining this with a set of skills or tools that they can develop individually and in groups. Together with the programme directors and teachers, one of the goals, especially during the first weeks of the programme, is to bring a diverse group of students together to a similar starting point, while at the same time drawing attention to the students' individual backgrounds, skills, identities, ambitions and future plans. An overview of the activities in relation to the structure of the programmes can be found in Appendix II-B.

Getting Started in Lund: Inspired by a project several Dutch Universities presented at a conference in 2010[10], Graduate School introduced the possibility for incoming students to participate in an online platform to prepare for their studies before arriving in Lund or beginning their program. The platform offers students the possibility to test their strengths and weaknesses in relation to academic writing, and gives them follow-up information and guidance. They are able to present themselves to each other, read introductory literature related to their programmes, practice their academic writing through a quiz and hand-in assignments, and engage with second-year student mentors in discussions on studying in Lund and on the subjects they would study. The platform is held on LiveatLund, the main on-line platform, which is used in their subsequent courses. Participation in the platform is entirely voluntary.

Social Events: The administration encourages students to meet and interact across programmes and cohorts through different social events. These social events include:

- Annual potluck (in the autumn).

[10] This project ended in 2010. For more information on the project you may visit http://www.online-educa.com/OEB_Newsportal/e-learning-and-acculturation-%E2%80%93-helping-students-to-study-abroad/ and http://media.leidenuniv.nl/legacy/report--1round-3workshop. doc.pdf (accessed 2015/07/12)

- Soup lunch with student chaplain and student health councillors (early winter).
- Lucia fika (coffee/tea)[11] (mid-December).
- Internship lunch (mid-February, co-organized with student union) where 2nd year students, who have come back from their internships, share their experiences with 1st year students.
- Spring lunch with invited guests (beginning of April).

Often, these social events are combined with a topic of interest or a guest lecture organized by the administration. During last year's spring lunch, Graduate School invited PhD students at the faculty to participate in a panel to speak about what is was like to be a PhD. Lucia Fika, a prominent war photographer, was invited to present some of his work and experiences working in different war zones. These are opportunities where students can meet and socialize around common themes.

Development Practitioner Seminar (DPS) series: The administrators organize a Development Practitioner Seminar series together with other development studies programmes during the spring terms. Development practitioners are invited to run seminars where they share with students their experiences working as professionals in the broader field of development. The presentations often focus on specific challenges within a certain field, their personal career development, and how they combine their private life and career. The idea is to give students insight into what life in the specific position, field, and organisation is like, to connect theory with practice, and to help them build up a network with classmates, other programme students, and the presenters.

Master's Thesis Conference: Since 2012 Graduate School has been organizing an Annual Master's Thesis Conference. This is an opportunity for master's students to present their research to new audiences, gain feedback from PhD students and other academic staff, and experience what being part of an academic conference can be like. The conference is organized in thematic parallel sessions and also includes a poster session. While the conference was only open to GDG programme students during their initial year, participation was broadened in 2014 to include other international master's programmes at the faculty.

[11] Lucia is considered a hallmark of the winter holiday season in Sweden, and is celebrated around December 13th, St. Lucia. It is often celebrated by dressing up as Lucia wearing candles in their hair, music, and classic foods and drinks including mulled wine, saffron buns, and gingerbread cookies.

Mentors: The GDG programmes participate in the SI (Supplementary Instruction) mentor programme, in which second-year students are invited to apply for positions as mentors for incoming students. The selected mentor (one per programme) is offered a two-day training in mentoring by the faculty. They are encouraged to plan weekly sessions in collaboration with the course teachers, where different useful topics are covered. The administration helps in booking rooms and including the sessions in the schedule, especially at the beginning of the programme, and meets with the mentors to exchange experiences and explore what support can be given to help improve this opportunity.

In some courses, student mentors are engaged to offer additional feedback and smaller group discussions. These mentors are normally second year students who have been recommended by the course teachers.

Newsletter: The Graduate School newsletter is published twice annually as a means of creating a shared identity by bringing attention to some of the core activities and actors in the GDG programmes. Each issue includes stories from students doing their internships, updates from alumni, highlights from current teachers, presentations of the programme directors, and news from the administration. The newsletter is sent to all teachers, current students and alumni, and is published on the website.

Social Media: The GDG programmes use Facebook and LinkedIn to reach their online networks. While no official or required information is posted here, it is a visible form of connecting current, past and prospective students, teachers, and staff.

Student Receptionists: Current students are employed to work in the reception in the building where the administration has its office. The role of these students is to provide current and prospective students with information ranging from schedules, transcripts, proof of registration, to contact information. Students can pick up letters, transcripts or other documents to hand out. An indirect function of the student receptionists is to have a physical presence in the hallway where the classes are. The administration is also able to ask student receptionists to assist with tasks and other assignments.

MasterMail: Current students check their MasterMail address where general electronic inquiries are sent. The students are able to answer most of the questions and forward others to the responsible persons. The students also work during the summer months when the other staff is on vacation.

Seminars and workshops

"Self-awareness" workshop: The administration has introduced several workshops and seminars to encourage students to gain more self-insight into their motivation for studying, their personal learning goals, group dynamics and intercultural communication. During these workshops, in addition to self-reflection, students get to know each other's experiences and competencies in a workshop setting, under the guidance of a facilitator. During the past two years, a workshop was held during the first weeks of the programme where students wrote down and discussed events on the global, local and personal levels that influenced their decision to study this programme in particular. The timeline results from these seminars were hung up in the hallway at Graduate School so that anyone including teachers, students and staff, could read, reflect and continue to discuss, making the physical space dynamic and personal. This workshop also encouraged students to appreciate and take advantage of the diverse student group.

Reflection seminars: An addition in 2014 was the introduction of reflection seminars during the first term. This was an optional complement to the mandatory courses within the programmes. During the profile courses led by the programme directors, there are continuous discussions about the meaning of identity, culture, gender and structure. The teaching and examination methods are designed to suit different learning styles, with a mix of lectures, small group discussions and assignments individually or in pairs. But within these courses there is no explicit space for students to discuss their own ego in relation to others, or to analyse their own learning process. The aim of the optional reflection seminars was to provide a safe space for self-reflection and discussion with others, without having to worry about achievement and assessment. Students were provided a space for meta-reflections, which eventually could lead to deeper learning and improved critical thinking. It was also a way for students to get to know each other on a more personal level.

The tools and methods used in the reflection seminars are widely used in leadership courses at Lund University, but so far they have not been shared with students. For the first seminar, students were asked to take a free version of the MBTI test (Myers-Briggs Type Indicator), to find out about their own preference profile. The purpose of the test was to be a foundation for a discussion about personal preferences and differences in the group, rather than to categorize students (Goby and Justus, 2000, Pittenger 1993). The differences between introvert and extrovert preferences, and the strategies to deal with them, provoked

much discussion. For some students it was, for example, a relief to hear from their director of studies that it is possible as an introvert to learn how to handle the sometimes stressful seminar situation.

At the second reflection seminar, students used the reflecting team method; a structured tool to solve dilemmas, practice active listening and share perspectives. Learning to deal with group work was particularly useful as this is recurrent in almost all courses. As the students themselves are the biggest asset to the programmes, cooperation in many forms is encouraged.

Improving communication

The events mentioned above serve primarily to strengthen the sense of belonging between the students, and develop understanding and insight at a personal level. There are many moments when students and administrative staff interact where a sense of belonging is additionally encouraged. This is an ongoing process of improving the amount, method, and timing of communications. There are several information meetings that are included in the students' schedules, which they are strongly advised to attend to find out more about certain opportunities and choices, and to be sure that they are not missing any critical information. Lina Mann, an administrator who worked at Graduate School between 2008 and 2014, remembers how students, in the early years, experienced a shock when finding out just before their final semester that they would write their thesis at a specific department. By including information meetings and reminding students in different forms about the structure, students became more prepared. Another recurring complaint was the general lack of a common thread in the courses and the programmes. In the beginning, there were no teacher meetings and there was little opportunity to discuss with the teachers the feedback received from the student evaluations. Being part of these meetings gave the administration much more "meat on the bones" when giving academic guidance to students. It was often the students who contacted the administration with complaints about the programme and courses. In response, several activities and practices, such as the reflection seminars, information meetings, and teachers meetings have been introduced to help build this thread, but to do to this remains a challenge. It is likely that this will remain a challenge as long as student work across disciplines and there are unstable teaching teams.

Programme Introduction: The programme introduction is the first official day when students and administration meet, students are introduced to their

classmates, learn about the structure of the programmes, meet the main contact people, and receive a tour of the campus. It is an overwhelming day for many students, but one message that the administration seeks to make clear is that the Graduate School building will be a kind of new "home" for them.

Meetings with students: The official meeting point between the administration and the students is on the Graduate School Board, where three student representatives are elected through the student union to represent all GDG-programme students. The Board meets twice a term and is the decision-making body of Graduate School. There was a need to have further formal and informal ties between the students and administration. For a few years, the administration has been holding monthly meetings with the president of Pluto, the international, interdisciplinary section of the Social Science Student Union. This is an occasion where issues and concerns can be brought up, as well as possible ways to collaborate can be discussed. Ideas have emerged here, which can then be brought back to the respective groups and established before next steps are taken. Students are continuously encouraged to take action and initiative, and supporting Pluto to take on a stronger role is an extension of this.

Information meetings: The administration also holds information meetings for students in order to present specific information at a critical time, such as information about studying abroad or internships. This helps ensure that students receive certain information at the right time, have a chance to ask any clarifying questions, and avoid faulty information from spreading.

The examples above include the more formalized interactions between the administration and students, but there are other opportunities for interactions. The three administrative staff have visiting hours which students are able to book in order to discuss any questions and problems they may be facing. If other questions or concerns appear, then ad hoc meetings can also take place.

There are also several occasions when the administration meets with teachers and programme directors to address a range of issues including administrative aspects as well as substantive and strategic dimensions.

Meetings with programme directors: The programme directors play a vital role in the GDG programmes, and efforts are made to meet and discuss with them in person and by email on a regular basis. Yearly kick-off meetings between the programme directors and administration are held before the programme begins in the autumn to review and plan the coming year and address any issues or questions. The programme directors are the course coordinators for the first profile courses, the mandatory courses that all programme students take in the

first half of the first term. This allows for the programme director to develop a relation to the programme students from the very beginning, thereby strengthening this bond which is vital for the duration of their time in Lund.

Teacher Meetings: In addition to meetings with the programme directors, it is common for course coordinators for most courses in the GDG programmes to hold at least one planning meeting before the start of the course. During this meeting, teachers discuss the content, structure and examination of the course, and the number of hours to be distributed to the various teachers. Communication during the course varies from course to course, but is most often done directly between the teachers, unless it involves administrative issues. If teachers need help arranging a meeting place or would like further input, the administration contributes. At the end of each course, teacher lunches/breakfasts are organized by the administration to discuss the course evaluations, raise specific issues, and reflect on any changes that can be made for the next time. Since most courses are made up of teachers from different departments, this provides a good opportunity for the course coordinators to work on building a common thread for the course.

There is variation in the amount of communication and knowledge-sharing that is required between the administration and various course coordinators. Some courses are relatively stable with very little changes in the teaching team and structure of the course, while some courses change radically from term to term or year to year depending on a range of factors including the teaching hours the teachers have, new positions, and general work-load. There are some obvious implications for this. The main advantage with a consistent teaching team is continuity, and that teachers and administrators are familiar with the course in terms of its strengths and weaknesses. Feedback from the evaluation can more easily be integrated the next time the course is given. A course with many changes requires more communication between the teachers and administrators before and during the course, assistance regarding technology, and faces more difficulties in integrating feedback from previous terms.

The methods mentioned above require continuous reflection and adjustments. There are some components that have been less successful than others, and these have been changed or removed entirely. One such example is the weekly SIM-breakfasts which were introduced to allow teachers on any of Graduate School's courses to come to an informal weekly space to discuss any matters or concerns over breakfast. This was later abandoned when it was no longer seen as helpful and not worth the effort. Other components still require further development and have not received the desired amount of time and energy, such as broader

recruitment, working with GDG alumni and becoming even more integrated and established at the faculty. Regarding the practices that are considered successful, however, Graduate School seeks to spread these to other departments and across the faculty, such as the Development Practitioner Seminar series, the Master's Thesis Conference, and the Online Platform.

Discussion: linking administrative practices to the creation of a strong microculture

One of the main challenges of the GDG programmes is to be able to offer an enabling learning environment (or "home"), or what Wenger would refer to as a community of practice for the students (for example, Wenger, 2000). The attempts introduced and maintained by the administration can be understood with the help of the typologies of subculture described in the figure of the commons, the market, the club, and the square as well as cultural artefacts to describe the changes in the subculture. By strategically changing artefacts, efforts have been made to shift the microculture from a situation that would resemble the square, where students and teachers share a space but have no awareness of each other, to the commons, where students, administrators and teachers have a high level of trust and experience shared responsibility.

It is important to note that a strong microculture is not necessarily seen as an ideal learning environment in all contexts. There are programmes where students, teachers and the administration have such similar norms and values that it becomes difficult for students or teachers with different experiences to be valued and for them to prosper. Such programmes might actively try to recruit a broader range of students to avoid becoming too homogenous. However, this is not the case for the GDG programmes, where there are both disciplinary and national/cultural differences.

But before proceeding, it is important to discuss the challenges in delineating the analytical boundaries of the GDG programme administration microculture. This is challenging in that it could include administrative staff, academic staff and students. A distinction could also be made between the individual programmes (development studies, global studies and social studies of gender), as well as combined programmes. Each programme would arguably have its own identity, bolstered by the programme director, and activities specific to each programme.

But while students, and to a lesser degree each programme, are the central point of discussion and reference, they are not in the centre of creating and maintaining the microculture. It can be argued that the administrative staff ensures a continuity in the microculture at the inter-programme level. There is great variance in the degree academic staff are linked to the administration: while some can be considered to have close ties, many are weak. The closest are the programme directors who oversee the pedagogical continuity and quality of the programmes, have a close connection to each cohort, are active in the Graduate School Board, and have close ties with the administration. Still, they are employed at specific departments, and their role in the strategic organisational norms and values at Graduate School is less visible, or more on the periphery. In this case, it is the administrative staff made up of the director of studies and administration who maintain the microculture and extend its relations to the other groups.

Thus, a strong microculture—located in the commons—would entail a strong sense of shared responsibility and significance among the administrative staff in the first degree, and by extension to the academic staff and students. A microculture can be affected most directly by working on the structures and processes within the organisation, which in turn enable practices and norms to extend to the other actors: the academic staff and students. While it is beyond the scope of this chapter to empirically show that the Graduate School administration has a strong microculture, it can be stated that, in general, the commons remains a goal or roadmap for creating and implementing strategic measures.

In the square scenario, the microculture consists of various individuals that are only connected by the space of belonging to the GDG programmes. There are no relations among the different individuals, they are not significant to each other (yet), and tasks are pursued parallel to each other. Administrators work individually and there is no sense of shared responsibility. By extension, students go through similar processes beginning their studies without much help or assistance, and teachers and administrators have little communication or interaction with each other. Each individual only focuses on what they need, and are less likely to invest in social relationships. Each cohort begins their studies close to the square, but could also hover over to the club or the market. An example of the club could be the initial Facebook groups that are formed among students in the beginning of their studies, where their main aim is to develop friendships and build a sense of belonging with each other. It could also shift to the market where students may have competed with each other for admission to the programme, and administrators view students as commodities to be brought from admission through to graduation in an effective manner. By striving towards

a strong microculture at the level of the administration, it is assumed and expected that some of this sense of identity will extend to the other groups, and help them move from the quadrant resembling the square to one resembling the commons.

Leadership and professional development

It can be helpful to mention the role of the leadership and administration in supporting a strong microculture at the level of Graduate School. The previous section included many examples of how the administration attempts to influence the learning environment for students and teachers in order to create a stronger sense of belonging and shared responsibility—a common "ethos". These examples are part of a strategy developed by the administration and leadership to address the challenges faced by the programme in its initial years. One of the main factors contributing to the possibility for this strategy to be translated into practices is the leadership style, and most noteworthy in this context, the awareness that the needs of the organisation and personal professional development as staff are intertwined. In the beginning there were only 1-2 full-time administrators and a shifting, temporary position. This led to a heavy work-load, inflexibility regarding vacations and sickness, and a high turn-over rated in the temporary positions, which existed to enable all tasks to be fulfilled. After lobbying for the need for a stronger and more stable administration, there are currently three full-time administrators. In addition to allowing for a more dynamic team, this allows for parental leave and sickness without causing stress and increased burden on the others. One of the critical dimensions of the current leadership is that the administration is given a great degree of autonomy and trust. As Jeanette, one of the administrators, stated, "we dare to think through things, we dare to suggest things, and we dare to improve things. We have a mandate to do this, and the leadership listens. The leadership relies on us and knows that we are knowledgeable and competent. This gives us strength and power to push for things."

The administrative staff has the chance to develop itself professionally, indirectly creating a working environment which has more continuity and stability. Each staff member is responsible for their administrative area (admissions, registration and course evaluations, student advising, internship and thesis, and schedules, rooms and reporting of grades). In addition, they are encouraged to focus on tasks and responsibilities that, while also necessary, are areas that are professionally interesting for them, such as working with alumni, internationalization, the website and other communication material, or event organisation of the thesis

conference, seminar series and graduation ceremony. It is assumed that employees who see their own development in, and have some control over, their work are also more likely to make a greater effort, thereby performing better, and to contribute to developing a shared sense of responsibility. It also supports a positive and constructive working environment based on respect. The culture that exists today lacks distinct hierarchies and most of the areas can be covered by at least two of the three administrators (not including the director of studies), thereby reducing stress or backlog due to vacation, sickness, or parental leave. A critical mass is required in order for this to work, and in the case of Graduate School, the critical number of employees is three. This way, the administration is able to cover for each other and work closely in a team, while also developing individually.

Allowing for personal development is a strategic decision to encourage continuity and more effective administration, thereby freeing up resources for the administration to develop the programmes. Staff members are encouraged to take courses for professional development (provided that resources are available) and encouraged to actively participate in the various networks at the university and faculty level in order to build up a network, exchange experiences and knowledge, and better understand how the university functions. Again, this supports institutional development by bringing in further knowledge and experiences, opening up the possibilities for collaboration, and strengthening networks. The leadership has even played an active role in enabling and developing groups within the administration network at the faculty with the result of different working groups focusing on developing competencies and an action to enable new and current administrative staff to receive mentors.

Cultural Artefacts

In addition to these more structural changes, organisational change is linked to changing the culture's artifacts. According to Shrivastava's work on organisational culture and strategies for cultural change, there are four types of cultural artifacts that need to be addressed in order to understand an organisation's culture: myths and sagas; language systems and metaphors; symbols, ceremonies and rituals; and physical surrounding (Shrivastava, 1985). In this section, we look more closely at how the efforts made by the administration can help explain a possible shift from the square to the commons typology of microculture.

Organisational saga

The GDG programmes rely on a strong saga to justify its creation and continuation, and the saga is strongly related to how much has changed and improved since the beginning, leading the GDG programmes to be seen as at the forefront of international master's programmes at the Faculty. The saga begins with the faculty's need to offer high-quality international master-level educations. The focus at this stage was to create a common programme structure, viable programme themes, and interdisciplinary teaching teams to develop the courses. During this stage there was no time, space or competence to work on administrative structures and routines to support the students and teachers. During this start-up phase, the role of the director of studies was primarily entrepreneurial in that he was expected to lead the programmes' architecture and coordination between all the involved departments. It was only after a few years that the need to develop stabile administrative structures and programme identity emerged.

From their inception, the GDG programmes have been symbiotically linked to the various departments and programmes at the Faculty: enabling students at the various programs to take classes in theory and method at Graduate School, sharing teachers, and allowing GDG students to write their theses at the various departments. According to Lina Mann, who worked as administrator for the GDG programmes for five years, there has been a significant transformation and overall improvement in the GDG programmes. For example, the initial director of studies worked part-time at Graduate School and held his office at another department—located in another building—and was thus more removed in the beginning. Another administrator, Jeanette Nordström, echoes this experience, noting that she remembers working many evenings and under high stress. This eventually changed to a leadership that was physically present, involving hands-on interventions and developments. Other factors contributing to the high work-load include a larger number of applicants to the programmes, new eligibility requirements and a variety of international grading systems, few resources and little overall experience working with the needs of international students. Lina also expressed that roles of the administrators were clearly defined and more hierarchical. For example, the administrators were not expected to attend certain network meetings based on their titles or be present at the Board Meetings since it was not considered relevant. She succeeded in arguing that it would benefit her role as administrator to participate in the meetings and so this was changed. Jeanette experienced this differently and remembers a shared sense of responsibility and overlap of roles from the beginning. This could be due to the

fact that they started at different times when different working cultures were in place.

Lastly, there has been a great improvement in the overall understanding by other departments at the faculty of what Graduate School and the GDG programmes are. In the beginning, there was little awareness and a great deal of confusion and resistance to international and interdisciplinary programmes from some departments. It is likely that over time, Graduate School has been able to develop broader and firmer roots. Both administrative and academic staff at other departments are aware of the many problems and challenges Graduate School faced at the beginning, and continues to face, as well as the persistent efforts made to address the problems with a proactive and solution-oriented approach.

This saga of general improvement is not only limited to staff, but lingers in the air among students, even if they were not present when the programmes first started. According to a second-year student Samira Elmi, who was also the president of the interdisciplinary and international section of the Social Science student union, there have been many challenges in the past related to the GDG programmes. It is clear to her that the administrators at Graduate School make a strong effort to create a home for students. As compared with other departments, the administrators are visible and present and the door is always open, making it easy for students to approach them with questions or concerns. She notes the feeling that Graduate School is "hemtrevlig" or friendly like home. Interestingly, she notes that GDG students can feel like outsiders at the department where they eventually will write their thesis—one of the problems of the current structure. This feeling of isolation, in turn, helps them to identity with Graduate School and other students in the GDG programmes who are in a similar situation.

This organisational saga is important in supporting the development of a microculture. It indicates that the member of Graduate School have developed a sense of "how things are done around here," and noting the distinctions from other departments. This contributes to the sense of "us and them," an important aspect in emphasizing boundaries between microcultures (Roxå, 2014, p. 40). A common aspect of the saga is that while the programmes have inherent problems and challenges, many of the problems that emerged in the start-up phase have been addressed and continue to be addressed. The microculture encourages being pro-active about problems, building trust and encouraging a shared sense of responsibility.

Language systems and metaphors

The language when the GDG programmes were initiated emphasized internationality and interdisciplinarity. Both these concepts had connotations of being complicated and even, at points, of lower quality. It was seen as an important part of the strategy to bring more positive associations to these concepts. The advantages of international students who would bring in international experience—a more diverse student body—broader perspectives and more interesting learning and teaching environment were emphasized. Arguments noting the need to become internationally competitive and attracting international students to English programmes led to the present-day general acceptance of the importance of such programmes; though these continue to be met with some scepticism.

Similarly, the concept of interdisciplinarity met resistance from those who perceived traditional disciplines requiring depth to be superior to those that try to combine more than one discipline, arguing that the education would be more superficial. One of the conditions for offering interdisciplinary programmes was that they would still be closely related to specific subjects/majors at the departments, thereby connecting them to the disciplinary structure of the degree. In other words, while students receive a master's degree in Global Studies, for example, they will also have a major in one of the subject areas, such as Sociology of Law. To defend an academic discipline remains a strong principle at the faculty and has remained in place through the educational reforms from the 1960s, and the attempts in the 1980s to abolish disciplines in the social sciences in favour of programmes and subjects closely related to the labour-market. While this continues to be a point of discussion, interdisciplinarity has generally become more accepted, and at this point there are several interdisciplinary programmes at the faculty, all retaining their subjects or majors, that have gained a level of acceptance and even respect.

Physical surroundings

Another dimension of cultural artefacts to consider are the physical surroundings. This includes the office space, classrooms, student lounge, equipment, etc. When it was founded in 2007, the administrators had their office in a basement corner, in a building completely separate from where the students had their classes. The classrooms were in need of renovations. Students were physically isolated and lacked a space to meet, work, and eat. They were mixed in with other students at

the different departments, and many felt detached and treated as outsiders. By arguing for the importance in creating a good physical environment, the administration was able to affect the current situation where the GDG students, since 2012, have their main classrooms, which are furnished with new tables and chairs, directly next to the administrative office, and have access to a student lounge where they can meet, eat, and study. There is also a student reception desk where they can receive practical help from second-year students.

Symbols, ceremonies and rituals

Symbols, ceremonies and rituals also help describe a shift in the microculture. These symbols can be both physical and behavioural, and help in demonstrating what is important in the GDG programmes, which can contribute to the creation of a common ethos and identity. Some of the examples named earlier include physical symbols such as the newsletter, Facebook group, as well as behavioural such as the meetings, social events, master's thesis conference, and graduation. These ceremonies are moments to celebrate a common interest or event and bring students, teachers and other staff together in a context beyond the classroom. They reaffirm a group ethos and a sense of belonging.

Implications for the role of administration in microcultures

It can be argued that building of high level of trust, spreading a sense of shared responsibility, and an ethos of being innovative are central attributes of the ideal and strong microculture. As noted by Meyer (2002) "without trust organisational communications reduce to commands that get watered down, subverted, or ignored. Without innovation an organisation may soon find that it excels at performing yesterday's task" (Meyer, 2002). The leadership seeks to internalize lessons from organisational change, maintaining that a healthy ecosystem is made up of both loose and tight components, and creative and conservative aspects. The "tight" or routinized, documented and administrative aspects of the work are a strong foundation of the work for the administration of the GDG programmes, but they take place on par with space for change and development. The examples included in the chapter here reflect this latter function. The artefacts altered and introduced were part of a strategic effort to improve the overall ethos and learning environment for the GDG programme students. At the same time, some of the activities and changes were tested and developed along the way. In other words,

there has always been a degree of trial and error, and when an activity or change did not lead to positive changes, they were retracted, placed on hold, or developed into something else. This can be connected by the social learning that takes place in a community of practice. Trust is created through the values and norms—as described by the cultural artefacts—involving students, administrative staff and academic staff. By enabling possibilities to express and build on these values and norms through, for instance, meetings, workshops, visiting hours, and social events, and making an effort to address problems once they arise, the administration has sought to move from a weak to a strong microculture. Within a strong microculture, problems can be brought up, addressed and resolved, there is space for creativity and brainstorming, and there is a shared ethos of wishing to improve the programmes for the present as well as the future.

Returning to the figure proposed by Mårtensson and Roxå, it can be useful to visualize how the microculture at Graduate School can be understood. The discussions above have tried to show that the administrative staff has sought to create a strong microculture, defined by a high degree of significance to each other and a sense of shared responsibility in providing an enabling learning environment for the students. This microculture in turn can reach the other groups, including academic staff and students, to likewise encourage higher levels of significance to each other and a sense of belonging. Since each cohort is only physically present for the first year, it is difficult to build up such a sense of belonging that can continue among the students alone. Likewise, the academic staff depends on the administrative staff to provide the structure and framework for the programmes and are unable to sustain the microculture on their own.

In Figure 4, the administrative staff is placed in the commons quadrant and represent the largest size to indicate their influence on the microculture. Academic staff, marked in green, is placed in all quadrants, including in the commons to signify the programme directors. The programme directors play a significant role in communicating and sharing the values and norms and can therefore be considered to belong to the commons, but their role is less influential in the overall microculture as described here. The students, marked in yellow, can occupy any of the other quadrants, but are unlikely to enter the commons unless they begin to work as part of the administration. The figure below is purely an illustration of a likely scenario for the microcultures and not based on empirical evidence. It reveals that an interdisciplinary programme such as the GDG programmes is unlikely to have a clearly delineated microculture that can include all involved individuals since most, except the administrative staff, have allegiances and relationships to other departments. But it is hoped that a strong microculture

from the administration can "pull" the other groups closer to them, thereby allowing them to benefit from the positive aspects in the strong microculture associated with an enabling learning environment.

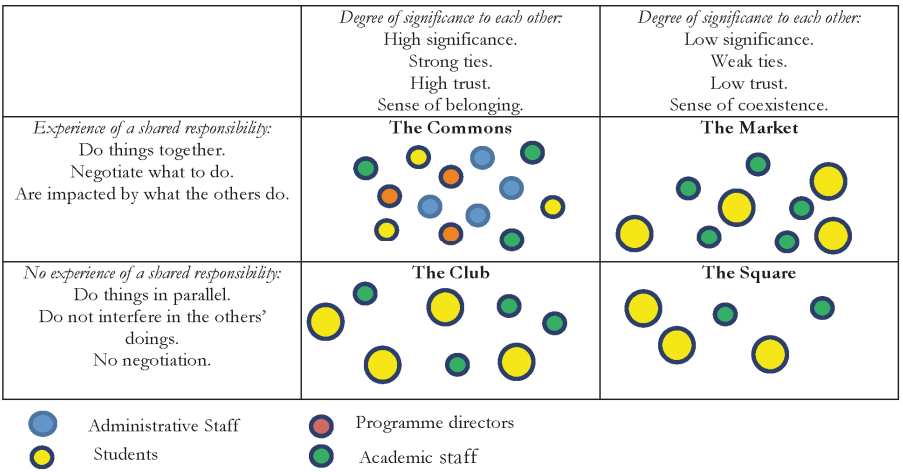

Figure 4. Delineating the microculture for the GDG programmes where they meet at the level of Graduate School. Here the administrative staff is placed in the commons along with the programme directors, some teachers and some students. While the other academic staff is closely connected, they are on the periphery due to their association to their respective departments and lack of continual involvement with the students and administration. Students make up the most dynamic, diverse, and largest group.

It is important to note that there are still many gaps and areas for improvement, so simplifying this discussion to the conclusion that a strong microculture exists, even at the level of the Graduate School administration, in a pure form would be naïve and possibly delusional. There are several areas where further improvement can be made, and often resources are provided to those areas which are deemed most necessary for the time-being, while other long-term areas remain on the periphery (such as working more with alumni and recruitment). Empirical evidence looking at how the microculture has changed over time would need to be collected before such a discussion could take place. Nonetheless, this chapter has attempted to show strategic changes that were introduced to address the problems related to programme identity and administrative routines that were present in the GDG programmes during the initial years. These artefacts can be an indication for how the GDG programme's organisational culture has changed in a positive direction.

It is also important to note that the likely increased sense of belonging does not take place purely as a result of the administration at Graduate School. There are many other influencing agents including the broader university resources, increased efforts and experience with internationalization, assistance and guidance, the involvement of the student union, nations, etc. As noted earlier, the programme directors and course coordinators play a strong role in creating a good learning environment. There is also the factor of chance that can heavily influence a cohort's experience. The sudden illness of a teacher, for instance, may cause temporary chaos in a schedule, thereby temporarily disrupting the level of trust. Another factor could be specific students that manage to strongly influence the student group in either an enabling or disabling way, but has little relation with the efforts made by teachers or administration. It is important to mention these external factors to acknowledge that these microculture typologies are theoretically useful, but do not necessarily signify that a complete transition from the square to the commons can be influenced by one unit or group alone.

Nonetheless, the administration can be seen to play a central and vital role in creating an enabling learning environment. The artefacts, in addition to serving practical and symbolic purposes, also bring attention to the increasingly important and relevant role the administrative staff. Academic staff are not expected to be experts on the practical needs and dimensions of international and interdisciplinary programmes. Their strength is expected to lie in pedagogical issues, but for a more holistic foundation, even the previously invisible helping hands need to come to the forefront and receive the support and acknowledgement from the broader university structures and leadership. As this discussion has attempted to show, administrative staff at Graduate School can use their agency to support an enabling learning environment, but in order to do so, certain organisational structures, systems and processes needed to allow for this. At Graduate School, creating and changing these norms were seen as a vital step in realizing the strategic organisational changes that would enable educational programmes to improve, and ultimately, to survive.

Conclusions

This chapter has attempted to share experiences of the administration of the GDG programmes to build an enabling learning environment by building a strong microculture. The concept of microculture and cultural artefacts can be useful in

understanding an organisation's attempts at creating a stronger microculture where students, administrative staff and teachers can share a common ethos. Starting with a weak microculture faced with many challenges, the leadership and administrative staff adopted a strategy to implement organisational change seeking to build a common ethos. In order to enable this, the leadership encourages a mixture of formalized structures and flexibility: while routine-work is still conducted and continuously improved and developed, priority was also given to enabling administrative staff to focus on other ways to improve the overall education experience for the students. The examples discussed here reveal that the administration plays an important role in addressing some inherent challenges in international and interdisciplinary programmes, and can make a significant contribution to building an enabling learning environment.

There are obvious limitations to the ideas presented in this chapter, and we are hesitant to claim that the administrators have succeeded in creating a strong microculture based on only positive and enabling aspects. A more comprehensive study comparing the effects of such changes could be conducted, tracking how the effects have changed over time and to which degree they have contributed to a stronger microculture. We have attempted to shed light related to the role of the administration in introducing, developing and maintaining organisational practices that help build an enabling learning environment. Insufficient focus has been placed on the broader context in which learning takes place, especially in regards to the administrative component of the triangular relationship between administrators, students and academic staff. Administrators can play a crucial role in shaping the students' learning environment, but their role has only recently begun to emerge in educational literature and remain undervalued and peripheral in many discussions related to the overall quality of education. The need to focus on this support structure is perhaps enhanced in groups of international and interdisciplinary students, or in programmes faced with similar challenges to those of the GDG programmes. Administrative staff play an important role in holding together interdisciplinary programmes and providing a home for international students who may otherwise feel isolated and unmotivated to continue with their studies. Providing sufficient support to international students will play an increasingly important role in attracting and retaining future students and should be integrated into programme developments. Further discussions and research looking at the triangular relationship between administrative staff, students and academic staff would likely lead to further insights into how students' experiences can be improved, how this contributes to becoming more competitive internationally, and what impact this might have for the university as a whole.

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Part III
Overall Programme Perspective

Chapter 9

Working with international students: challenges and efforts

Erwin Apitzsch[1]

The interdisciplinary Master's Programme in Sport Sciences, with a specialisation in sport psychology and sports medicine, attracts about 70% international students. The programme is structured on the pedagogical principle of embedding generic skills and employability into the curriculum. This is a red thread in the programme, and a strength when entering the labour market. Pedagogical challenges and cultural differences, which are encountered in interdisciplinary programmes, are recognised and dealt with such as differences in the grading system, admission requirements, and teaching in a foreign language. The grading system was changed to three levels to meet the demands of international students. The admission requirements have been sharpened with regard to proficiency in English, and documented experience of scientific methods, and writing a scientific report. Measures have been taken to encourage teachers to take part in courses on the pedagogical challenges to teach in English.

The main part of the chapter is devoted to cultural aspects on the teacher-student relationship, teaching methods and course literature, examination procedures, feedback from students, and plagiarism. In the teacher-student relationship, the main message is that equality and peer learning shall be realised. The teaching methods are characterised by inquiry-based learning; research based learning involving active searching for knowledge in a critical way. Concerning selection of course literature, the aim is to find articles that deal with sports that are more familiar to international students. The influence of the students on their study situation is stated in regulations, and realised in course evaluations and meetings with the administrative staff.

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Introduction

The interdisciplinary Master's Programme in Sport Sciences (MPSS), held at the Medical Faculty of Lund University, with a specialisation in sport psychology and sports medicine, is offered in English, and is open to students from all over the world. About 70% of the students come from countries other than Sweden. The MPSS is a 2-year programme (120 ECTS) composed of 14 courses, and dimensioned for 20 students. Since 2010, the MPSS has been part of a consortium of four universities, which were awarded EU-funding for five years to provide the European Master's Programme in Sport and Exercise Psychology. About five students with EU-scholarships are accepted to Lund University annually. These students, together with the students from the other home universities (University of Jyväskylä, Finland and University of Thessaly, Greece), spend the second half of the second semester at the host university in Leipzig, Germany. Except for this period, they participate in the local programme.

The aim of the chapter is to describe the pedagogical challenges stemming from diverse cultural, professional, and academic backgrounds of the students we have met in running our interdisciplinary MSc Programme open to Swedish and international students, and how we have addressed them. The chapter starts with a description of the structure of the programme and its implication to interdisciplinarity, followed by the enhancement of employability (on which the pedagogy of the programme is based) through improving different conditions, including the advancement of generic skills, eligibility requirements, cultural aspects, examination procedures and the grading system, and the encouragement for the continuous improvement of the teachers' pedagogical competence. Each theme follows the structure of the introduction of challenges and how they have been addressed in the frame of the theme under discussion.

The structure of the programme

In accordance with the Bologna process and in particular its aims to promote mobility, employability and the competitiveness of Europe, the MPSS focuses on closer contact with potential employers, and a stronger emphasis on applied aspects of the educational content. In regard to this, learning outcomes are the basis of the MPSS. The learning outcomes for sport psychology and sports medicine are similar, but adapted to their specific conditions. (See the learning

outcomes of the sports medicine programme in Appendix II-C-1.) The main challenge for the MPSS is to find an optimal combination of learning and employability in the curriculum. This implies finding a balance between theoretical knowledge and applied skills. To address this challenge, and to provide the students with a broader experience, the following course structure has been developed. The programme structure serves several purposes, including the manifestation of the interdisciplinary approach of the Master's Programme. The common courses constitute 30 ECTS, with the additional possibility to cooperate during the internship (15 ECTS), and the writing of the thesis (30 ECTS) (for more details on the programme structure, see Appendix I, Chapter 9).

The first semester

Not only the cultural, but the educational background of MPSS students is diverse. For sport psychology students, it varies from a bachelor's degree in psychology (with no courses in sport psychology), to a bachelor's degree in sport psychology; and for sports medicine students, from a bachelor's degree in physiotherapy (with no courses in sports medicine), to a bachelor's degree from a physical education institute. They start the first semester with a levelling course in sports medicine and sport psychology. These courses are scheduled on separate days, which means that sports medicine and sport psychology students, who feel that their knowledge in the other subject area is different, insufficient or out-dated in relation to the course requirements, can participate. However, no credits are awarded. This approach takes care of the varying previous knowledge of the students, and provides a common base for the following courses in sport psychology and sports medicine. In addition, the students get to know students from the other subject area through joint courses, such as leadership and communication, which concludes the first semester.

The second semester

The second semester is devoted to advanced knowledge in sport psychology and sports medicine respectively. The courses in the first year require the students to contact individual athletes and coaches as well as teams for interviews, observation, and surveys in order to prepare for the internship. This is the gateway for international students to become familiar with the Swedish sports culture. In

addition, due to its practical design, the second semester courses provide good possibilities for the further employability of MPSS students.

The third semester

The third semester starts with an internship, where students are encouraged to work in pairs (sport psychology/sports medicine) in order to learn from each other and to take a holistic perspective of the clients. Sport injuries, both prevention and rehabilitation, have emerged as the most important issues in relation to serving clients with expertise from a psychological and a medical perspective. The sport psychology students get a deeper understanding of what it means for an elite athlete to be injured, and the sports medicine students learn that the mental aspects are essential in the rehabilitation process, and can even be decisive for an athletic comeback. The joint internship, and a joint course in methodology and statistics, ensure the interdisciplinarity of the programmes as well as increase the employability of MPSS students.

The fourth semester

The thesis course in the fourth semester concludes the programme, in which students are encouraged to write the thesis in pairs[2], emphasising the interdisciplinary approach of the programme. Another reason for working together during the production of the thesis is that a future career as a researcher most likely means working in a team of researchers, and thus learning how to cooperate. A further advantage is that more participants can be involved in the study, providing a better base for generalising the results. Our main experience so far is that despite the encouragement of students to work in pairs, international students prefer to work individually. They regard the thesis as their own product, and an important document for a future job. Encouraging pair-work and enhancing interdisciplinarity in the thesis work thus remains a challenge for the MPSS course coordination.

[2] According to the policy of Lund University, students can freely choose to write the master's thesis alone or in pairs.

Adaptions in the course structure on students' request

In general, the courses are studied in consecutive order, that is, one course is finished before the next starts. The international students, who are used to studying many courses simultaneously, really appreciate this structure because "it is much easier to concentrate on just one subject". However, there is one exception, which was initiated by the students. The course "Advanced Research Methods," starting in the third semester, has been prolonged into the fourth semester. The reason is that students find it more motivating to study methods when they have started the process of considering methods for their thesis work. In addition, the master's thesis course starts earlier in order to allow sufficient time for preparation and contacting subjects for the data collection.

Generic skills development and conditions for enhanced employability

The pedagogy of the MPSS programme is based on the advancement of generic skills for enhanced employability for students with diverse backgrounds. "Generic skills" in this chapter will be used according to the definition of Bennet et al. (p. 23, 2000): "transferable skills that can support study in any discipline"; in contrast to "core skills", which refer to discipline-specific skills. In terms of embedding employability into the curriculum, right from the start of the MPSS programme, we applied Yorke and Knight's (2009) model, which at that time was favoured by Lund University. Based on this model, we have selected 15 of the 39 skills that we considered were most appropriate to provide the knowledge and competence necessary to implement the topical content of our programme and to enhance employability. These skills fall into three main categories: personal qualities, core skills, and process skills[3] (for more details, please see Appendix II-C-2). In addition to providing the conditions for obtaining generic skills in the MPSS programme, a labour market committee was established and the extensive MPSS network was used to increase employment possibilities.

According to our educational model, students need to experience things for themselves, and not just listen to an expert. Students are also trained to have their

[3] The list of 39 items refers to both content and process, i.e. both the content to be learned, and the process through which learning takes place are covered.

own voice, learn to think at a very abstract level, and to apply their knowledge in practical work. This academic teaching model proves to be an asset when students later step out into the working world. Most generic skills are learnt by practice or through exercises, rather than in lectures, seminars, and group work. Examples for "learning-by-practicing" include giving feedback to athletes, receiving feedback from teachers, writing and presentations. Personal qualities learnt through exercises, for example, include oral reflection (3-5 minutes) and reporting on their contribution in group works (self-awareness). An example of core skills is information retrieval. The students are introduced to information literacy, and are guided by the librarian on how to find relevant literature from different sources. An example of process skills is team work, practiced in exercises requiring cooperation in order to reach a solution. The most appreciated and illustrative exercise is a jig-saw puzzle (Sjölund, 1980). Each member of a group of six receives an envelope containing pieces of a puzzle. The task is completed when each participant has a square of the same size in front of him/her. The following rules must be complied with: not allowed to talk, 2) students are not allowed to use body language, and 3) students are allowed to give pieces to others. The exercise cannot be solved unless all members are alert on how they can contribute, and are willing to cooperate. Thus, they have to take action, which is a particular challenge for students coming from cultures where listening to lectures is the primary form of teaching. The exercise is always very well received by the students, and perceived as very motivating. In general, our experience is that the generic skills and methods, through which they are taught, enhance the efficiency of international student groups, provide vital group dynamics, promote openness to new approaches, and support acquiring cross cultural competence.

Providing conditions for students' employment

With the aim to continuously adapt the MPSS to the changing needs of the labour market, a *Labour Market Committee* was founded, composed of representatives from Lund University, students, and partners from the labour market. The Labour Market Committee was initially quite active, but is now at a standstill. The main reasons for that are difficulties in recruiting representatives from the labour market. Thus, Region Skåne, the public organisation for health care, referred our request to be a member of the Labour Market Committee to the Employment Service organisation. Another setback was that private businesses with a health care programme, and employed physiotherapists and mental coaches, did not respond to our requests. However, cooperation with the Scania

Sports Federation and sport clubs, who provide internships for students, has served this purpose.

In the beginning, when approaching potential internship providers, we were asked what the international students could contribute, and how much the supervisor would receive as salary. Most students in our programme have the experience of being athletes themselves. Although competitive sports are played with the same rules all over the world, international students can contribute with training and coaching methods from different cultural environments, which provide an added value to the Swedish context. We invited sport clubs to a meeting, informing the representatives of the clubs about the learning outcomes of the internship and gave them examples of what kind of practical work we had in mind. We also emphasised the opportunity to fulfil all aspects of the learning outcomes as a requirement. Furthermore, we stated that the students, at this level of their education, have very good skills, which would benefit the club much more than wasting the club's time spent on supervision. Thus, no salary would be paid for the supervisors. In order to get an internship student, the club had to sign a contract, which guaranteed that the learning outcomes would be achieved. After the first year, no supervisor has requested monetary reimbursement. On the contrary, the sport clubs have been very appreciative of the contribution of the students. One of our internship providers stated it in the following way: "If our sport club had access to more money, we would employ this student right away." A common result is that students get positive feedback on their initiatives and realise that they have made a valuable contribution. The positive response from the sport clubs has been overwhelming, and has resulted in more opportunities for internship places than the number of students. It has been a win-win situation.

The students in our master's programme have been quite successful on the labour market. Some examples of employers of students are: The Olympic Committee of Singapore, China Business Council for Sustainable Development, Guangdong Provincial Work Injury Rehabilitation Hospital, UNESCO in Geneva, Akureyri municipality, the Swedish Sports Confederation in Stockholm, and the Scania Sports Federation in Malmö.

Eligibility requirements

During the first years of the MPSS, the admission requirements were quite general, stating "the student should have a bachelor's degree (180 ECTS) and at

least 90 credits in sport physiotherapy, health education or public health." This was based on the fact that Lund University did not provide a bachelor's programme in sport sciences, and the aim was to include international students on a broad basis. The admission requirements were the same for the two specialisations of sport psychology and sports medicine.

Increased eligibility requirements

Based on our experiences with the disciplinary diversity of the students, the admission requirements were changed and specified for each of the two specialisations starting 1 January 2013. The main experiences were that some students had no previous documented knowledge of scientific methodology and of writing a scientific report, and that their proficiency in English was not good enough for oral presentations, seminars or work in groups. This was noted, not only by the teachers, but also by fellow students who reported that the work in groups suffered due to insufficient background knowledge within the subject area, and insufficient ability to communicate in English. Therefore, the admission requirements stipulated at least 90 credits of sport sciences or equivalent subject areas such as sports medicine and sport psychology respectively. It was further stated that the bachelor's degree must include research methods worth at least 7.5 credits and an independent research project worth 15 credits. The language requirement in English was increased from a TOEFL total score of 550 to 575, and an IELTS score from 6.0 to 6.5. These measures were taken in order to provide a productive learning environment, to achieve the learning outcomes, and guarantee that the quality requirements of the programme are met.

Flexibility in judging the eligibility

Due to the diverse background of students, we have encountered cases in which consideration should be made in light of formal requirements. Examples of cases include: "I'm a medical doctor and have worked for the cricket federation of my country for 10 years, but there is no relevant education in my country, and therefore I apply"; or "In my country a BSc is less than 180 ECTS, can I still be accepted?" Keeping the admission requirements and the learning outcomes in mind, we handled these issues with great care and flexibility. Unfortunately, we could not accept the medical doctor because our programme is on the advanced level, and the applicant lacked an appropriate sport oriented degree at the basic

level. In Canada, the requirement for a bachelor's degree is 90 credits, which means that Canadian students do not meet the stipulated 180 credits. However, if the bachelor's degree was obtained with a clear focus on sports medicine/sport psychology, students were regarded as eligible. They were also recommended to participate in the levelling course in sports medicine/sport psychology during the first semester.

Cultural aspects in international learning environments

With students from many different countries, we have to face and deal with cultural issues. This has been evidenced every year on the first day of studies at the end of August. Traditionally, we have a welcome party in the evening, which starts with a dinner. At that time of the year in Lund, there is still daylight in the evening, which means that students with an Islamic confession cannot eat until dusk while celebrating Ramadan. Below I highlight a few culture-related issues that we have observed, which have implication on our education, and describe how we have handled them.

The teacher-student relationship

The relationship between teacher and student, and the academic learning environment are the main issues with regard to cultural aspects. For instance, international students are generally used to addressing the teachers as, for example, "Professor" followed by their family name. Whereas the custom in Sweden is to use the first name of the teacher. Some students adapt to this custom, others are not comfortable with this and find a compromise, which results in addressing the teacher with Mr/Ms followed by the first name.

The biggest challenge with regard to the educational climate is to engage all students to be active at seminars, and to encourage them to ask questions during lectures. Many international students are not used to talking spontaneously from their undergraduate study experience, and thus sometimes find it hard to do so. They find it even harder to argue with the teachers, feeling that they are not at the same level as the teachers. In the beginning, we observed these differences, but did not take any action. Still today there is no outspoken policy on how to deal with these cultural differences, but many teachers address a specific student with a question instead of addressing the audience, and emphasise that all students in

group work or seminar have to contribute. A typical statement of a student is "Teaching methods are different here. I am used to a maestro. In Lund, the teachers treat me more as an equal, and I am allowed to reach my own insights.[4]" The easy and casual relationship that exists between students and teachers is a cultural difference distinguishing Lund from the experience of most of our students. In the educational context, teachers treat the students as equals, and are available for questions and discussion after the lecture. In addition, extracurricular events such as watching sport games together, or social meetings to celebrate the evening of Lucia, for example, occur from time to time.

Teaching methods: course literature, peer learning and group work

The Master's Programme has not adopted general instructions on which teaching methods to use; it is up to each teacher to decide the most appropriate method with regard to the subject taught. The learning outcomes of the courses and the course evaluations indicate that inquiry based learning is emerging. As described by Hepworth & Walton (2009), inquiry-based learning is research-based learning involving an active search for knowledge in a critical way. This way of teaching considers diverse backgrounds and encourages students to initiate, actively participate, and shape their learning environment, which some international students have not experienced before.

The teaching methods and the choice of the course literature are aligned; and the methods aim at complementing the texts the students have to study. The course literature is mainly based on recent research findings in Europe and North America, with examples from sports such as football, handball, and ice-hockey. These sports are not the most familiar to many students from Asia. Therefore, our ambition has been to include scientific articles with examples from sports such as cricket, field hockey, and martial arts. The main challenge is to find books and articles in English with contemporary scientific results. In addition to the lack of articles, the international students indicated the lack of availability of teaching materials (i.e. power point presentations) on the course website in advance of the lectures. Today, the practice has changed and the lectures and course literature are published in advance. The change in the teaching situation is noticeable. As students have the possibility now to be acquainted with the concrete content of the forthcoming lecture, which facilitates their possibility to better understand the

[4] The quote was given as a response to "Any other comments" in the evaluation of the course Mental aspects of sport and physical performance, 2011.

lecture. Another advantage is that the teacher can focus more on answering questions from students and discussing relevant topics than merely on lecturing.

In general, teaching methods are encouraging *peer learning*, which has been very much appreciated by the international students, in particular by students from the south of Europe and Asia. Three quotes from students illustrate this:

1. "I think many of the international students are not used to working in groups and learning from each other. They are more used to having lectures where the lecturer tells the students how everything is. This causes problems sometimes, because some of the students think that there is only ONE right answer to a question, when there may be MANY answers and none is better than another.[5]"
2. "The teachers here are more relaxed, and more considerate towards students' requirements.[6]"
3. "It's a new culture, a new way of thinking and working, from an autocratic education system to a democratic system.[7]"

Group work has paved the way for peer learning. In the beginning, the international students reported a group task orally by presenting, one after another, what each individual in the group had done without previous knowledge of what the others had done. This became very obvious when questions were asked that dealt with a broad perspective, and no one was able to give a general answer. As a consequence, we explained that group work means that the task at hand is discussed in a group session, whereupon tasks carried out by individual members of the group are agreed upon. At a follow-up group session the individual tasks are streamlined in order to achieve a coherent straightforward message, which everyone stands behind, in a presentation to the audience. In order for the group task to be completed in one session, it is necessary that all members feel responsible for arriving at a group decision, to contribute with ideas, to give feedback, and to interact in such a way that the final result represents the knowledge and skills in the group. To arrive at this understanding of the meaning of group work, the teachers endeavour to give clear instructions before the groups

[5] Course evaluation, Applied Sport and Exercise Psychology - Team Sports, 2013 "How do you value the group work seminars?"

[6] Course evaluation, Mental aspects of sport and physical performance, 2011 "What is your judgment of the teachers?"

[7] Course evaluation, Mental aspects of sport and physical performance, 2011 "What is your judgment of the teachers?"

start their work, and ensure that the instructions are complied with. In general, the teaching situation is characterised by responsiveness from the teachers and the applied teaching methods provide an open atmosphere, where teachers and students communicate on equal terms. Differences of opinions are encouraged, which lead to a dynamic and creative conversation in a democratic spirit.

Feedback from students

The influence of the students at Lund University is an important tool in order to achieve the overarching goal of high quality education and research. Practices manifesting students' rights are often not familiar for our international students and it takes time to introduce them to these. In terms of students' rights, the influence of students on their study situation in our programme is secured by having a representative in the Steering Committee of the MPSS, and two representatives of each cohort, who meet with the Programme Director and the Programme Coordinator once a month. The proposals from the student representatives have been considered and executed whenever possible. In the case of rejection, referrals to laws and regulations have been made, or explanations why certain things are done in a certain way were given. Another possibility in influencing the teaching methods is through course evaluations. After each course, the students have the opportunity to suggest improvements. The delivered proposals are treated in the same way as those presented by the student representatives. The course leader makes a summary of the proposals, and in the beginning of the next course the changes are announced, accompanied by reasons for rejection if the proposal has not been accepted. Our main challenge here is to motivate the students to make suggestions for improvements for forthcoming courses in which they will not participate, thus not take any advantage of them.

Using English in a Swedish context

Students doing their internship in the third semester are sometimes faced with the challenge of working with young athletes in a language, which is not their mother tongue. Teenage athlete pupils are especially a bit hesitant in using English as a language of communication with a master's student. We have quite successfully overcome this difficulty by instructing our master's students to, right from the beginning, tell their clients (i.e. athletes) that English is not their first language

either. This measure seems to help creating an easier and more trustful learning atmosphere.

Plagiarism

The dark side of cultural differences is plagiarism. Although written information on plagiarism is given on Arrival Day for international students, and all students are informed both verbally and in writing at the Introduction Meeting, we have still faced problems with plagiarism. On the first day of teaching the students are told that "Individual assignments" shall be produced solely individually, and that it is forbidden to copy—partly or totally—others' work. "Academic honesty" means that it is forbidden to cheat, as for example, to copy articles, other students' work etc. When it comes to examinations, it is forbidden to talk to anybody else, to use mobile phones, or to communicate with anybody else in any other respect. The exam must be the result of the student's own efforts.

We have had a few cases of plagiarism, mainly due to the fact that the understanding of the information given out on plagiarism is interpreted in different ways. A few years ago, two of our international students were reprimanded for cheating and were banned from study for five weeks. However, it turned out that their wrongful conduct was mainly due to cultural differences. The students had copied part of the literature of their thesis without references, claiming that they had done this in good faith since they had done so in their home countries.

This incidence made us aware that the information we had given, namely that cheating, i.e. copying others' works is not allowed, is not enough. Therefore, we now give more extensive oral and written information at the Introduction Meeting explaining that it is forbidden to cheat. In addition, in the beginning of each course we give concrete examples of what cheating entails. We also inform the students that we regularly use the instrument "Urkund" to check for plagiarism in individual assignments and thesis manuscripts. Since these measures have been taken, we have had no incidences of plagiarism.

Examination procedures and grading

The examination procedures and the grading in the MPSS programme have been developed and tailored for international students. For instance, international students have the opportunity to do the internship period in their home country. In case they have missed out on any earlier examinations, they have the opportunity to take the re-examination at a university in their home country or at the Swedish Embassy. The curriculum of the Master's Programme outlines the learning outcomes of the courses, which shall be achieved by the teaching methods, through the learning of the students, and the examinations. In order to achieve these learning outcomes for students with diverse backgrounds, a variety of examination procedures are applied with the emphasis on production, not reproduction. These include written and oral examinations, individual and group reports, home examinations, and jury sessions. Consequently, grading practices were required to be looked over and adjusted partly to the needs of international students and partly due to the multi-faculty involvement.

Written and oral examinations

The mixture of written and oral exams provides flexibility to examine students with different backgrounds and different skills. Written exams, as a more traditional way of evaluation of student learning, are important in the beginning of the introductory courses in order to create a more or less equal examination atmosphere. Oral exams are introduced at a later stage, when students have supposedly gained enough confidence in a safe learning environment to be able to go out and demonstrate their knowledge, presentation/speaking skills, as well as the ability to communicate. In the course "Prevention and treatment of sports injuries" (second semester) the students present an individual assignment at a "students' conference" open to the public.

Individual and group reports

Applying both individual and group reports enables students to further develop their skills in individual writing, while gaining experience in a supposedly new field of team work, peer learning, while sharing responsibilities. Group reports are used with the aim of all group members' contributions to the final outcome on

an equal basis. The aim is that all group members work together, learn from each other in the process of the report creation, and take a common responsibility for the product of the group. This also implies continuous teamwork and that they know each other's contribution.

Jury sessions

Jury sessions are an examination form designed for students with different educational backgrounds. Jury sessions are composed of three students with different roles. Two students are each assigned to represent one of two conflicting theories, methods or statements with the task to defend their own position and find weaknesses in their opponent's viewpoint. The third student is the judge and in charge of appointing a winner of the discussion and provide reasons for the decision. This examination method requires that the students are well prepared, are good listeners, and have rhetorical skills. Jury sessions are well received by the students because they have to be prepared for unforeseen events and are trained in argumentation skills. These skills also increase their employability.

Grading

The three cooperating faculties use three different grading categories. The Faculty of Medicine, *Pass/Fail*; the Faculty of Social Sciences, *Pass with distinction/Pass/Fail*; and the Faculty of Engineering, *3, 4*, and *5*. Thus, we had to find a grading category, which could be agreed upon by all involved partners. Our international experience told us that a dichotomy is not enough, and why we suggested a three-level category of: *Pass with distinction/Pass/Fail*. Since the MPSS is placed at the Faculty of Medicine, our proposal had to be passed by the Education Board for Rehabilitation Sciences. Initially, the reaction was a little reluctant, but our argument that international students expect a differentiated grading scale, resulted in an approval of our proposal. However, the student representatives of the board made a note of reservation in the protocol. Although we have a three-level grading system, we get a lot of complaints from the international students, who receive *Pass* as their grade for a course. They don't think that is good enough to qualify for scholarships for future doctoral studies. We claim that *Pass* means that they have attained the learning outcomes, and thus have gained the required knowledge and abilities. In an international context, we

have learnt that it is important to comment on the grading system we use when writing recommendation letters for students.

Teachers' pedagogical competence

In order to provide an international learning environment, teachers employed at Lund University are required to take different courses[8]. Of particular interest for international masters programmes is the level 3 course "Teaching and Learning through English", which aims to provide teachers with opportunities to develop in their teaching roles by reflecting on the pedagogical challenge by making learning possible through another language. For the teachers, it is important to be acquainted with the previous knowledge of the potential international students, to prepare teaching materials and methods in a reasonable time, to contribute to discussions in groups and seminars, and to master oral and written assignments. Critical situations on linguistic as well as pedagogical levels may also occur when the English of teachers and students varies from being a first language, to a fourth one. The course focuses on the conditions for learning in these types of situations and sets out from the course members' own pedagogical experiences. The importance of taking this course is constantly encouraged in staff meetings; however it is up to the individual teacher to enrol. The challenge for the teachers is to fit this course into their teaching schedule and other obligations. The 10 teachers with the highest teaching load in the MPSS programme have all the required courses on the first two levels. In addition, four teachers have participated in courses on level 3. It can be noted that there have been no complaints from the students about the teachers' proficiency in handling the English language over the years. Most teachers, who are involved in supervision of the thesis course, have taken courses in this area, or have a longstanding experience of supervision.

Conclusions

To run a master's programme and teach international students is more than just teaching in English. It requires extensive preparation on different levels from involved teachers, such as getting acquainted with the background of the future students, and adjusting eligibility for course admittance, the structure of the programme, the examination and grading to accommodate these differences. It

[8] The requirements with regard to the pedagogical competence of the teachers are presented in the introduction chapter.

also requires additional efforts in creating conditions for enhanced employability of international students who are not necessarily familiar with the Swedish or international labour markets and their requirements. On site, the main challenges include handling cultural differences in terms of teacher-student relations, teaching methods, and plagiarism. For teachers, it is important to know what it means to teach international students, for example, to stress that the relationship between teachers and students shall be characterised by equality, to encourage the participation of all students in discussions, and to be responsive to proposals from students. It is also important to know the teaching situation in different countries in order to avoid plagiarism by informing students that cheating is not allowed, and give very concrete examples to avoid misunderstandings. This information, along with general information given about the "Swedish" way of teaching, e.g. teacher-student relationship, can be already provided online prior to the arrival of students. However, it is necessary to further highlight it in the introductory courses.

The Master's Programme in Sport Sciences was built on generic skills, embedding employability into the curriculum's strength. In line with the times, procedures and methods have been changed to meet the challenges we have faced, turning them into opportunities.

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Chapter 10

It Takes an Academic Village. Establishing an interdisciplinary research school and educating the first generations of PhDs

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To better understand how to structure interdisciplinary education, there is a need to study and learn from programmes at all levels in the academic system. While considerable effort has been devoted in examining bachelor's and master's programmes, the challenges and rewards of doctoral programmes receive less attention. In this chapter, we present the LUCID PhD research school as an example of an international, interdisciplinary programme that integrates social and natural dimensions of sustainability. First, we introduce the programme's aims and structure. We then present the main activities to facilitate student interaction over its initial seven years of operation including a common and integrated working environment, co-authorship, and a range of interdisciplinary courses, seminars and workshops. Subsequently, we present and discuss the difficulties to initiate, maintain, and improve a competitive international and interdisciplinary programme, covering the challenges of dual departmental affiliation for PhD candidates, interdisciplinary knowledge production and publishing, and the ambition to foster a diverse, open and inclusive educational environment. The main message is that it takes an *academic village,* an extended group of dedicated and reflexive staff at different levels and departments, working together in a variety of cooperative research and education processes to develop an interdisciplinary PhD programme and educate the first generations of sustainability scientists.

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Introduction

Numerous interdisciplinary education programmes have been established in recent decades. Interdisciplinary education and research that spans disciplinary domains has emerged in response to the complex demands of the modern world and is now used as a competitive advantage for those offering educational programmes (Siedlok et al 2014). Interdisciplinarity refers to education that crosses theoretical and methodological boundaries. It integrates ideas and tools from different disciplines and fields, and seeks to create new or transform existing knowledge (Bursztyn and Drummond 2014; Khagram et al. 2010; Stock and Burton 2011). Interdisciplinary collaboration across (academic) boundaries plays out more concretely in the process of problem formulation and making new methodological choices to analyse integrated phenomena. Such academic programmes have been developed and offered at several academic levels, ranging from certificate programmes to comprehensive postgraduate programmes. Educational in environment and sustainability is one such interdisciplinary area that has experienced rapid development over the past decade (Barth and Michelsen 2013). Programmes in the field are diverse. They can be curricula grounded in economics and social sciences, concentrating specifically on, for example, sustainable business or corporate social responsibility, or, they can be sustainability programmes securely rooted in environmental studies, ecology, and the natural sciences.

Despite their diversity, most environment and sustainability programmes share ambitions for students to develop skills and abilities to deal with complex sustainability challenges where, for example, the study of problems require them to move beyond simple fact-finding and superficial understandings of objectivity (Redman 2013). More concretely, curricula is developed that foster students' capacities to apply multiple ways of knowing. In doing so, emphasis must be placed on student development of broad-based competencies that are needed to engage with stakeholders and to manage real-world situations such as being a knowledge broker, a process facilitator, or an agent of change, all while also maintaining the position as a reflective *and* reflexive scientist (Wittmayer and Schäpke 2013). One field that has evolved in this direction, and of focus here, is sustainability science (Kates et al. 2001; Cash et al 2003; Jerneck 2011; Wiek et al 2012). It entails both inter- and transdisciplinary ambitions and seeks to create more comprehensive understandings of coupled human-nature systems as a result of multiple and interacting stressors (Kates et al. 2001).

Focus and outline

Several scholars have recently examined and assessed challenges in interdisciplinary environment and sustainability undergraduate and graduate education programmes (O' Byrne et al. 2015; Bursztyn & Drummond 2014; van Dam-Mieras et al 2008; Hoare et al. 2008). Less attention, however, centres on how to successfully create and foster international, interdisciplinary doctoral education programmes. In this chapter, the Lund University Centre of Excellence for Integration of Social and Natural Dimensions of Sustainability (LUCID) research school is described, discussed, and reflected upon. It builds on experiences gained at the Lund University Centre for Sustainability Studies, LUCSUS, as its coordinating body. It draws on reflections and discussions throughout 2014 and early-2015 with the director of studies, PhD candidates, supervisors, teachers, and others active in the education process. The important constituents that help foster a dynamic and progressive interdisciplinary PhD education are identified, as well as the main hindrances encountered in the process to offer and maintain the doctoral programme. The focus is on three questions that reflect the general aims of this book:

- How are activities structured to promote a good interdisciplinary learning environment?
- How do doctoral candidates, supervisors and mentors interact to exchange ideas and perspectives in academic work and in giving and taking feedback?
- How do diverse academic competences contribute to interdisciplinary research, and how are they manifested in the research school?

The chapter is outlined in three sections. In the section entitled Organising interdisciplinary research & education, the LUCID architecture is presented, focusing on the physical research and education environment as well as the research areas covered. In the section entitled, Facilitating activities and interactions, the specific tools to stimulate a constructive and interactive interdisciplinary environment in LUCID are presented and reflected on. Finally, in the section Overcoming challenges, the main impediments to the programme are identified and discussed. The main message is that it takes an academic village—a group of dedicated staff members—who work together to educate the first generations of international, interdisciplinary sustainability scientists.

Organizing interdisciplinary research & education

The research school

The LUCID research school is a core function of the Linnaeus-funded research programme (2008-2018), which is a project for integrated research sponsored by the Swedish research council on sustainable development, Formas, whose mission it is to promote and support high quality basic and needs-driven research in the areas environment, agricultural sciences and spatial planning. LUCID's vision is to produce quality sustainability research through new forms of inter- and trans-disciplinary cooperation, fostering integration across faculties, disciplines and the science-society divide (Jerneck et al. 2011). The ambition is to both advance knowledge and problematize the roles of science and scientist in transitions towards sustainability. As with other research fields, LUCID researchers strive to offer theoretical, methodological and practical contributions to sustainability studies and the field of sustainability science via their participation in conferences, exchange visits, workshops and publishing. These demands create high expectations on PhD candidates, who, in addition to carrying out their PhD studies, are assumed to contribute to the development of the field. In addition, LUCID also has the interdisciplinary mission to stimulates stronger synergies and communication between the humanities, the natural sciences, and the social sciences, as well as strengthening interactions between science and society as seen in stakeholder workshops on a diversity of sustainability-related topics organised in Bolivia, Kenya, Portugal, and Uganda.

LUCSUS, the coordinator of LUCID, is a crosscutting centre at Lund University under the *faculty-like* entity of University Special Activities (*Sw.* USV). LUCID spans seven disciplines and fields including human ecology, human geography, physical geography and ecosystem science, philosophy, political science and sustainability science from three University faculties: the Humanities, Natural Sciences, and Social Sciences. An important objective of LUCID is to maintain strong and open links to each of the units involved, and simultaneously constitute a new consortium with a clear research and education identity. LUCID is headed by a Steering Committee comprising one leading scientist from each of the disciplines/fields, and two PhD candidates, who are elected by the PhD collective and the student union. The LUCID coordinator, based at LUCSUS, heads the Steering Committee. Figure 1 shows the organisational structure of LUCID,

including the faculties, the advisory panel with experts from outside Lund University, the Vice Chancellor, and the coordinator.

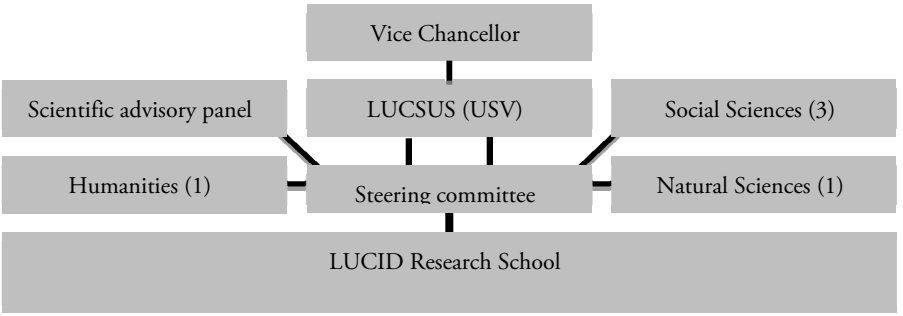

Figure 1. The LUCID organisational structure. The boxes show the affiliated faculties (and number of departments in each faculty) along with the steering bodies. USV stands for University Special Activities (*Sw.* USV), a faculty-like entity at Lund University.

Up until the summer of 2014, LUCID was based primarily at the *Geocentre*, a central location for four participating partners: human ecology, human geography, physical geography, and sustainability science. The remaining partners, philosophy and political science, are located at other nearby locations on the University Campus.

Since its start, nearly 40 researchers have been associated with LUCID through both individual and joint projects. In addition to PhD candidates and early-career researchers, eight senior researchers contribute to LUCID through their research and by attending and contributing to workshops and seminars, supervising PhD candidates, and tending to research-related administrative work such as committee meetings and programme evaluations.

Thirty PhD candidates have been accepted to LUCID in three general waves. All positions have been filled in strong competition. Over 300 applicants from all over the world competed for fifteen PhD candidate positions starting in spring 2009.[2] In the second intake in September 2011, four students were accepted out of 120 applicants. For the third wave in September 2013, four students were selected out of over 200 applicants. In a final wave in 2015, seven LUCID PhD candidates were accepted out of several hundred who applied. Together with early

[2] During this application round, each LUCID-affiliated department accepted one PhD candidate, while LUCSUS selected eight candidates to sustainability science as a newly established research degree at Lund University. Furthermore, several young researchers at LUCSUS who had already started their doctoral studies gained affiliation with the research school and to sustainability science.

career and senior researchers, they all make up the full LUCID village. By early 2015, all candidates in the first wave had graduated (Appendix II-D).

Research areas and education

The LUCID research school is founded on three dimensions that encompass four sustainability challenges, three research problems, and two types of research (Figure 2). The sustainability challenges in LUCID include, but are no longer limited to, climate change, biodiversity loss, land use change, and water scarcity; the research problems refer to the areas of building scientific understanding, scrutinizing social goals, and identifying pathways and strategies for implementation.

Two general types of research are pursued in LUCID: problem solving and critical research, or preferably a combination of the two. LUCID researchers use various research strategies, methods and designs ranging from case studies and discourse and text analysis to Geographical Information Systems. Since the start, eight more focussed research themes have emerged out of the different foundational dimensions, and draw researchers both from sustainability science and participating disciplines: Critical water governance, Energy challenges, Economy and environment, Environmental politics, Gender and intersectionality, Land and agriculture, Scientific foundations of sustainability, and Urban transformations.

As an example, the theme *Scientific Foundations of Sustainability,* addresses the origins, meanings and uses of concepts, theories and challenges central to environment, society and sustainability research. Here LUCID researchers draw on philosophy of science to problematize, theorise and understand sustainability—in academia and beyond. They critically investigate how different interpretations and applications of theories and concepts entail a variety of presupposed ideas and values.

LUCID also has direct connections to a number of other larger research projects and networks such as GLOBIS (Globalization informed by sustainable development) and OPERAs (Operational potential of ecosystem research applications). In addition, the research school is directly linked to other LUCSUS projects such as Sustainable innovations and social entrepreneurship, Understanding subsistence, Politics of land in sub-Saharan Africa, and projects hosted by other LUCID partners. Some of these projects started before LUCID and may thus have served as an inspiration for LUCID as a consortium, or for

individual PhD research in LUCID, whereas other projects were initiated based on research and discussions emerging within LUCID.

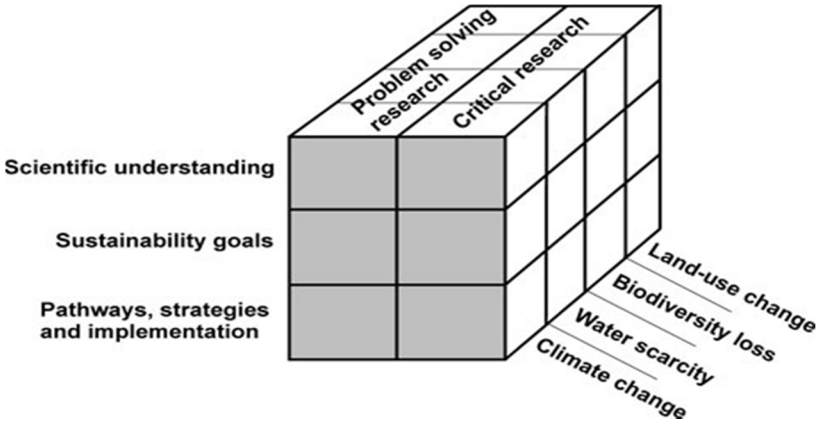

Figure 2. The different LUCID domains (Jerneck et al 2011)

Facilitating activities and interaction

Since the start of LUCID, many initiatives have been taken by senior researchers and PhD candidates themselves to promote interaction in the research school. The main efforts include shared premises, seminars and workshops, joint PhD courses, support documents, and supplemental project funding.

Shared premises

An important challenge for PhD programme coordinators, interdisciplinary or otherwise, is to create an inclusive and dynamic environment for doctoral students to conduct research, learn and contribute. One way this has been accomplished in LUCID is through a shared working environment in the form of larger shared office spaces for PhD candidates—offered by LUCSUS at the Geocentre. Importantly, this arrangement stimulated an inclusive and productive environment with student project collaboration, co-authorship, and other joint educational activities. It fostered unique topical *micro-milieus*, such as the *Climate change and land use change* room (six students), the *Philosophy and human ecology*

room (five students), and the *Water governance* room (four students) where PhD candidates share ideas in daily discussions, initiate smaller research projects, and plan and engage in networking and outreach activities beyond Lund University, such as the *LUCID Garden*[3] at the Geocentre or joint panel sessions at large international conferences.

In August 2014, when LUCSUS moved to a new location, the Josephson Building, many LUCID activities were dispersed from the Geocentre and communication decreased. However, ample office space at the new venue has meant that all PhD candidates, regardless of departmental affiliation, were again offered fulltime workspace at the centre. While smaller sized offices do not offer the same common meeting places as in the larger *theme-oriented* offices at Geocentre, they have contributed to quieter workspaces, which are of high priority for PhD candidates who are focusing on writing, coursework, and thesis completion.

Weekly research seminars

Another feature of the LUCID interdisciplinary PhD education is to offer opportunities for students, post-docs and senior researchers to meet on a regular basis to discuss planned and on-going research. The weekly *LUCID seminar* on Thursday mornings is a cornerstone of the research school. Seminars are open to all LUCID PhD candidates and researchers, as well as others interested in the individual research topics. Researchers from outside LUCID can also *host* a seminar if the topic is relevant and interesting for LUCID. The uniqueness of the *LUCID seminar* is not its regularity or structure but that it attracts an inter-disciplinary audience. The number of attendees can vary from six to 25; the attendance rate is often highest among PhD candidates.

Seminar presentations often relate to PhD work and the presentation of a research idea, a chapter, a paper draft, or an article manuscript. Events usually start with a 20- to 30-minute presentation followed by comments, questions, and interdisciplinary discussions. In many seminars, a colleague agrees to review, discuss and examine the text in greater detail relating to argument, structure, research design, theory, as well as findings and results. The seminar discussions

[3] The LUCID garden is a joint initiative started in 2012 to grow vegetables in an urban garden setting outside of the Geocentre.

often lead to impassioned discussion and debates highlighting the complexity and challenges in doing interdisciplinary research.

Joint PhD courses

LUCID PhD courses are also at the core of the interdisciplinary learning environment. LUCID PhD candidates, and those from other departments and universities, meet in thematic seminar discussions based on assigned readings and lectures. Course offerings have been diverse including: *Current issues in sustainability*, *Being human in times of climate change, Political Economy, Sustainability in fictional literature* (Table 1). Courses have ranged from single-week intensive courses, to literature-focused courses spread throughout many weeks. PhD candidates have arranged several of the courses; conversely, courses have been arranged in conjunction with other universities such as Gothenburg University, which has facilitated student network expansion beyond Lund on themes such as Critical Geography, Political Ecology, and Political Economy. Most LUCID PhD candidates have also attended courses with relevant topics to their respective research topic at universities in Barcelona, Bergen, Brighton, Oslo, Uppsala and/or Vienna. In September 2014, LUCSUS co-ordinated the PhD course, *Current issues in sustainability*, which attracted ten students from a number of Lund University faculties and departments (e.g., the School of Engineering, Physical Geography, Political Science, Middle East Studies), as well as students from Gothenburg (e.g., Global Studies), and the Swedish University of Agricultural Sciences (SLU). The course was based on the readings, seminar discussions and presentations of 42 articles in sustainability science.

Table 1. Courses coordinated by LUCID research school

Year	PhD course title	ECTS
2009	Introductory course on sustainability science (for all first-wave students)	7.5
	Methodology course in qualitative research approaches and methods	5
2010	Political Ecology of land use	7.5
	Critical perspectives on water governance	7.5
2011	Current issues in sustainability research	3-7.5
2012	Being human in times of climate change: stretching disciplinary boundaries	3
2013	Situating the environmental humanities	5
2014	Current issues in sustainability research	3
2015	Participatory methods in sustainability research	3-5

LUCID workshops

Forums to present and receive feedback on proposed and on-going research are crucial in LUCID research and education. LUCID workshops serve as important events to foster exchange and interaction between PhD candidates, post-doctoral researchers and senior researchers. They also offer good opportunities to engage in paper writing on joint themes (e.g., climate, food, land) across disciplinary divides. To mention a few of the many LUCID efforts to integrate social and natural dimensions of sustainability, papers have been co-authored on ecosystem services (physical geography and literary criticism), resilience thinking (philosophy and sustainability science), and the commodification of nature (early career and senior geographers).

The workshops are two-day events often held at locations away from Lund University, to help ensure full participation in the programme including social gatherings. They are organised in a process where individual researchers, or small groups of researchers, prepare an abstract two to three months in advance, write a paper prior to the workshop, provide feed-back on papers one week in advance, and eventually present and discuss research at the actual workshop. Strategic themes are selected before the workshop and serve as focal points to facilitate collaboration between LUCID participants, e.g., senior and junior researchers. Similar to the seminars, workshop presentations consist of a short researcher presentation of the topic followed by an open discussion. The workshop concludes with a general discussion and a plan for the subsequent workshop, which acts to facilitate new research constellations in the group. As a special outcome from each workshop, a *LUCID Assessment* covering all the review comments and updated versions of the papers have been produced.

Milestone Seminars

An important aspect of all PhD education is to keep close track of research progress throughout the entire thesis process. Periodic seminars on PhD candidate research are essential and common in any PhD education. In LUCID, these activities are emphasized even further to ensure that candidates are supported by a group of researchers (i.e. the *academic village*) beyond her/his supervisors while also making sure that (s)he stays *on track* in the research process and makes progress in writing, reflecting and publishing. The seminars also act as formal milestones in PhD education, and are a basis for salary increases. There are scheduled first-year, mid-term, three-quarter, and final seminars for each PhD

candidate. In 2015, kick-off seminars have also been added for the PhD candidates who have just begun the education process. All PhD candidate seminars will have a senior researcher (and sometimes also include a junior researcher) assigned as discussant(s). To increase the status of and attendance at the seminars, they are organised for a group of candidates over one or several days, followed by a social event where more informal discussions continue.

First-year seminars have a focus on research aims and design, and the research direction that the respective PhD candidates will work on until the mid-term seminar. During the mid-term seminar, the PhD candidate concentrates on her/his research accomplishments during the initial two years, covering areas such as field work, data construction, data analysis, problem (re)formulation, article writing and submission. Furthermore, suggestions on research pathways for, at least, the coming year are discussed during the seminar. In the three-quarter seminar, focus is usually on a particular article, thesis chapter, or *Kappa* serving as an introduction to and synthesis of a compilation thesis, and on the direction the PhD candidate should take to create a first full draft of the thesis.

For the final seminar, students submit a full thesis draft. An external discussant, often from another university outside of Sweden, is invited to scrutinize all aspects of the work. After the seminar, a clear direction to the final PhD defence is mapped together with the discussant and supervisors.

Instructions and support documents

The sheer diversity of an interdisciplinary programme aiming at transdisciplinarity is fruitful for creative discussions and for new unexpected collaborations. But also for learning the *multiple logics* of a sustainability science research process in terms of crossing boundaries between critical and problem solving approaches, going beyond one's own discipline, and moving back and forth between science and society (McGregor 2014). This complexity and diversity is not only demanding for PhD candidates and supervisors, it can also be challenging for academics external to the programme, who take on the role as seminar discussants, the final defence opponents, or thesis defence committee members. Interdisciplinarity requires broad insights and perspectives, acceptance of the limits of one's own discipline, and willingness to embrace approaches that differ from one's own. Experiences from LUCID have demonstrated that it is sometimes convenient not only for PhD candidates, but also for more conventional discussants and committee members, to retreat back into a

disciplinary perspective. This has been a particular problem in final thesis defence committees that are selected from outside of the research school. It has therefore been a priority to provide guidance and tools to help facilitate broader interdisciplinary perspectives for those involved in the different roles in PhD education and the examination process.

One simple tool that has been developed is detailed instructional documents for each key stage in the PhD education process. The documents are in addition to more standard information about the structure of PhD studies at Lund University, or the steps that need to be carried out for a PhD in preparation for thesis submission and defence. The instructions are a tailored and specific support instrument for doctoral candidates, supervisors, and discussants for each milestone in the education process (first-year seminar, mid-term seminar, three-quarter seminar, final defence). Each document details the specific format of the seminar; it *suggests* key areas that should be included in, or considered, for the paper submission for the seminar, as well as in the oral presentation itself. Discussants or the defence committee use the instructions as an instrument to help broaden the discussion on aspects that may not be relevant, or rarely covered, in a conventional disciplinary defence discussion such as ontology, epistemology, use of theory in critical and problem-solving approaches in sustainability science, and contributions to LUCID and to sustainability, to name a few areas.

Research collaboration and publishing

Academic publishing and grant writing are important components of most PhD education processes. A challenge with interdisciplinary PhD education is to encourage students to participate in the publishing process, and to find quality outlets (e.g., journals, book projects) that are open for interdisciplinary research. In order to facilitate these processes, LUCID PhD candidates are encouraged to publish regularly and to carry out research with others, both inside and outside of the research school. One way this is carried out is through the initiation of small thematic writing projects based on individual areas relevant to LUCID research (e.g., sustainable land use). The processes are usually driven by a senior researcher, but with contributions from groups of PhD candidates. The collaboration has often been between LUCID PhD candidates working on similar themes within the programme (e.g., water governance). In addition, research collaboration, cross-fertilisation, and subsequent joint publishing have occurred between candidates in different areas, combining, for example, critical perspectives on

climate migration with an understanding of soil fertility management in sub-Saharan Africa.

Since the programme start, there has been a steady and impressive increase in the total number of publications by LUCID PhD candidates and senior researchers, from 23 in 2009 to 220 publications (including theses) by fall 2014. Although members of the senior staff authored the majority of the publications, there were also a robust number of publications produced by PhD candidates. In addition to the theses published (Box 1), and other co-authored articles, ten peer-reviewed journal articles were single-authored and published by PhD candidates. Furthermore, nine journal articles have been published that were a joint effort between two or more PhD candidates. Finally, 20 peer reviewed papers were published that were joint efforts between PhD candidate(s) and at least one senior LUCID researcher. Many of the publications are the result of individual topics presented in earlier LUCID seminars and workshops. Moreover, most publications (and theses) are a result of the expertise of a host of LUCID members acting as *mentors and critical friends* throughout the entire publication process.

Supplemental project funding

A more recent addition to LUCID has been the availability of modest amounts of additional funding for smaller collaborative research projects and events. These small grants have mainly funded research topics that candidates did not have time to cover during the PhD period. Past activities have included arranging stakeholder workshops, short film projects, and the initiation of different outreach activities. The grants are also used to plan and initiate new research projects. In collaboration with senior researchers, PhD candidates also use the funding to strengthen strategic research areas in LUCID. Furthermore, the funding can act as a small, but important, financial buffer between PhD studies and post-doctoral work.

One example where the project funding has benefited PhD education is the Early Career Researcher's Conference arranged by LUCID PhD candidates in Lund in October 2014. It attracted 70 researchers and students from Africa, Europe, and North America participating in eleven parallel sessions, a plenary, a panel discussion, two keynote presentations and a gala dinner. The conference was instrumental in building networks for interdisciplinary research and provided an additional opportunity for candidates to present and receive feedback on their research from an international audience.

Overcoming challenges

Successful interdisciplinary research and educational processes need to be informed by diversity, equality and the willingness to learn from failures and setbacks (Barth and Michelsen 2013). Despite serious attempts to establish and facilitate an international interdisciplinary learning environment for PhD candidates, there are additional challenges and areas to reflect upon for those who intend to further develop the LUCID research school.

Dual affiliation

Dual affiliation can be an important component—or even necessary—for integrated knowledge production, and to broaden one's scholarly networks and perspectives. For LUCID PhD candidates, dual affiliation means additional opportunities to develop pedagogical skills such as lecturing, holding seminars, and thesis supervision in a variety of both disciplinary and interdisciplinary environments, especially in the LUMES graduate programme (www.lumes.lu.se). Partly owing to the lack of an already established canon in the field of sustainability science, PhD candidates generally experience a higher degree of *academic freedom* in, for example, choice of research questions, research design, theoretical and methodological choice and a greater engagement in their projects among colleagues (i.e. the *village*). Finally, as a dimension of the extended organisational structure, there are many opportunities to make presentations such as posters, video interviews and short films, to audiences in and outside of academia.

Interdisciplinary research and PhD education often implies that a PhD candidate is affiliated with multiple organisations. They must be formally registered at a department (or centre) at the university, which often carries with it departmental responsibilities such as teaching, thesis supervision at the undergraduate and/or graduate level(s), as well as other departmental administrative responsibilities (e.g., advisory boards, committees). PhD education with direct affiliation with an interdisciplinary research school, likewise, can mean additional teaching and administrative responsibilities where the PhD candidate is also expected to participate actively. However, the additional time and energy burden can also, at times, be overwhelming. Dual affiliation can translate into activities such as participating in teaching and seminar activities as well as department meetings and social activities that well exceed the duties of a candidate with affiliation at a

single department. In a brief study on the challenges caused by being affiliated with multiple organisations at Lund University, one of which was LUCID, Brogaard and Ness (2013) found that it is often difficult for PhD candidates to either gain a clear understanding of their institutional expectations, fulfil all the expectations, or receive sufficient feedback on their performance when being associated with at least two academic institutions.

To lessen the extra stress and/or confusion relating to dual affiliation, it is imperative that all parties meet to discuss and map out the organisational responsibilities at the start of the PhD education. It is suggested that the individual study plan for each PhD candidate be used as a key planning instrument to define and detail issues as to the particular teaching responsibilities and administrative responsibilities for each organisation involved in the PhD education. It is also important that these institutional responsibilities are revisited and updated in meetings with supervisors, the director(s) of studies, and heads of all departments/centres where the candidate is affiliated. Such planning dialogues are now emerging.

Managing feedback

A key feature of the research performed in the LUCID research school is the extent of participants' knowledge and competencies in the humanities, natural sciences, social sciences, and the field of sustainability science. Research interests and competencies may range from the theoretical, such as analysing research questions from a World Systems Theory perspective, to the methodological, for example, using GIS, system dynamics modelling, or descriptive statistics. The diversity is also reflected in the research areas that PhD candidates cover.

Such diverse research proficiencies create new challenges often not encountered in conventional disciplinary programmes. PhD candidates in the LUCID programme, especially those in the early phases of the education process, have often commented on the need to quickly develop skills and capacity to manage a barrage of feedback from both senior researchers and fellow PhD candidates during seminars and in other similar settings where students have the opportunity to present research. Constructive critique is normal in any PhD education, especially at seminars. However, comments are often more diverse in interdisciplinary programmes such as LUCID. Stacked on top of their thesis projects, which often have transdisciplinary ambitions, such additional responsibilities and competency development in the areas of research

communication and outreach, etc. can foster inhibitions for some candidates. The comments, often sharp but sometimes also harsh, range from larger ontological and epistemological issues to concerns about research design, or detailed questions on a specific theory or research method used by the PhD candidate. Although comments are usually constructive, they can also be perceived as misplaced, difficult to interpret, or can be plainly misguided depending on the disciplinary perspective or knowledge base from which they are given. Following such events, PhD candidates often express their confusion as to the direction to proceed with their research, or how they will able to *fit it all in* to the thesis.

One approach used by supervisors to quell the range of emotions and frustration experienced by the PhD candidate in this position, while also making use of comprehensive feedback including inspirational or constructive critique, is to have a short *debriefing* session right after the seminar. This serves to jointly interpret, evaluate and contextualize the comments received and create a plan to revise the piece of research presented to accommodate critique or develop arguments more clearly. At times, the discussant also participates in this meeting. As illustrated, the capacity and skill to understand and tolerate diverging worldviews, and to accept variations in the use of theory, methods and data beyond one's previous academic training, is crucial for interdisciplinary training and supervision, and thus for how to also provide and take feedback.

Career opportunities

The generous and long-term funding in the Linnaeus programme has contributed to a learning environment that is rare in many other programmes. The interdisciplinary focus, however, can create more uncertain career paths after the doctoral education is completed. The additional small project funding described earlier is one way to create a *bridge* between PhD education and the variety of professional tracks that one can pursue after graduation. For most early-career researchers in LUCID, the path is a post-doctoral or other academic position. Regardless of direction, it is important that discussions about possible pathways occur between student and supervisors sufficiently early in the doctoral education process, so that PhD candidates have time to prepare for their next career steps. As of 2014, all LUCID PhDs have stayed in academia. All are involved in interdisciplinary research and some are also engaged in outreach activities.

Discussion and concluding remarks

Training the next generation of researchers and educators is a time-consuming process in itself, but also rewarding. To establish and maintain a collaborative, international, interdisciplinary PhD education programme can bring extra responsibilities and duties that get piled on top of already demanding academic schedules. Moreover, the extra demands to facilitate interdisciplinary PhD education can also be at odds with the conventional academic accolades (e.g., journal publications, scholarly awards). Therefore, academic institutions must develop to enable and reward collaborative processes that lie at the heart of interdisciplinary research and education. Lund University has made progress in recent years in this area through the strengthening of USV and other initiatives; however, additional efforts are needed. It is imperative that the conventional academic demands for career advancement in interdisciplinary fields are extended to include more than just hours in the classroom and a peer reviewed publication record. Relevant and contemporary indicators such as contributions to the conventional and social media, film projects and other direct societal problem-solving efforts are still needed for both early career and senior interdisciplinary researchers.

Patience, tolerance, and the desire to learn from and collaborate with others, especially with those from other (epistemologically dissimilar) disciplines, are preconditions for interdisciplinarity among senior researchers and PhD candidates alike. Inclusionary processes where all staff is present and contribute to the planning of workshops, seminars, conferences, and courses are crucial to ensure *joint ownership* and a critical mass (i.e., the village) from a wider group of participants. Possessing the traits, skills and engagement to participate in such environments should not be taken lightly.

Experiences throughout the initial seven years of the LUCID research school have demonstrated that not everyone in the organisation is equally engaged in nurturing the interdisciplinary environment. Often, it can be strategically convenient for researchers to avoid occasions such as seminars and workshops where research topics with other worldviews or perspectives are presented or challenged. To help ensure full participation from a wider group, strategically tailored incentives should be implemented within the organisation, ones which reward individuals for interdisciplinary collaboration and their participation in research and education endeavours that extend beyond conventional disciplinary

boundaries and the traditional academic accolades, such as bibliometric ratings or hours spent in the classroom.

In addition, the criteria for selecting PhD candidates must also be augmented. Besides the conventional merits of grades, Master's thesis topic, and general research interests, PhD student selection must also be based on, for example, a well-documented collaboration record, degree diversity, and leadership skills both in- and outside of academia.

The 10-year Linnaeus funding has been instrumental to create the international, interdisciplinary LUCID education. As mentioned, many academic departments and centres at Lund University and elsewhere do not have the luxury of such long-term funding to establish and carry out interdisciplinary research and doctoral education. Research funding, under which PhD candidates often carry out their education, are still dominated by modest and shorter duration projects (e.g., 3-5 years) where it is difficult to stimulate more robust collaborative processes between larger groups of candidates, or candidates and senior researchers. Despite increasing demands among research funding bodies in Sweden for cross-disciplinary collaboration, many grant and project durations are still shorter-term, which may seriously hinder interdisciplinary educational *experiments* for PhD candidates and their supervisors.

To fulfil the vision of LUCID, new ways to initiate, facilitate and pursue integrated research need to be further developed while at the same time breaking down the boundaries or opening up the borders that prevent shared understandings of complex issues. Senior staff, post-doctoral researchers, and PhD candidates must continue to engage in on-going debates and discussions to become a truly successful collective. This ambition, with all its challenges, is built into the very fabric of the LUCID research school via its multifaceted and dynamic *academic village*, which will need to be continuously and actively nurtured to flourish.

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Appendix I

Appendix I provides an overview of the educational programmes which are addressed in Chapter 3 to 10 respectively.

Chapter 3:
Peer Writing Tutors Help International, Interdisciplinary Students to Stake their Claim

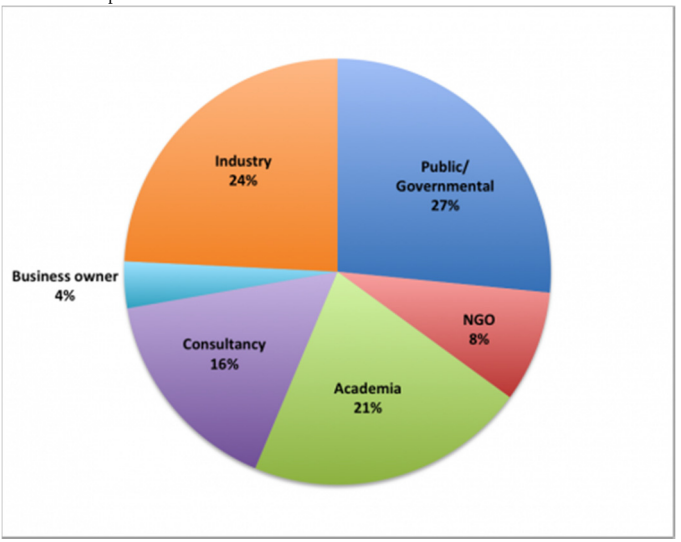
Name of the programme	Lund University International Master's Programme in Environmental Studies and Sustainability Science (LUMES)
Name of the Institution(s) providing the programme	Lund University Centre for Sustainability Studies (LUCSUS)- a faculty-free centre that falls under the University Special Programs (USV)
The year the programme started	1997
Duration of the programme	2 year MSc programme
Classroom setting	Three semesters classroom-based, with the final semester focused on the thesis, usually involving field work
Language(s) used in the programme	English
Profile of students	Approximately 40 students enter LUMES each year. They are exceptionally diverse, usually representing over 20 nationalities, with the majority coming from Europe but representation from non-OECD countries as well. Academic backgrounds range from physical and natural sciences to social sciences and humanities. Students are required to submit TOEFL test scores for admission.
Overall aims of the programme	LUMES aims to train critical thinking interdisciplinary sustainability scientists to tackle the "wicked problems" of the 21st century.
Subjects taught in the programme	Diverse: Earth system science; social theory; sustainability science; governance and politics of sustainability, urban & rural systems; economy & sustainability. Targeted courses such as energy, water, social movements; land use; knowledge to action amongst others.
Envisioned future careers of the graduates	LUMES graduates go on to careers in academia (about a quarter pursue PhD degrees), governmental and non-governmental organizations, and the private sector (entrepreneurial and traditional) worldwide. Many return to their home countries after graduation, while others stay in Sweden.
Profile of faculty members	There are currently seven members of the permanent teaching staff at LUCSUS. Four are Swedish, two from the US, and one from Germany. There are two men and five women. Staff academic backgrounds are diverse and interdisciplinary, but have a primary focus on social sciences. Subject areas range from physical geography, ecology, economic history, disaster risk management, and sustainability science. In addition, there is one full-time teaching staff and several postdocs who serve in teaching roles.
Profile of administrative staff	There is a 50% Director of Studies and a full-time Program Coordinator for LUMES. The Director of Studies is responsible for the academic and executive decisions for the program, and holds a PhD. The Program Coordinator runs all organizational aspects of the program, including coordinating student admissions, registration, and course documentation. There is also a part-time Administrative Assistant who assists with budget planning.
On-line information of the programme	www.lumes.lu.se

Chapter 4:
Harnessing student diversity: The case of the Lund University MSc Programme in Human Factors and System Safety

Name of the programme	MSc Human Factors and System Safety
Name of the Institution(s) providing the programme	Faculty of Engineering, Division of Risk Management and Societal Safety.
The year the programme started	2006
Duration of the programme	60 ECTS (half-time over two years)
Classroom setting	Mainly distance-based. Three mandatory one-week learning laboratories on campus.
Language(s) used in the programme	English
Profile of students	App. 15 students per year. Diversity of professional, national and educational backgrounds. The students are working at different positions in a variety of high-risk industries from across the world. So far from OECD countries.
Overall aims of the programme	The program aims to give students a more profound appreciation, a more extensive language, and a greater suite of methods to handle the types of safety problems that they encounter in professional life.
Subjects taught in the programme	FLM010 The new view of human factors & system safety 10 credits FLM020 The sociology of safety and accidents 10 credits FLM030 Accountability and learning from failure 10 credits FLM040 Forensic safety investigation and system change 15 credits FLM050 Thesis or 15 credits FLM060 Project work 15 credits The first course lays a deep foundation for students' subsequent development of ideas on human factors and safety by staking out the multiple philosophical positions. This allows them to extensively appraise the value and interrelationships of the various theories that are discussed in the second course. The third course will then directly address a central issue that is inevitably raised by the first two: what about accountability when progress on safety is about systems, not individuals? The final course transitions students' deepened knowledge and understanding into more practical considerations about the investigating and changing of systems.
Envisioned future careers of the graduates	Graduates of our Master program have previously been found qualified to work (among other things) as directors of safety for airlines, hospitals, and regulators; as operational and maintenance safety personnel; as aviation industry ground and industrial safety personnel; as flight safety personnel; as incident and accident investigators; as designers; and as advisers or consultants to manufacturers, regulators, operators and other parties within safety-critical industries. Employability of students is obviously seen as another important datapoint in the evaluation of the quality and relevance of the program.
Profile of faculty members	Teaching is conducted by a total of ten people representing LU faculty, affiliated professors and alumni students acting as mentors. Teaching involves faculty members (PhDs, Assistant Professors and Associate Professors) at the Division for Risk Management and Societal Safety conducting their research on different aspects of Risk Management, Human Factors and System Safety. The teaching also involves affiliated Professors contributing to the teaching providing additional subject matter expertise in Patient Safety, Aviation Safety and the Sociology of Safety. Further, teaching activities are also conducted by alumni

	students acting as mentors employed on an hourly contract. The teaching activities, in total, sums up to approximately 1.5 full-time positions.
Profile of administrative staff	Administrative staff at Lund University Commissioned Education (LUCE) provides the service of administering the application process and the process of bringing in the admission fees. They also provide the service to book facilities for the campus learning laboratories. Administrative staff at the Faculty of Engineering contributes with administering the LADOK system as well as the admissions procedure.
On-line information of the programme	www.humanfactors.lth.se

Name of the programmes	MSc Environmental Management and Policy (EMP) MSc Environmental Sciences, Policy and Management (MESPOM)
Name of the Institution(s) providing the programmes	International Institute for Industrial Environmental Economics MESPOM is offered in collaboration with the University of Manchester (UK), Central European University (CEU) (Hungary), and the University of the Aegean (Greece).
The year the programmes started	EMP since 1995 MESPOM since 2005
Duration of the programmes	2 years
Classroom setting	EMP is designed with the first semester provided online over the course of a year, with the following two semesters on site in Lund and finished with the thesis. The EMP started with 35 students, but after the introduction of the MESPOM programme, it is typically comprised of 25 students, with some attrition in the transition from online to on-site. MESPOM is provided with the first two semesters at CEU, a summer course in Greece, third semester at either IIIEE or University of Manchester, and fourth (thesis) semester. All students (approximately 30-35 students) are together in Budapest for the first year. Typically 15-20 students choose to study on-site in Sweden for the second year.
Language(s) used in the programmes	English
Profile of students	A typical EMP cohort is made up of only a small number of Swedish students (typically less than five) and would have around 15 nationalities represented. The students of the EMP programme are also somewhat older than typical Master's students in Sweden, with an average age of 27-28 years when entering the programmes. The MESPOM student group is on average slightly younger compared to the EMP group and is dominated by students from outside EU. They appreciate the opportunity to learn in several different European universities, thereby experiencing varying local cultures and societies. The programmes accept candidates with a Bachelor's degree in engineering, natural science, business administration, economics, law, or relevant social science.
Overall aims of the programmes	The programme curriculum is based on multiple disciplines such as economics, technology, law and policy, politics, management, and environmental sciences. In the EMP, the fundamentals of environmental sciences make up less than 5% of all the courses, while there is more of this in the MESPOM courses. The main focus of EMP programme and MESPOM courses taught by IIIEE is on management systems, policies, strategies of business and public authorities and social practices. The curriculum is globally relevant with special attention to Swedish, Scandinavian and European contexts and practices. Interaction with practitioners and real-life situations is a trademark of IIIEE education. The practical courses involve assessing real-life industrial and policy systems and engaging with businesses and public authorities to develop sustainable solutions to industrial environmental problems ranging from waste management to energy efficiency.

Subjects taught in the EMP programme	*First semester.* Fundamentals in environmental science, business management, environmental technology, economics & consumption. *Second & third semesters.* Environmental Assessment Methods – LCA &/ economic valuation; Environmental Management in Organisations + practical course with a company Policies and Approaches to SustainabilityIndividual research paper & research methodsStrategic Environmental Development client project *Fourth semester.* Independent research for a Master Thesis Project The MESPOM programme has a similar course structure with the second, third and fourth EMP semester described above with a key difference being less applied work with companies but instead more eco-system focus (in the first year) and an opportunity to devote the third semester to natural science (in Manchester instead of Lund, thereby not participating in some of the courses described).
Envisioned future careers of the graduates	Careers of sampled alumni: 
Profile of faculty members	Teachers of the courses in both programmes have diverse academic backgrounds in engineering, economics, law, and business administration. All have an advanced degree in the environmental field. Nationalities of teachers include Swedish, Finnish, German, Dutch, Lithuanian, Ukrainian, Japanese, American, Australian, and Chilean.
Profile of administrative staff	The educational activities are supported by a full-time student officer managing the administration of the programme. Additionally, academic staff, i.e. the Director of Studies + 2 academic coordinators administer the academic activities of the programme.
On-line information of the programme	http://www.iiiee.lu.se/education/emp http://mespom.eu/

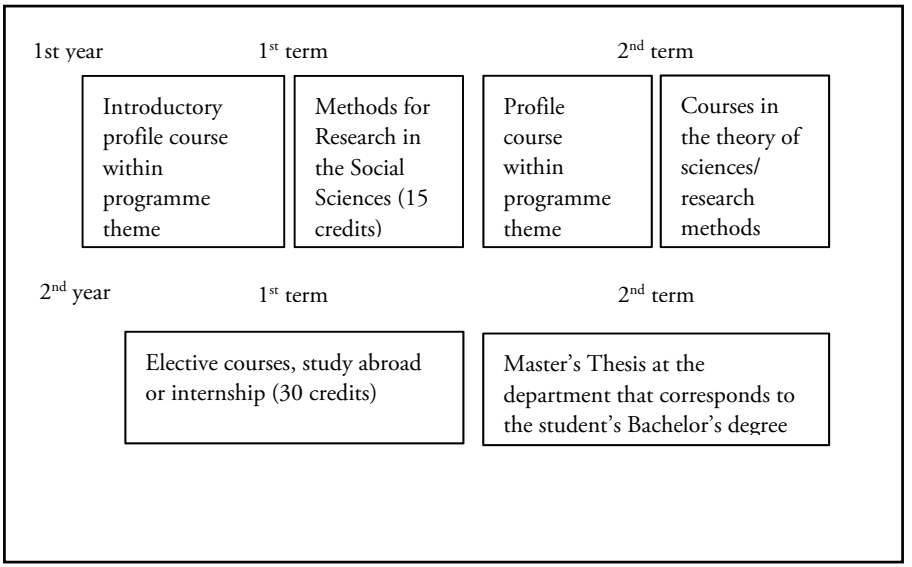
Name of the programme	Lund University International Master's Programme in Public Health (MPH)
Name of the Institution(s) providing the programme	Faculty of Medicine
The year the programme started	2001
Duration of the programme	2 year MSc programme
Classroom setting	Three semesters classroom-based, with the final semester focused on an independently conducted research study and the preparation of the master's thesis.
Language(s) used in the programme	English
Profile of students	Approximately 40 students enter the programme each year. They are exceptionally diverse, usually representing about 20 nationalities, with the majority coming from European countries but with representation from non-OECD countries as well. Academic backgrounds range from medical sciences to social sciences and humanities.
Overall aims of the programme	The MPH aims to train critical thinking interdisciplinary public health scientists and professionals to tackle a wide range of public health challenges in different settings.
Subjects taught in the programme	The programme covers areas such as global public health, health economics, health policy, planning and leadership and health promotion. It also includes courses both in epidemiology and qualitative research methods.
Envisioned future careers of the graduates	MPH students either pursue a career within the academic setting or within the sphere of public health work, either in international or domestic settings. The majority return to their home countries after graduation, while others remain in Sweden.
Profile of faculty members	The current faculty consists of 14 different course leaders. Of these 9 are Swedish while the others come from the United States, Ghana, India, Iran, and Canada. Currently, eight of the course leaders are men. The academic background is quite diverse, as the faculty members hold doctorates in Medicine, Public Health, Economics, and Business Administration.
Profile of administrative staff	The Director of the programme (50%) is responsible for the overall management of the programme including academic and executive decisions, and holds a doctorate in medical science. The Program coordinator (50%) is responsible for the coordination of the administrative aspects of the program, including student admissions. Two secretarial staff (150%) provides support with regard to practical and administrative issues at course level. All staff members are employed at one of the six departments at the Medical faculty.
On-line information of the programme	http://www.med.lu.se/english/public_health

Chapter 8:
Building a "Home": the role of administration in master's programmes

Name of the programmes	Master of Science in Development Studies, Global Studies, and Social Studies of Gender (GDG Programmes)
Name of the Institution(s) providing the programmes	Graduate School at the Faculty of Social Sciences
The year the programmes started	2007
Duration of the programmes	2 years (full-time) with an option for a 1-year Master's
Classroom setting	The programmes are campus-based. The first year is spent entirely on campus, while we offer our students to choose between taking an elective course, doing an internship, or participating in a study abroad programme during their third term. This means that many students are not actually in Lund during the 1st term of their second year. During the final term students write their thesis, and depending on the department at which they write their thesis, they may have mandatory seminars.
Language(s) used in the programmes	English
Profile of students	The number varies from year to year, but is around 25-40 per cohort. Students are admitted according to the major in their Bachelor's degree from within one of the following social sciences: development studies, gender studies, political science, sociology, social anthropology, education, social work, sociology of law and human geography. About half the students have completed their Bachelor degrees in Sweden, while half come from outside. Last year we received students from 31 countries. Many of those from outside Sweden are from the EU, but every year we have a few from Asia, Africa and North and South America. We have also received a number of scholarship students, mostly from Turkey and various African countries. Students are required to have a strong academic background in order to be admitted, but some also have several years of working experience. We have an English proficiency requirement of English 6.
Overall aims of the programmes	Development Studies: To provide students with the background knowledge and concrete skills to understand, assess and work in development-related fields, whether in direct poverty reduction or in other aspects of social and institutional development. Global Studies: Aims to provide the student with knowledge of globalisation, conflict and social change. This involves an understanding of theories connected to processes of globalisation and transformation as analysed through various disciplinary frameworks. Social Studies of Gender: To provide students with the core elements through which current feminist theories, in dialogue with established academic disciplines, have contributed to the understanding of broader social processes. The major objective of the programme is to improve the student's ability to critically examine, evaluate and discuss the field's most important theoretical perspectives and research results.
Subjects taught in the programme	The programmes each begin with a 15 credit profile course introducing the students to the main themes and issues (development, global and gender studies). This is followed by a 15 credit course in research methods that includes both quantitative and qualitative methods. During the second semester of their first year, students take another 15 credit profile course where they deepen their knowledge about their specific theme. This is followed by a 7.5 credit course in theory of science. During the last period, students choose one of four methods courses: participatory methods, text and discourse analysis, fieldwork, or evaluation methods.

	During the first term of the second year, students choose between taking elective courses, study abroad, or an internship. This depends on the student's interest, career goals, and personal situation. During the second term of their second year, students write their thesis. *Image of programme structure is below.
Envisioned future careers of the graduates	Policy makers, trainers or practitioners, organisational management in various sectors including government agencies, private firms and NGOs. All three programmes also prepare students for postgraduate studies.
Profile of faculty members	The teaching staff (80-90 teachers altogether) comes mainly from the departments within the Faculty of Social Sciences, and includes professors, senior lecturers as well as doctoral candidates. All teachers are also active researchers within the fields of the three programmes.
Profile of administrative staff	Three full-time programme coordinators are responsible for the administration from admissions to graduation. They have direct contact with both students and teachers and, due to the interdisciplinary structure of the programmes, play a strong role in both the day-to-day administration as well as strategic development. All coordinators have a master's degree in social sciences. There is also one director of studies, with the overall responsibility for the three programmes, as well as one programme director for each of the three programmes.
On-line information of the programme	http://graduateschool.sam.lu.se/ https://www.facebook.com/pages/Graduate-School-Faculty-of-Social-Sciences-Lund-University/159767020732402?ref=hl

*Programme structure for all three GDG programmes



Name of the programme	Master's Programme in Sport Sciences
Name of the Institution(s) providing the programme	Faculty of Medicine (Physiotherapy), Faculty of Social Sciences (Department of Psychology), Faculty of Engineering (Biomedical Engineering)
The year the programme started	2009
Duration of the programme	2 years
Classroom setting	On-site
Language(s) used in the programme	English
Profile of students	The programme has 20 places. On average 25 students have been admitted annually. Over the years, about 70% of the students are international representing 35 countries from all continents. Eligibility to the programme requires, apart from basic eligibility: - a Bachelor's degree of at least 180 credits, or equivalent degree from another country, at least 90 credits of sports science or equivalent subject areas, such as sports medicine, and sport psychology respectively. The Bachelor's degree must include research methods worth at least 7.5 credits and an independent project (degree project) worth 15 credits - English B or equivalent for Swedish and other Nordic students - internationally recognised English language tests such as TOEFL paper-based score of 4.5 (scale 1-6) in written test and a total score of 575; internet based score of 20 (scale 0-30) and a total score of 90, IELTS score of 6.5 (with no section less than 5.5) or Cambridge/Oxford - Advanced Certificate of Proficiency for students outside the Nordic countries without English as their mother tongue. Selection takes place on the basis of academic merit, Letter of Recommendation and a Statement of Purpose on application to the programme.
Overall aims of the programme	The aim of the programme is to provide advanced in-depth knowledge, skills and abilities in the field of sports science with a specialisation on sports medicine and sport psychology. Two fields of study are in focus: sports for health and performance sports. Sports for health means physical activity and exercise with the aim of increasing well-being and maintaining or improving health. Performance sports refers to boosting the physical and mental capacity of individuals, with a particular emphasis on top-level sport. Part of the programme is learning how physical and mental training, diet planning, injury prevention and rehabilitation can best be used to promote health and the improvement of individual as well as team performance. An important aspect of the programme is close contact with future employers and work environments through internships.
Subjects taught in the programme	*Semester 1* Competences in sport sciences – sport psychology, 7.5 credits Competences in sport sciences – sport medicine, 7.5 credits Mental aspects of sport and physical performance, 7.5 credits Leadership and communication, 7.5 credits Medical and technical aspects of sport and physical performance, 7.5 credits *Semester 2 (Sports Medicine)* Prevention and treatment, 15 credits Sport nutrition, 7.5 credits Human performance in extreme environments, 7.5 credits

	Semester 2 (Sport Psychology) Applied sport and exercise psychology (individual), 15 credits Applied sport and exercise psychology (team), 15 credits *Semester 3* Internship – sports medicine, 15 credits Scientific methodology, 15 credits *Semester 4* Master´s thesis, 30 credits
Envisioned future careers of the graduates	The programme qualifies students for practical work, and doctoral studies. Our students have been employed by, for example, the Olympic Committee of Singapore, China Business Council for Sustainable Development, UNESCO in Geneva, Akureyri municipality in Iceland, and the Swedish Sports Confederation in Stockholm.
Profile of faculty members	Of the 10 main teachers, all have a PhD, and six are Associate Professors. Three teachers are from other countries (UK and China). All teachers are researchers, which ensures the link between research, education, and practice.
Profile of administrative staff	Programme Director, Programme Coordinator, Educational Administrator
On-line information of the programme	http://www.med.lu.se/english/sport_sciences
Others	Our students have won the nationwide thesis contest "The best thesis in social sciences" awarded by the Swedish Association for Behavioural and Social Science in Sport in 2011, 2012, and 2013.

Chapter 10:
It Takes an Academic Village. Establishing an interdisciplinary research school and educating the first generations of PhDs

Name of the programme	Lund University Centre of Excellence for Integration of Social and Natural Dimensions of Sustainability (LUCID)
Name of the Institution(s) providing the programme	The Centre for Sustainability Studies, LUCSUS, is the coordinator of LUCID. LUCSUS operates within the faculty-like entity of University Special Activities (Sw. USV). LUCID spans seven disciplines/fields at the University: human ecology, physical geography and ecosystem science, human geography, philosophy, political science and sustainability science, encompassing three University faculties: the Humanities, Natural Sciences, and Social Sciences.
The year the programme started	The LUCID programme started in 2008. The first wave of PhD began in April 2009.
Duration of the programme	2008-2018
Classroom setting	Most LUCID activities are on-site. Some additional coursework by PhD candidates is pursued around in other locations. Here you could provide information as to whether the programme is provided on-site, on-line or the combination of both. If both are combined, provide a short account on the duration and order of on-line and on-site parts.
Language(s) used in the programme	English is the main language used in seminars, workshops, etc. Swedish can be used in some activities (e.g., Board meetings) and in informal discussions.
Profile of students	LUCID PhD candidates are diverse in both where they come from and their academic backgrounds. Thirty PhD candidates have been accepted to the research school in three main waves. Fifteen candidates were accepted in the initial wave in 2009, four students in 2011, and four PhD candidates in the autumn of 2013. Approximately half of the LUCID PhD candidates are from Sweden. The others are from a number of different countries including: the U.S., South Africa, Germany, Turkey, Cameroon, Italy, Columbia, and Belgium. The academic backgrounds of LUCID PhD candidates have been diverse. They have degrees in areas such as anthropology, physics, Asian studies, development studies, global studies, economic history, environmental studies, and geography, agricultural science, engineering mathematics, environmental science and sociology to name just some.
Overall aims of the programme	The LUCID vision is to produce quality sustainability research through new forms of inter- and trans-disciplinary cooperation, which fosters integration across faculties, disciplines and the science-society divide.). The ambition is to both advance knowledge and problematize the roles of science and scientist in transitions towards sustainability. At conferences, and via exchange visits, workshops and publications, LUCID researchers continuously offer theoretical, methodological and practical contributions to sustainability studies and the field of sustainability science research. LUCID also stimulates stronger synergies and communication between the humanities, the natural sciences, and the social sciences as well as between science and society.
Subjects taught in the programme	A number of research themes have emerged in the LUCID programme since its start: Economy and environment, Energy challenges, Environmental politics, Gender, intersectionality and sustainability, Land and agriculture, Scientific foundations of sustainability, Urban transformations, and Critical water governance. A number of PhD courses have also been co-ordinated by the research school. They include: Sustainability science, Methodology course in qualitative research approaches and methods, Political Ecology of land use, Critical perspectives on water governance,

	Current issues in sustainability research, Being human in times of climate change, Situating the environmental humanities, Current issues in sustainability research.
Envisioned future careers of the graduates	Short-term: most LUCID graduates continue on for post-doctoral work. Longer-term career prospects are envisioned to be diverse, with a majority likely to stay within academia.
Profile of faculty members	The academic backgrounds of the LUCID faculty members are as diverse as the programme. Disciplinary competencies include Sustainability Science, Economic History, Physical Geography, Economic Geography, Human Ecology, Political Science, Most of the members are Swedish; however, others who are directly or in-directly involved in the programme are from Canada, the U.S., and Germany.
Profile of administrative staff	There is one main administrator for the LUCID programme based at the research school's co-ordinating centre, LUCSUS. The administrator is responsible for arranging PhD candidate contracts, travel expenses, co-ordination of LUCID Steering Committee meetings, and the variety of other administrative responsibilities related to running a research school.
On-line information of the programme	http://lucid.lu.se.webbhotell.ldc.lu.se/

Appendix II

Appendix II includes appendices relevant to specific chapters.

Appendix II-A

Chapter 3: Peer Writing Tutors Help International, Interdisciplinary Students to Stake their Claim

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All appendix materials can be found at http://www.kimnicholas.com/peer-writing-tutors.html. The content of Appendix II-A-2 is also included here for reference.

Appendix II-A-1

The surveys with the new students participating in the tutor training can be found at

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/survey-part-1.pdf

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/survey-part-2.pdf

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/tutor-survey.pdf

Appendix II-A-2

Materials given to the students writing the assignment, including detailed instructions for the assignment and a form for both tutors and peers to use in giving students feedback at the in-person tutoring session, as well as a rubric for assessing the assignment can be found below and at

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/pre-course_assignment_instructions_2016_final_corrected.pdf

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/pca_rubric_2016.pdf

Appendix II-A-3

Practical guidelines on expectations and tips for facilitating writing sessions can be found at

https://docs.google.com/document/d/1b4loDqnYFSi32gv_MDcS-vU-4IOpHnWVoeudbHn0k-E/edit

https://docs.google.com/document/d/10LRRa-G2YwGHxHVF0-V80mUIF45tggxpq9kJqVKJFGw/edit

Appendix II-A-4

Specific guidelines provided by the writing consultant to the tutors, including templates for structuring responses to student writing, and writing guides and resources can be found at

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/peer_review_guidelines_for_lumes_tutors_2016_updated.pdf

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/feedback_session_guide_and_feedback_template.pdf

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/thoughts_on_academic_writing_general_version.pdf

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/academic_writing_resource_list_copy.pdf

Appendix II-A-5

The training on plagiarism can be found at

http://www.kimnicholas.com/uploads/2/5/7/6/25766487/what_it_takes_to_avoid_plagiarism.pdfhttp://www.slideshare.net/kimberlynicholas/writing-to-make-a-difference-while-staying-out-of-trouble

Detailed instructions for the assignment (Appendix-II-A-2):

LUMES
Lund University

Earth System Science
August 24- October 7, 2016

Instructions for LUMES Pre-Course Assignment

First Draft Due 12:00 noon on Friday, August 12, 2015
Second Draft due 09:00 on Tues, Sept 6 , 2016
Final Draft due 17:00 on Friday, Sept 16, 2016

Upload to Live@Lund online system as Word format;
see "Introduction to Live@Lund" for instructions on how submit your assignment.

1 Introduction

Strong academic writing in English is a major focus of the Earth Systems Science course, and a critical foundation for success in the LUMES program. We have established a partnership with the Academic Resource Centre at Lund University (http://www.lunduniversity.lu.se/current-students/academic-support-centre) to offer an introduction to academic writing at the master's level in a supportive, personalized environment tailored to the LUMES program. This includes a program using trained peer tutors to give feedback on several rounds of revisions as you work to improve your writing.

We will begin with a pre-course assignment to be **completed before you arrive in Lund in August**. This assignment will not be given a formal grade, but it is part of a mandatory task that will help you to familiarize yourself with the subject matter of sustainability science and with the kind of work that you will be doing in the LUMES program, including expectations for academic writing in English. We will be revising this assignment throughout the first several weeks of the course, and your assignment will be read by many others, including teachers, writing tutors from the second-year LUMES class, and your peers, in face-to-face small group tutoring sessions and via electronic feedback. Therefore, while you will have time to

further revise and improve your writing, please take the time to make a good effort with your first draft. Thanks!

2 Learning outcomes

Writing and revising the Pre-Course Assignment will:

- Give you experience in using sources critically to write a short essay clearly making a claim to advance an academic argument on an environmental topic.
- Give you experience in reflection on the writing process, including incorporating feedback to improve your writing, giving feedback to others to help them improve their writing, and using a rubric to assess writing and focus on areas for improvement.
- Familiarize you with Lund University's policy on plagiarism, and teach you how to avoid plagiarism in scholarly work.
- Familiarize you with appropriate academic citation styles, properly crediting the work of others in your writing.
- Give you expertise in a relevant topic for sustainability science, which you will share with your peers in LUMES.
- Familiarize you with the local environmental context of Sweden.

3 Pre-Course Assignment (PCA) Writing, Revising, and Tutoring Schedule Overview

Day	Date	Time	Venue	Task
	Starting June 27, no later than July 11		Live @Lund	Sign up for one of three topics for PCA
Fri	Aug 12	12:00 noon	Live@ Lund	Upload Draft 1 of PCA (Word format)
Mon	Aug 22	17:00	Email	Receive feedback Draft 1 PCA from your writing tutors by email
				Receive access to all student essays in your group, including one to lead as discussant. Read all before first tutoring session.
Tues	Aug 30	Set by writing tutors	Set by writing tutors	PCA Tutoring Session (each student acts as Discussant to one paper; all receive feedback from one peer student and the Tutor)
Tues	Sept 6	09:00	Live	Turn in revised Draft 2 PCA
Tues	Sept 13	Set by tutors		Tutoring Session 2 Read your peer's paper and fill out worksheet to evaluate claims and APA formatting
Fri	Sept 16	17:00	Live	Submit final revised PCA, ensure strong claim supported throughout by proper APA references

4 Select a paper topic

In this paper you will present a sustainability problem or challenge in Sweden that is related to one of three broad topics drawn from the Planetary Boundaries (Stefen et al., 2015, *Science*, updated from Rockström et al., 2009, *Nature*), around which the Earth Systems Science course is structured:

1. Water (e.g., water pollution, demand for water, river management, hydropower…)

2. Biosphere Integrity and biodiversity (e.g., endangered species, genetic diversity, wildlife management, invasive species…)

3. Land system change (e.g., urban expansion, agriculture extent and practices, forestry, grazing, competition for land between different uses…)

To balance the group numbers, which is necessary for the next steps with this assignment, you need to **sign up for one of the topics on a first-come, first served basis**. This is done through the Live@Lund website. Please sign up for only one topic and make sure that you have signed up for a topic before you start working on your assignment.

See "Introduction to Live@Lund" for instructions on how to sign up for a topic and do this preferably ASAP (**no later than July 11**). You will have the chance to explore many other topics in the course, so don't worry if your first choice is not available.

You will want to find a question, puzzle, or practical or conceptual problem around which to frame your paper. Within your selected topic, you should choose an issue that is focused enough to develop in depth, while still making the linkages to why it is relevant to broader sustainability challenges. For example, within the topic of Biodiversity, you might choose to look at a proposal to restore habitat for one endangered species in Sweden; within the topic of Water, you might focus on debates over drinking water quality standards.

When you think through your paper topic, consider the following questions to help you focus:

- What is the problem you are interested in?
- Why is this a problem? What are the consequences?
- Who is affected by it?
- What are potential solutions?
- Where is this a problem, besides your case study area in Sweden?

Geolibrarian Britta Smångs has put together a website with useful links on information about environmental issues, agencies, regulations, and news in Sweden, which will be helpful in getting you started on this assignment and for the rest of this course. (Note that one topic from previous years, Nutrients, is not being used this year, so you can ignore this page.) These sites are in English; remember you can Google Translate or similar sites as needed. **Please note the suggested keywords for searching within each topic, which will help you find more specific resources.** We suggest you start this assignment by browsing the resources available there:

http://libguides.lub.lu.se/content.php?pid=344762&sid=2820573

5 Paper Format

The paper should be **1000-1200 words long**, written in Times New Roman font (12 point) and double-spaced. Please make sure you do not exceed 1200 words for the text of your paper (all the text included from the beginning of the Introduction through the end of the Conclusion; figures and their captions do not count towards the word count).

Note that this is quite short (about 4 pages double-spaced), so it will help you if you select a focused topic. You can narrow a topic by restricting your paper to a particular geographic location, group of stakeholders, time period, policy, etc.

Please be sure your paper has the following technical elements:

1. The paper should be headed by a descriptive **title**.
2. Your **name and email address** should be written at the **end of the last page, not at the beginning** (this helps ensure papers are assessed without bias).
3. Please include a **word count** at the top of the first page.

4. Please include **page numbers** for easy referencing.

Please take a look at the **Pre-Course Assignment rubric** posted on Live@Lund, and think about these assessment criteria as you write and revise your first draft. You can also look at **samples of strong essays from previous students** on Live@Lund.

The overall structure of the paper should look like this:

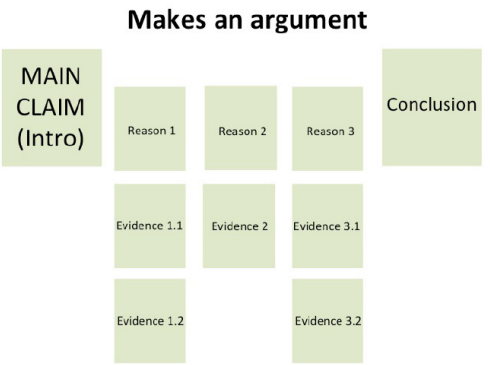


Figure 1: Overview of the structure of an academic essay advancing a claim. Source: Ladaea Rylander, Lund University Academic Support Centre

Specifically, the paper should **follow this structure**, using appropriate headings and sub-headings:

1. **Introduction:** this is where you catch your reader's interest and convince your reader that your selected topic is a worthwhile one. Most importantly, at the end of the first paragraph, you should make your main central claim (also called a thesis statement). This claim should advance a specific argument (a point of view, policy, or action) that you will focus on throughout the rest of your essay, and try to build the case for your reader to agree with you based on the reasons and evidence you present.

For example, a **claim** might be:

"This essay presents the case that increasing the expansion of [Sweden's wetlands] must be accelerated."

Alternatively, you could claim the opposite:

"This essay presents the case that increasing the expansion of [Sweden's wetlands] must not be accelerated."

We want you to gain practice in clearly articulating a strong claim and defending it with evidence. This is at the heart of academic writing. Here is an example of a claim made stronger through the peer review process, taken from a book chapter about this writing process (Nicholas, Brady, and Rylander, in press):

First draft	Final draft
"In this essay I will discuss how vulnerable Sweden is to the decline in the number and *diversity of wild bumblebees, with also including a comparison with the rest of the EU."*	*"This essay intends to argue that bumblebees and their pollination services are not of a great economical importance to* *Sweden."*

Table 1: Comparison of first and final draft of student writing, showing improvement in clarity of main claim after peer tutoring.

Figure 2: Conceptual diagram of the core structure of academic writing. Source: Ladaea Rylander, Lund University Academic Support Centre, "Some Thoughts, Guidelines, and Advice on Academic Writing" (available on Live@Lund).

2. **Paper Body:** this is where you give reasons to support your claim. A classic format is to give three **reasons**, each of which gets its own paragraph. Each reason is supported by **evidence**, which should be properly referenced to its source. See Resources below for help with evidence and arguments.

3. **Figures:** Please **include at least one figure** that helps the reader understand and follow your argument, or illustrates or provides an example of your evidence. This could include a conceptual representation of your whole essay, a picture of a particular environmental strategy, a map of the location of your topic in Sweden, data on the trend over time of your topic, or any other visual representation that supports your text. Please make sure the figure has a descriptive heading (several sentences) explaining in words what it shows, why it's relevant, and properly attributing its source.

4. **Conclusion:** here you summarize your paper in the form of finding or results or main ideas developed. Make sure to refer back to your claim, and highlight how you have supported it.

6 References

Proper attribution of ideas is essential to making an argument in academic writing, and is a major focus of this assignment to build skills you will use in the rest of LUMES and beyond. **Following APA style, we expect EACH idea to be attributed to its original source as soon as it is mentioned (within or at the end of each sentence).**

You should include a **minimum of 5 sources**. Most of the writing you do at Lund University will reference scholarly literature from peer-reviewed, academic journals, and this is the preferred evidence source. However, if you do not have access to these materials before you arrive in Lund, you may use readily available sources such as newspaper and magazine articles, encyclopedia articles, and web pages for this assignment. These should be properly attributed (i.e., give the citation in-text for ideas taken from your sources). List only sources you mention in your text in your reference list.

Please use the APA style of citation. Briefly, this means you should cite ideas, facts, and arguments that come from another source within your text, and list the full reference at the end in the References section. For example, you might say, "The Swedish Parliament has adopted sixteen environmental objectives, which guide national environmental policy (Swedish Environmental Protection Agency, 2011)." Then list the full citation (including authors, title, date and type of publication, etc.) under References. See links below for more info.

7 Peer review and tutoring session 1

Your first draft will be assessed by both a LUMES writing tutor (a second-year student, who went through this process last year), and one of your new classmates, in a small-group tutoring session with 4-6 students and your writing tutor. Each student will be responsible to act as a discussant for a peer's paper and provide feedback at this session. We will make use of the writing rubric posted on Live@Lund to help you identify areas of strength and areas to focus for improvement in your writing, in reference to the criteria in the rubric.

LUMES Pre-Course Assignment

Instructions for discussants for the Pre-Course Assignment peer-review seminar

Peer review is essential to the research and writing process, and will be used often in LUMES. For the Pre-Course Assignment, you will **read all the student papers within your group**, and come to the first seminar prepared to discuss them and provide constructive feedback for every paper. Previous students have noted that reading and discussing all the papers was useful to them in improving their own writing, as well as in providing helpful feedback to their peers. A peer LUMES writing tutor, who has read and commented on a previous draft of your paper, will facilitate the tutoring session, but the majority of feedback will come from your peers.

At the tutoring session, you will be the main discussant for one of your peer's papers (see your assigned author for discussion and the other members in your group on the "PCA Writing Groups" list on Live@Lund). You should read this paper especially carefully, and **prepare a written review** to give the author following the verbal comments that you will make in the PCA session in person. In particular, you will be evaluating the paper in four essential areas:

1. **Thesis & Ideas:** The central argument, question, or issue addressed by the paper, leading to the significance of the contribution.
2. **Evidence & Analysis:** The empirical evidence presented (qualitative or quantitative) and analysis conducted to support the thesis, including the quality of the sources used and the effectiveness with which they are used.
3. **Structure:** The logic, flow, and organization of the paper.
4. **Style:** The use of language, including clarity, formatting, and creativity.

We have developed an **Assessment Rubric (posted on Live@Lund)** to help you focus your review, and to make specific comments to help your peer improve his or her paper. Your criticism should be constructive, professional, polite, and helpful. Often criticism posed in the form of questions is the most helpful. The goal of using this rubric is to make assessment criteria explicit in order to stimulate student thinking about what goes into a great paper. As a reviewer, you should use the categories (Excellent, Very Good, etc.) to help you explain your assessment and point out both strengths and areas for improvement.

Please use **the attached sheet** to provide feedback to your peers. This will help focus your verbal feedback in the tutoring seminar on the most important aspects to help strengthen the clarity and impact of the paper. Written comments can include detailed feedback to help the author improve; it is not necessary to discuss each point in person (e.g., correcting typos, grammatical errors, and other small points that are easily corrected). Making in-text comments and corrections in the essay itself can be extremely helpful for your peer (this is not required, but is encouraged!). If you do this, please bring a copy of the text with your comments to give the author at the end of the tutoring session.

Please **bring a written copy (hard copy preferable, electronic acceptable) of the completed assessment** form for your peer to the tutoring session. At the end of the session, please give the feedback form to the author, so they can use it in their revisions.

Peer Review Assessment for Pre-Course Assignment Tutoring Sessions

Reviewer:
Author:

Paper Assessment (Fill out with reference to the Assessment Rubric before the tutoring session, using specific examples and suggestions. Be sure to answer the question asked, as well as any other comments you want to add.)

1. **Claim & Ideas:**

   What was the major claim of the paper?

2. **Evidence & Analysis:**

   What were the key pieces of evidence used to support the claim?

   How were sources used to provide evidence (proper attribution, source quality, etc.)?

3. **Structure:**

   What were major strengths and areas for improvement in the logic, flow, and organization of the paper?

4. **Style:**

What were the major strengths and areas for improvement in the use of language in communicating and supporting the major claim?

8 Revisions for the Second Draft of the Pre-Course Assignment

You will use the feedback from your tutor and peers to make improvements to your paper and submit a revised version of your pre-course assignment by September 6.

For the second draft, please include:

1. An **Abstract** of no more than 200 words, summarizing the key points of your essay.
2. On the last page:
    a. Note on how you addressed the key comments you got in a short response.
    b. **A list of discussion points** on the **last** page:
        i. Three things you think you did well in your essay
        ii. Three things you know you want to work on to improve
        iii. Three things you're not sure about, or want to discuss.

All authors will revise their PCA to incorporate feedback from their discussants, tutors, and other peers at the tutoring sessions, and upload a third draft to Live@Lund by Friday, September 16th.

Note that, while the **focus of the second draft is on improving the clarity of the argument (particularly making a claim) and writing**, this **draft should also include correct in-text and reference list citation using APA format, and that a PCA using APA style perfectly to cite and reference ideas is required to pass the Earth Systems Science course.** If you see errors of attribution or of citation format, you should point these out as an area for revision in the final draft.

9 Preparing for partner peer-review of the Second Draft

Ahead of the peer-review session, please read your assigned partner's paper and prepare the following worksheet to discuss in class.

Instructions for Second Tutoring Session

Before the second tutoring session, please read and assess your peer-review partner's paper using this worksheet, and bring the assessment with you to discuss in person.

You will focus on two things at this stage:

1. The overall logic and structure of the paper, by **filling out the diagram on the next page**, and
2. The fair, consistent, and correct attribution of ideas using appropriate APA referencing format, by **filling out the APA checklist**.

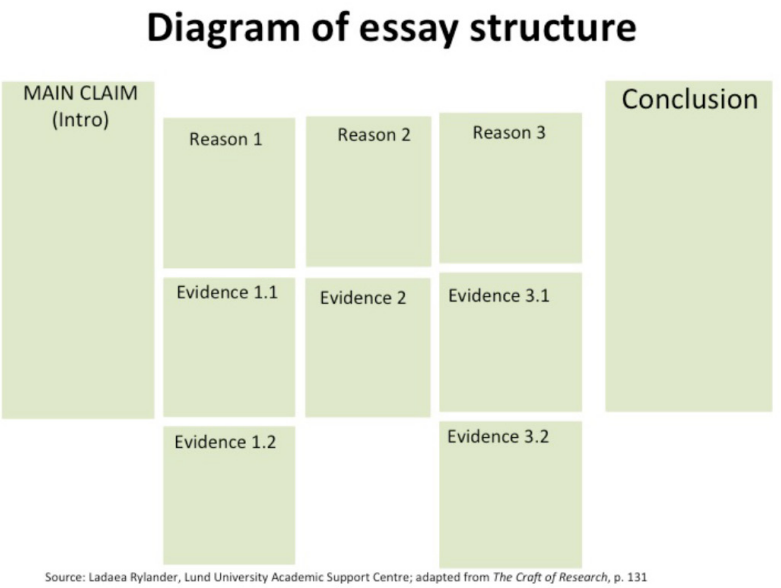
Please bring these completed tasks to the peer-review session on Tuesday. You can note any issues or additional suggestions in the text, or in written comments for your partner.

9.1 Diagraming Your Partner's Essay

To assess the structure, please fill out the following boxes, based on your reading of your peer's essay.

The main claim and conclusion should be one complete sentence (ideally, taken directly from the text if there is a clear claim and conclusion stated; if not, try to write the best one you can to match the essay's argument).

The reason and evidence can be bullet points or short phrases (complete sentences not required).



Source: Ladaea Rylander, Lund University Academic Support Centre; adapted from *The Craft of Research*, p. 131

9.2 Checklist for source use and APA style

Please complete the following checklist for following good APA style referencing in LUMES by reading your partner's essay, and either ticking the column to indicate each item was done correctly, or indicating where there were problems with this issue in the essay. This checklist highlights the most important aspects of APA referencing that you are expected to use in each writing assignment (including the thesis) in LUMES.

USING SOURCES	
	Literature is referenced in order to put forth key claims (anchoring the "They Say"), which are explicitly stated in your own words and used to support or contrast with a point that you want to make ("I Say"). Literature is not referenced just to indicate the existence of previous research on the topic. **BAD EXAMPLE**: Literature attesting to a relationship between land use and water quality changes in watershed ecosystems is abundant (Lee et al., 2009; Seeboonruang, 2012; Tetreault et al., 2013). This does not tell us what the nature of the relationship is. **GOOD EXAMPLE:** Previous work has found that conversion from forest to agricultural land resulted in changes in nearby waterways including 40% increases in nitrogen and phosphorous (Lee et al., 2009), doubling in turbidity (Seeboonruang, 2012), and increased temperature of over 2°C (Tetreault et al., 2013), all of which contribute to decreased water quality. This gives the reader specific information to support your claim, by summarizing what the relevant finding or claim was from each of the previous researchers, in the context of your paper.
	Paraphrasing is a restatement of the original source in my own words. (As a rule of thumb, less than 20% of the original words should be found in your text for a good paraphrase that avoids plagiarism).
	Paraphrased in-text citations include the author (or title if no author) and the date. (See the APA 6e Guide for examples.) It is optional to include the specific page, paragraph, or section of a source that is paraphrased.
	I have appropriately cited secondary sources (which mainly involves reading and citing the original source, not relying on "as cited in…"). See the APA 6e Guide.

CITING SOURCES	
	Citations are included in each sentence a source is used. If one sentence contains ideas that come from different sources, the ideas are attributed immediately within the sentence, not all at the end. INCORRECT EXAMPLE: Since meat production is one of the major contributors to global environmental degradation, this paper examines how increased food production from the sea via open-ocean aquaculture practices can offset pressure on terrestrial (meat) production (Asche, 2008; Tuomisto & Mattos, 2011). This implies that both Asche and Tuomisto & Mattos state that meat production is a contributor to global degradation, and that aquaculture can offset this degradation. If Asche talks only about degradation, and Tuomisto & Mattos talk only about aquaculture, the correct format is: **CORRECT EXAMPLE:** Since meat production is one of the major contributors to global environmental degradation (Asche, 2008), this paper examines how increased food production from the sea via open-ocean aquaculture practices can offset pressure on terrestrial (meat) production (Tuomisto & Mattos, 2011).
	Citations include the author's name within the sentence (before the period). **Correct Example**: This is a correct citation format (Source, 2014). **Incorrect Example**: This is an incorrect citation format, because the period comes before the citation. (Source, 2014)
IN-TEXT CITATION FORMAT	
	Publication year is included in parentheses immediately after the author(s)' name. Author names are not repeated incorrectly, as shown below. **INCORRECT EXAMPLES:** Moser and Ekstrom highlight a number of barriers to the effective implementation of climate change adaptation measures (Moser & Ekstrom, 2010). As Hungate (Hungate, 2011) says… **CORRECT EXAMPLES:** Moser and Ekstrom (2010) highlight a number of barriers to the effective implementation of climate change adaptation measures. As Hungate (2011) says…
	All sources cited in the text are also found in the References list

CITING MULTIPLE AUTHORS	
	For any multi author sources, for any sources with > 3 and < 6 authors they are all written out the first time, but subsequent use, I can use the first author followed by et al. **Example**: In a recent study, Cassidy, West, Gerber, and Foley (2013) suggest that yields should be defined by calories rather than tons produced. Cassidy et al. further suggest… (Note use of publication rule, date does not need to be repeated in same paragraph.)
	For six or more authors, cite the surname of the first author and use "et al." the first time that source is used and any subsequent in-text citations for that source. **Example**: Rockström et al. (2012) proposed the planetary boundaries framework as a guide for sustainable development.
QUOTATIONS	
	Direct quotations include the author (or title if no author), the date, and specific part of the source (page #, paragraph # or section title). (See the APA 6e Guide for examples.)
	All quotations < 40 words are enclosed in quotation marks. The in text parenthetical phrase comes before the ending punctuation.
	All quotations > 40 words are shown as an indented block quote with no additional beginning paragraph indenting. The parenthetical phrase comes after the punctuation.
REFERENCE LIST	
	All sources in the reference list are also found at least once in the paper.
	All references are listed in alphabetical order by author.
	Each entry has the basic information (as available): author(s), publication year, title, and retrieval information
	For electronic articles, a DOI is used at the end, if available. For the format of the DOI, I have been consistent in using either: doi:10.xxx/xxx.xxxx OR http://dx.doi.org/10.xxx/xxx.xxxx
	Titles of books, journals, technical reports are given in italics, as are journal titles and volume numbers.
	All lines are double spaced and for each entry the hanging indent is used. See the APA 6e Guide for instruction on formatting this.
	For sources in languages other than English, I have provided both the original title and an English translation within square brackets in the reference list.

Type of material	Original language	Journal name	In-text citation	Reference list
Journal article	German	Krankenpflege-journal	(Mozart & Johannes, 2009)	Mozart, W. A., & Johannes, S. B. (2009). Erfahrungen der Kursteilnehmerkrankenschwestern. [Experiences of the student nurse]. *Krankenpflegejournal*, 10, 100-120.

(Example from http://libguides.msvu.ca/c.php?g=114538&p=745538)

This checklist was drawn with thanks to two sources:

APA Basics Checklist, by the Walden University Writing Center
(http://writingcenter.waldenu.edu/Documents/APA/APA_Basics_Checklist_1.pdf)
APA Style Checklist, 2013, by Indiana Wesleyan University Off Campus Library Services
(http://www2.indwes.edu/ocls/apa/apastylechecklist.pdf)

10 Final (Third) Draft and Reflection Paper

After the partner peer-review session, please make any final changes that are needed to strengthen your claims and fix citations to fit APA standards, then upload your third and final draft to Live@Lund. Congratulations! ☺

Now that you've had this intense writing and revising experience, please reflect on it briefly in a short paper.

Please write a **short reflection paper (word limit: 500-600 words)** on your experience of the writing and revision process of the Pre-Course Assignment. In particular:

- How would you compare your first and last draft in terms of the claim, evidence and analysis, structure, and style?
- What have you learned about your writing process from this experience?
- What aspects of your academic writing in English do you want to work on in this course, and throughout LUMES?

As this is a personal reflection, please use the first person (I feel… I learned… I found… I changed… etc.). References to literature are not necessary.

Some useful explanations and instructions about reflection papers can be found here:http://media.bayan.us.org/uploads/genericfile/writing-reflection-papers.pdf

A scholarly paper about the benefits of reflection papers for student learning can be found here:

http://ww2.cs.mu.oz.au/aaee2007/papers/paper_72.pdf

11 Resources

Proper attribution and academic integrity

An essential part of academic integrity is proper attribution of ideas to their original source. Note that all writing assignments submitted in LUMES are subject to check by Urkund, an automated system that compares student papers against a large database of published and online papers to guard against plagiarism. Please be sure to use appropriate citations to reference the work of others.

For more information on Urkund, see here:
http://www.lub.lu.se/en/student/academic-conduct/urkund.html

An excellent starting point is Harvard's Guide to Using Sources:
http://usingsources.fas.harvard.edu/icb/icb.do

You can also check out *Academic Writing in English at Lund University* (AWELU for short): http://awelu.srv.lu.se/. In particular, please read the sections on *Sources and Referencing* and *Academic Integrity*.

APA formatting

In LUMES, we use APA format for reference citation. This is important to ensure the correct, consistent attribution of ideas. It is your responsibility to familiarize yourself with this standard, and use it consistently.

In addition to the checklist above, you will find a complete guide to APA Style (the official source for all questions about APA) here:

http://www.apastyle.org/learn/index.aspx

Writing resources

http://harvardwrites.com/ All about argument. Videos, exercises, sample essays.

For further discussion about developing claims, take a look at the following document (which calls the claim a "thesis statement"): http://writingcenter.unc.edu/resources/handouts-demos/writing-the-paper/thesis-statements

They Say/I Say (2010) by Graff G. and Birkenstein, C.

ExplorationsofStyle.com. Academic writing blog by Rachael Cayley.

http://www.quickanddirtytips.com/grammar-girl. Brief tips on grammar and language usage and errors.

Grammarly (www.grammarly.com): a good online resource to provide thorough grammar and spell check, and some features to check against plagairism.

Assessment Rubric for Pre-Course Assignment in LUMES, Lund University

Kimberly Nicholas, LUCSUS. Email: kimberly.nicholas.academic@gmail.com

	Excellent	Very Good	Good	Adequate	Weak
1. Claim & Ideas: The central argument, question, or issue addressed by the paper, leading to the significance of the contribution.	The major claim of the paper is stated clearly at the outset of the paper, and is complex, insightful, interesting, and original, while being specific enough to be answerable. The claim advances our understanding, rather than repeating what others have found. The claim responds to a real and important question, tension or problem. The introduction provides meaningful real-world importance for the author's claims, which are developed throughout the paper. The rationale, research question, and method of analysis are stated clearly in the introduction, and developed and explained throughout the paper.	Either the major claim is clear, arguable, and complex but misses opportunities for nuance or subtlety, or else it sets out to explore an ambitious idea whose complexity leads to minor errors in articulation. The introduction suggests some context or stakes for the argument but does not offer strong rationale, or a convincing motive is gestured at but remains implicit.	Either the major claim is clear and arguable but lacks complexity, or else sets out to explore an intriguing idea that has not developed into a specific claim. The introduction either unsuccessfully motivates an unexpected claim or weakly and artificially motivates a claim that does not constitute a significant revision of the status quo.	The major claim is logical and would require some evidence to support, but the stakes are not as high as they should be. The paper's major claims are somewhat unclear, unspecific or uninteresting. The introduction lacks a clear motive or contains an unspecific or weak motive.	The major claim of the paper is weak—vague, simple, or obvious. The paper does not respond to a true question, tension, or problem. The introduction usually has no motive.
2. Evidence & Analysis: The empirical evidence presented (qualitative or quantitative) and analysis conducted to support the thesis, including the quality of the sources used and the effectiveness with which they are used.	The best available evidence, including recent findings from major research, is introduced to support, and sometimes to challenge or complicate, the claims and stakes of the paper. Evidence is drawn from solid, well-respected places, and its nuances are insightfully explored. The argument is sufficiently complex to require an explanation of how the evidence supports the paper's claims, which is done fairly, and evidence is used to develop new claims. All claims are clearly attributed to their sources. Illustrations are well-integrated with the text and support the claims. Quotations are used appropriately, and good judgment is shown in terms of when material is quoted as opposed to paraphrased.	All claims are supported with evidence that is integral to the development of the argument, but in a few places the link between claim and evidence may be unconvincing or insufficiently explained. Evidence is consistently attributed to its source. Illustrations compliment the text. The analysis demonstrates several moments of keen insight but also includes arguments that lack subtlety or are insufficiently explained elsewhere in the paper.	Most ideas are supported with well-chosen evidence that is sometimes explored in an insightful way, although nuances are often neglected. The evidence is often integral to the development of the argument, although there may be gaps in the explanation of how the evidence supports the paper's claims, or proper attribution of evidence. Illustrations support the argument.	Evidence is usually relevant, but the paper often does not consider the most important evidence, or will present multiple examples to demonstrate the same idea. The paper makes some effort to explore the subtleties of the evidence and may be occasionally insightful, but it rarely uses evidence to support the argument and develop new claims, instead focusing more on describing or reporting evidence with little interpretation. Illustrations are used ineffectively.	Evidence may be lacking or irrelevant. Instead of using evidence to develop the argument, examples remain undigested and unexplored. The author may simply summarize and simplify evidence, or present it in a confusing or unhelpful way. Illustrations are not used, or used inappropriately.

Assessment Rubric for Pre-Course Assignment in LUMES, Lund University
Kimberly Nicholas, LUCSUS. Email: kimberly.nicholas.academic@gmail.com

	Excellent	Very Good	Good	Adequate	Weak
3. Structure: The logic, flow, and organization of the paper.	Ideas develop over the course of the paper so that the foundations established early on push the argument toward a more complex conclusion. The structure is both logical and engaging. The title is descriptive and engaging. Section headings are used effectively to guide the reader through the development of the argument. Paragraphs are used effectively to articulate and develop one core idea, which is clearly stated in a topic sentence at the beginning of the paragraph. Sentences are complete, logical, and easy to read. Transitions are smooth.	The argument follows a clear logical arc, but small gaps, digressions, or a lack of transitional language interrupt the flow of ideas in a few places. The title is descriptive. Section headings and paragraphs are used to organize ideas in a way that helps guide the reader.	The argument is interesting and logical, but the structure of the paper is, at times, confusing. The paper's claims, while complex, are executed in a confusing sequence, or they seem related to the thesis but have a confusing relationship to one another. Transitional language may be present but is unsuccessful or inconsistent. Section headings and paragraphs may organize some ideas, but not consistently.	The argument mostly makes logical sense, but the structure of the paper is confusing—jumping around, missing transitions, or taking on too many ideas at once. Or, the argument itself may be presented simplistically, leading to a predictable structure and unnecessary transitional language. Paragraphs are not used effectively to organize ideas, and are either far too short (1-2 sentences), too long (more than half a page), or contain too many apparently unrelated ideas.	The argument may be too simple and so does not develop over the course of the paper. Or the argument may be incoherent or too broad, without any clear organization or transitions. The title is not an accurate or coherent reflection of the paper's content. Headings and paragraph structure do not assist the reader in following the logic of the paper.
4. Style: The use of language, including clarity, formatting, and creativity.	The writing is clear and concise, yet sophisticated, demonstrating sentence variety and appropriate vocabulary without unnecessary jargon. Illustrations are carefully designed and presented in an aesthetically pleasing way. The voice of the author is appropriate for the context of the paper. The formatting of the paper on the page helps guide the reader and contains no errors. In-text citations and the reference list are appropriately formatted using APA style. The English expression is natural and grammatical. The paper is a pleasure to read.	The writing is mostly clear, but may contain a few confusing sentences or mechanical problems, including minor English errors. Illustrations are clearly designed. Formatting is used effectively, although a few typos or formatting errors may be present. In-text citations and the reference list are consistently formatted. It is mostly engaging.	The writing is straightforward, mostly clear, and often engaging, but it contains occasional mechanical problems, confusing sentences, or moments of vagueness. Illustrations are adequately designed. References may be inconsistently formatted, and overall formatting does not consistently aid the reader.	Though the writing generally makes sense and there may be moments where the word choice is appropriate and elegant, it is weak enough in places to obscure the author's ideas, often as a result of vagueness, verbosity, awkwardness, or a recurrent mechanical problem. Illustrations are difficult to read or interpret. Formatting of the paper or the references is problematic.	The writing is generally confusing, awkward, or too verbose, and probably exhibits numerous mechanical problems. Its word choice or use may be inappropriate. Illustrations are poorly designed. The paper formatting is sloppy or unhelpful, and references are not properly formatted.

Not pass: A paper will not pass if it does not address the assignment, falls substantially short of the minimum word requirement, is excessively sloppy, or fails to appropriately cite sources including plagiarism, or otherwise lacks academic integrity.This rubric was developed based on resources from the Brandeis University Writing Program, using rubrics from Prof. Jim Morris, Profs. Kryder and Cunningham, Prof. Lamb, Prof. Watson, and Prof. Brettler. Thanks to input from Anne Jernick and Barry Ness from LUCSUS. Rubric may be freely distributed and adapted for teaching purposes.

Appendix II-B

Chapter 8: Building a "Home": the role of administration in master's programmes

Activities over the course of a 2-year programme

Year 1 (August- June)

Activities	Programme stage
Getting started in Lund Online platform	July, before coming to Lund
Programme Introduction	End of August
Get to know each other: social events, workshops	September-October Profile course 15 credits
Start writing: introduction to academic writing	
Get to know yourself: reflection seminar based on MBTI	
Autumn potluck with student health and student chaplain	
Cooperate: multicultural game, teamwork, reflective team	November- January Methods 15 credits
Lucia Fika (with invited guest or topic)	
Document your skills workshop	
Development practitioner seminar (every other week)	January-March Profile course 15 credits
Skills workshop	
Document your skills part 2, CV	April Theory of Science, 7.5 credits
Spring Lunch (with invited guest)	
Preparing for thesis: attend the master's thesis conference	May-early June One of four method courses, 7.5 credits

Year 2 (August-June)

Activities	Programme stage
Preparing for the thesis seminars	August-January Optional term: customized programme Internship, elective courses or study abroad, 30 credits
Preparing for the thesis, online seminar (for internship students)	
Lucia Fika	
Development Practitioner seminar (every two weeks)	January-June Master's thesis course
Skills workshops	
Documents your skills part 2, CV	
Peer review of master theses	
Students present work at master's thesis conference	
Graduation ceremony	

Appendix II-C

Chapter 9: Working with international students: challenges and efforts

1. Learning outcomes of the Master's programme in Sport Sciences

Knowledge and understanding

On completion of the course the student shall be able to

1) apply theories and methods of sports medicine in planning, implementing, reporting and evaluating measures taken with individual clients/patients, teams, groups or organisations in recreation or elite sports activities
2) have sufficient knowledge of the laws, regulations and rules that are applicable at their workplace

Skills and abilities

On completion of the course the student shall be able to

1) apply theoretical knowledge and acquired skills in the domain of his/her specialisation
2) analyse and present proposals that may develop the worksite
3) work independently but under supervision with the most qualified tasks in their area of expertise at the workplace
4) make presentations for various target groups in their area of expertise, orally and in writing
5) plan, implement and report an applied project

Judgment and approach

On completion of the course the student shall be able to

1) cooperate with and adopt an ethical approach to clients/patients, customers, supervisors and colleagues
2) independently reflect and show awareness of individual resources and needs in relation to sports medicine
3) independently and critically interpret information
4) independently reflect about his/her personal development and the need of further knowledge in the subject area

2. Categories of generic skills in the Master's programme in Sport Sciences

Personal qualities

a) Self-awareness: awareness of own strength and weaknesses, aims and values

b) Independence: ability to work without supervision

c) Adaptability: ability to respond positively to changing circumstances and new challenges

d) Stress tolerance: ability to retain effectiveness under pressure

e) Initiative: ability to take action unprompted

Core skills

a) Information retrieval: ability to access different sources

b) Self-management: ability to work in an efficient and structured manner

c) Creativity: ability to be original or inventive and to apply lateral thinking

d) Written communication: clear reports, letters etc. written specifically for the reader

e) Oral presentation: clear and confident presentation of information to a group

Process skills

a) Planning: setting of achievable goals and structuring action

b) Coping with complexity: ability to handle ambiguous and complex situations

c) Problem solving: selection and use of appropriate methods to find solutions

d) Negotiating: discussion to achieve mutually satisfactory resolution of contentious issues

e) Team work: can work constructively with others on a common task

Appendix II-D

Chapter 10: It Takes an Academic Village. Establishing an interdisciplinary research school and educating the first generations of PhDs

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LUCID PhD theses completed 2011 to early-2015

2015

- *Food for naught: power in agricultural modernization for smallholder food security* (Sustainability Science)
- *The hammer and the nail. Interdisciplinarity and problem solving in sustainability science* (Philosophy)

2014

- *Fluid Governance. Scalar politics in the South African waterscape* (Sustainability Science)
- *Fertile grounds? Collective strategies and the political ecology of soil management in Uganda* (Sustainability Science)
- *Who's marching for Pachamama? An intersectional analysis of environmental struggles in Bolivia under the government of Evo Morales* (Sustainability Science)
- *Navigating troubled waters. How urban water regimes in the global South reproduce inequality* (Sustainability Science)
- *Struggles over conservation space: Social justice in the iSimangaliso Wetland Park, South Africa* (Sustainability Science)
- *Fossil capital: the rise of steam power in the British cotton industry, ca. 1825-1848* (Human Ecology)

2013

- *Explaining agricultural yield gaps in Cameroon* (Physical Geography)
- *Private rivers – politics of renewable energy and the rise of water struggles in Turkey* (Sustainability Science)
- *Climatised moves – climate induced migration and the politics of environmental discourse* (Sustainability Science)
- *Hybrid governance in practice – public and private actors in the Kyoto Protocol's Clean Development Mechanism* (Political Science)

- *Buying conservation: Financial incentives for tropical forest conservation in the Ecuadorian Amazon* (Sustainability Science)
- *The construction of sustainable development in times of climate change* (Philosophy)
- *Fields of green and gold: territorial hunger, rural planning, and the political ecologies of high-end golf* (Human Geography)

2012

- *Land matters – agrofuels, unequal exchange and appropriation of ecological space* (Human Ecology)
- *Uncertain futures – adaptive capacities to climate variability and change in the lake Victoria Basin* (Sustainability Science)

2011

- *Time to farm – a qualitative inquiry into the dynamics of the gender regime of land and labour rights in subsistence farming in Zimbabwe* (Sustainability Science)

Diversity in Education

Crossing cultural, disciplinary and professional divides

International and interdisciplinary programmes for students from diverse cultural and professional backgrounds entail many benefits—perhaps the most essential is learning how to work with people holding different perspectives. However, they also bring many challenges.

How can we support students from abroad, both inside and beyond the classroom? How can we equip students from diverse backgrounds with basic knowledge in different academic disciplines? How can we design effective courses for these students? Which pedagogical approaches can we use? How can we facilitate group work among these students? How do we follow up with students after they graduate?

Diversity in Education explores the challenges of interdisciplinary international programmes at Lund University. In this book, lecturers, administrators and students tell how they have faced and overcome these challenges. By sharing the concrete experiences of designers and implementers of interdisciplinary programmes for international students, *we hope to improve learning for all!*

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