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Interdisciplinarity: wishful thinking? Experiences at the University of Graz

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Abstract

Purpose – Interdisciplinarity is necessary to explain or solve complex problems and questions of today's world. Therefore, it's important to analyze the situation within an educational institution to get to know what students think about interdisciplinary work. The purpose of this paper is to try to achieve an insight into how e-learning technologies (like WebCT) are perceived by students and to what degree information and communication technologies (ICTs) could improve communication and cooperation between students.

Design/methodology/approach – On the basis of two online surveys and the attendance of a course, the experiences and approaches of students were analyzed.

Findings – The results show that most of the students see the positive aspects of interdisciplinary interchange and the benefit of learning from each other, so most of them are open minded regarding interdisciplinarity – an important requirement is given. Information and communication technologies are a good instrument to strengthen the cooperation and communication between students and can further be a helpful device for an interdisciplinary working approach.

Practical implications – Based on these findings, more accesses to interdisciplinary cooperation can be worked out especially in the master program we have analyzed which sees interdisciplinarity as one of its main goals. Knowing that the openness and readiness from students' side is given, the offer for interdisciplinary ways of interchange could be expanded.

Social implications – The results show that the students are open-minded to other students' knowledge and views, which also shows the mutual acceptance and respect for other opinions. This is very important for teamwork and also for multicultural interchange on an international basis.

Originality/value – Not only in social regard but also for complex questions of science and society in general the results of student's experiences and approaches are auspicious for international frameworks.

Keywords Interdisciplinarity, E-learning, Information and communication technology, Global studies, University, Graz, Master's program, Survey, Austria, Information technology, Education

Paper type Research paper



Introduction

In recent decades the scientific need for new approaches towards old and new questions has created a sort of gravitational field which forces the once separated disciplines to join for innovative types of knowledge production. Especially two evolutions of the last years have forced the holy machinery of scientific production to return to its profane origins:

- (1) the ever increasing public awareness of topics like globalization, finance crisis, environmental issues and the end of fossil fuel, ethnic and religious battles, migration waves and uprising social conflicts in the north of Africa – only to mention a few – fueled by the huge media coverage; and
- (2) the unsuccessful tries of single scientific disciplines to find satisfying solutions for urgent complex problems.

These circumstances have shaped different methodologies and approaches that have been highly associated with interdisciplinarity or interdisciplinary scientific work.

These terms embrace a certain philosophy which tends to see concrete public questions not only as concerning its primary scientific disciplines (nature – biology, society – sociology, finance – economy, health – medicine, etc.) but every hypothetical relevant type of knowledge production that can lead to a satisfying solution for all involved parties. That means that in some cases it is not enough to make two related disciplines “work together”. Instead, as research goes on, one has to build a unique approach and modify the methodologies, which can make certain elements disappear whereas new ones influence the process. Such methods do not limit themselves to only “scientific” forms of knowledge production but also take amateurs’ opinions into account.

How interdisciplinarity within an educational institution can look like will be explained by presenting the Master’s program “Global Studies” at the University of Graz on the following pages.

Background

In what follows we will discuss some of the literature on Global Studies at the University of Graz, e-learning technologies and aspects of interdisciplinarity.

Global Studies at the University of Graz

The roots of the Master’s degree program “Global Studies” at the Karl Franzens University of Graz (KFU Graz) go back to the seventies when the Austrian expert and activist in peace research Karl A. Kumpfmüller developed and accomplished a bundle of lectures on the topics of economics and politics of less and least developed countries. Two decades later, this resulted in a new initiative which brought together all faculties of the KFU (five at the time) and was therefore unique in Austria. It started with a course called “Introduction to the problems of developing countries” which had a current or regional focus and in the following years a lot of courses with similar subject matters developed (Kumpfmüller, 2006). In the following years, the topics of globalization, neo-liberalism and the problems of the developing countries became even more relevant and the desire for a more than casual collaboration arose. After including non-governmental-organizations (NGOs) the bundle of electives was created in 2004 and at this point of time the involved parties also defined the development of a Master’s degree program “Global Studies”. In 2007 the vice-rector for studying, teaching and human resources, Martin Polaschek, accepted the establishment of the new Master’s program in line with the creation of a sixth faculty URBI – Umwelt-, Regional- und Bildungswissenschaften (environmental, regional and educational sciences) (Kumpfmüller, 2006, 2007). The organizational roots were at the Institute of International Law and International Relations, with Wolfgang Benedek as head of the Institute and Eva Selenko served as a coordinator (Ahamer *et al.*, 2011).

The bundle of electives “Global Studies” is not an independent program, but it offers the possibility to attend different courses which concentrate on global matters from all departments (in German “faculty” is the common term for university departments) at the KFU (five until 2007, then six). The aim is “to develop students’ understandings of the mechanisms, interdependencies and problems of today’s global society” and further to “sharpen perception on global issues, facilitates understanding of different cultures and systems, and strengthen competence in intercultural communication by demanding academic achievements” in six different modules. According to this curriculum’s definition, the aforementioned six modules are (Ahamer *et al.*, 2011, p. 24):

- (1) Globalization, Development, Sustainability, Gender – An Introduction.
- (2) World History.
- (3) World Economics.
- (4) World Politics and International Law.
- (5) World Cultures, World Religions and World Ethics.
- (6) Organizational and Social Skills.

The sixth module should deliver insight into the organizational structures of non-governmental-organizations and the students, for example, should analyze and compare the different types of NGOs (Kumpfmüller, 2006). The courses in this section also provide information to the students about the management of projects in developing countries and similar topics. This is very important as managers of projects in less or least developed countries work in a different context and face different problems than managers who administrate projects in more developed countries. According to Cusworth and Franks (1993) two major disparities occur: the first are the cultural differences which make it more difficult to operate in such countries. The second are the diverging environmental circumstances which make it harder to work efficiently. The authors refer to the work of Hofstede in order to show the differences between more and less developed countries:

It is generally held that a “typical” developing country will be characterized by a culture which shows high power distance, high uncertainty avoidance, low individualism, low masculinity and high associative thinking, while a “typical” developed country will show the opposite features (Cusworth and Franks, 1996, p. 41).

As mentioned before, the topics globalization and worldwide problems became more relevant or at least more public in recent decades. Ever since the Club of Rome published the book “The limits to growth” in 1972 a lot of literature on similar topics such as world population, food production, environmental pollution, scarcity of resources, as well as the north-south-divide appeared. According to Osterhammel and Petersson (2007), the term “globalization” is used intensively since the 1990s although disciplines like sociology or history did research in this field long before the common definition “globalization” found its way to the dictionaries of different languages. However, not only the number of books on this topic and the use of this term increased significantly, the consequences of ignoring these problems for a long time increased also and even more so. It is therefore absolutely necessary to teach new generations in the above mentioned modules in order to give them the chance to be part of the solution to some

of the worldwide problems. In the words of Barndt (1995) we speak about “popular education” or “critical education for social change”, which she defines as follows:

Popular education is based on a critical analysis of unjust social, political, and economic systems and a vision for a more just and equitable society. It is a process in which people develop awareness of their social situation and strengthen their ability to organize to change it. It integrates research, learning, and organizing by and for popular sectors (Barndt, 1995, p. 93).

The bundle of electives “Global Studies”

In Table I you can take a look at the number of students that started the bundle of electives Global Studies every year. However, there may be some shortages because you can start the bundle of electives without making it official. This table shows that the number of female students starting each year is larger than the number of male students. In 2007/2008 the number of women nearly doubled.

Figure 1 shows the same picture as Table I but in a more obvious manner. The vertical axis shows the number of students, the horizontal one the different years of attendance.

This graph also shows that the highest number of students attending Global Studies was in 2005/2006 and that since then the number has decreased. One reason for this may be that the students back then already knew that a new master curriculum would initiate in 2010 and therefore stopped signing on for the bundle of electives.

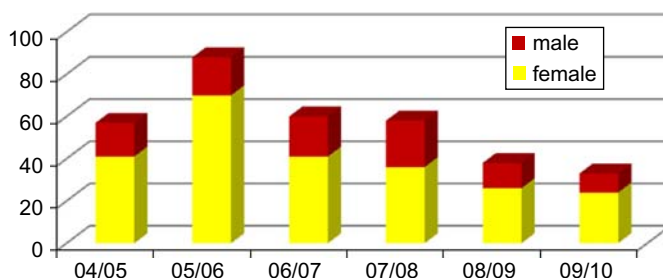
“Global Studies” Master’s degree program

In the winter semester 2010/2011 the Master’s curriculum Global Studies finally started (AAI, 2008). A unique feature of the program is the compulsory practical work experience.

GS bundle of electives: starters	Female	Male	Total
2004/2005	41	16	57
2005/2006	70	18	88
2006/2007	41	19	60
2007/2008	36	22	58
2008/2009	26	12	38
2009/2010	24	9	33
	238	96	334

Table I.
New starters in the “bundle of electives Global Studies” at Graz University (absolute numbers)

Source: Ahamer *et al.* (2011, p. 16), own illustration



Sources: Ahamer *et al.* (2011, p. 16); own illustration

Figure 1.
Total number of new starters (absolute numbers)

“A strength of the master curriculum is the mandatory three-month practical that might consist in developmental work abroad” (Ahamer and Jekel, 2010, p. 16). Within this program every student has to complete a practical that should give students the possibility to apply the skills that were learned in the first two semesters. Further the students can gain experience and can also have a look into different occupational areas (Hohenwarter, 2011). The practical experience could be done at NGOs with focus on global issues, independent research institutions, international enterprises and organisations or other similar institutions (University of Graz, 2011).

The first step for students who would like to study Global Studies is an introductory course called “Basics of Global Studies”. Within this course all relevant topics are covered resulting in a very interesting type of course as many professors from different disciplines come together. So students can learn parts of the big theme “globalization” with the view of different disciplines and can see the connections between the different branches.

Figure 2 shows the themes combined within this course. Only the topic international law is not listed directly – however if we enlarge our view some of the contents of international law could be found in politics or ideology. Moreover, history is a part of all the topics in the representation. Steger (2009) wrote in his book *Globalization – A Very Short Introduction* about the academic quarrels over the main topics of globalization or what the core of globalization really is. Every scholar puts his/her own discipline in the center and tends to ignore all other aspects. However, there is no single reason for such a huge topic like globalization and it is unavoidable but to include all different topics. Consequently, this is what Global Studies as a whole and the course “Basics of Global Studies” try to establish:

[...] One of the central tasks for Global Studies as an emerging field must be to devise better ways for gauging the relative importance of each dimension without losing sight of the interconnected whole. Fortunately, more and more researchers have begun to heed this call for a genuine multidimensional approach to globalization that avoids pernicious reductionism (Steger, 2009, p. 12).

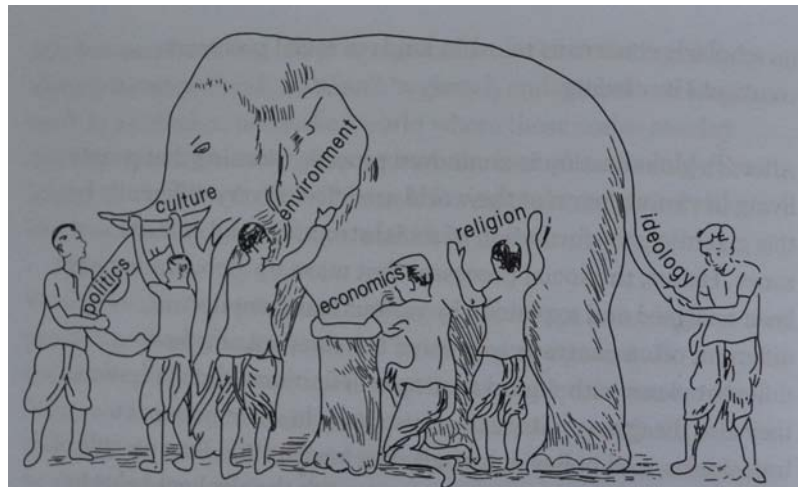
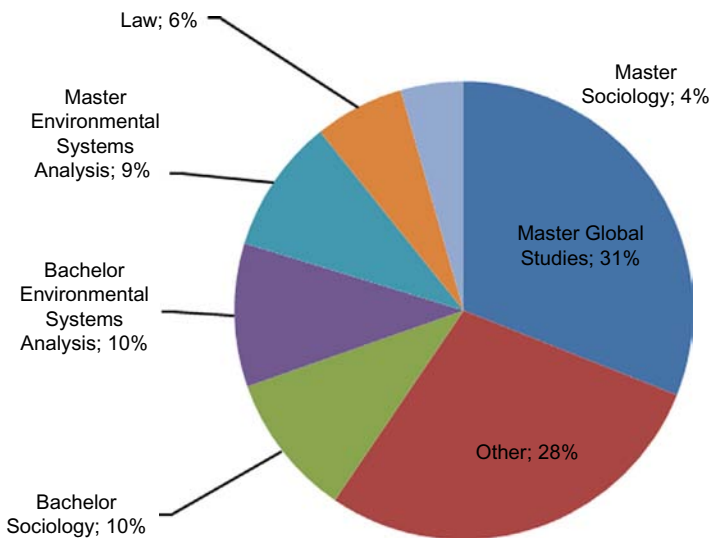


Figure 2.
The globalization scholars
and the elephant

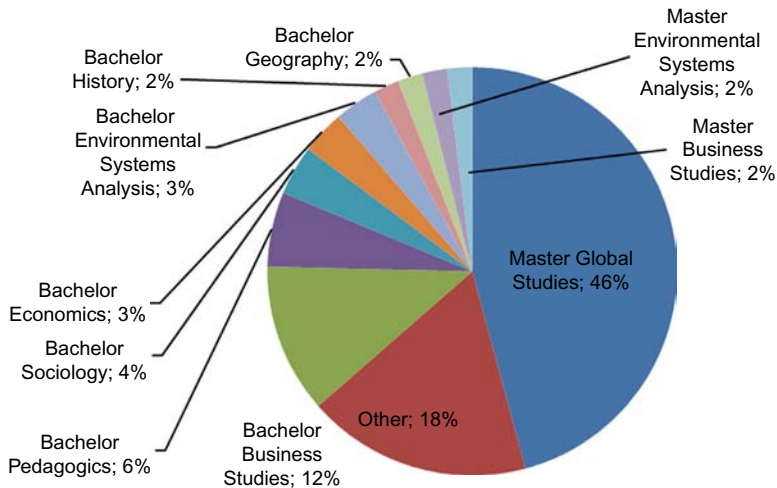
Source: Steger (2009, p. 12)

Figures 3 and 4 show students enrolled in the course “Basics of Global Studies” in the winter semester 2010/2011 (Figure 3) and 2011/2012 (Figure 4). We can see that in the first year just about one-third is officially registered as a student of Global Studies and the other students either did it in advance because we think that they might enroll when they are finished with their Bachelor’s degree or they just did it as an elective.



Sources: Data adapted from Uni Graz Online (2012); authors’ own illustration

Figure 3. Students enrolled in the course “Basics in Global Studies” during the first year of Global Studies in 2010/2011 (percentage; total = 158)



Sources: Data adapted from Uni Graz Online (2012); authors’ own illustration

Figure 4. Students enrolled in the course “Basics of Global Studies” during the second year of Global Studies in 2011/2012 (percentage; total = 203)

Another possibility is the student's curiosity concerning this curriculum. There seems to be a large number of students of Sociology and Environmental Systems Analysis (which is also an interdisciplinary field of study) that are interested in worldwide issues and the topic of globalization (Environmental Systems Analysis, 2012). In the second year the number of students attending the course and who are enrolled in the Master's program reached almost 50 percent. Students of Business Studies are the biggest group from other disciplines (11 percent), followed by students of pedagogics. The number of students from sociology has declined compared to the year 2010/2011 as well as the number of students from Environmental System Analysis (from 10 percent to 3 percent).

E-learning technologies

E-learning is seen as a way of communication in order to construct knowledge. Such technologies in the world wide web enable an interchange independent of time and location. This is possible through the usage of information and communication technology (Garrison, 2011, p. 2).

One lecturer of Global Studies used an e-learning-platform for the introductory course in an extensive way in contrast to all other lecturers who just used the platform in order to provide course notes. We were interested in how students like this way of interchange through the use of an information and communication technology. In literature three advantages of the intensive use of e-learning-technology are emphasized:

- (1) the text quality improved substantially through the strict review process;
- (2) students can also benefit from the reviews other colleagues have received; and
- (3) also if the direct communication did not rise, the indirect one via the review process definitely rose (Ahamer, 2010).

According to the lecturer "the underlying didactic and pedagogic idea was to use the large dialogic potential of the web platform in order to strengthen students' understanding of standpoints different from their own" (Ahamer, 2010, p. 14). The platform is a way of education via internet where students get their learning material from and where they can also communicate problems and difficulties to other students during the preparations for the exam. Every student has to write a short paper about theories of development and in the following everyone has to review two papers of other colleagues. What the students can learn in such a process is not only to appraise others and comment their writings in a positive and negative way but also to handle comments and evaluations of others. They get to know different standpoints and recognize that they can profit from the knowledge of others. Through these interchanges a "community of inquiry" should arise and the educational aspect of this communication is to have a "critical discourse and reflection to construct personal meaning and confirm mutual understanding". E-learning is a way to create a "dynamic and intellectually challenging learning community" (Garrison, 2011, p. 2ff). Hence the educational aspect is focused by the use of this platform. Included in this concept are – besides the hardware – new roles for teachers and other administrators (Venkataiah, 2008, p. 2). On this platform for example there is the possibility to evaluate the course so that the lecturers can also get an appraisal of their way of teaching. Thereby every involved person gets the chance to learn something about their working methods, which allows everyone to reflect and improve. An important part of educational technologies is the "learning experience"

and it should be a positive addition to human learning processes including people, ideas, evaluating and problem solving (Venkataiah, 2008, p. 2f).

Wishful
thinking?

Interdisciplinarity

As discussed earlier, interdisciplinarity is becoming more and more important in modern science which is concerned with difficult scientific fields and urgent practical problems. It is often seen as an assumption for answering questions about society and those have become even more complex. The assignment of science is to explain phenomena like climate change or poverty but it has been criticized because of its inconclusive and unclear explanations and answers. The reason for this “failing” is that in many cases these questions are processed by one single discipline. However, complex problems and questions can only be answered by a collaboration of more scientific units. A modern society is multifariously networked so problems are interdependent, which is why a new frame of perception is demanded. Sensitivity is needed which enables to see all different aspects of one problem. Especially examples of environmental topics make it clear that such concerns have to be the issue of more than one discipline – that is why an interdisciplinary dialogue is necessary. Although this requirement is primarily founded in sustainability topics, potentials of interdisciplinary work get more and more attractive also for other discussions (Fischer and Hahn, 2001, p. 13f).

A movement from an orientation on single disciplines to an interdisciplinarity and multidisciplinary is observable in sciences although the focus is mostly still on disciplinarity (Berger, 2010, p. 69). But simple orientation on only individual specializations can cause restraining effects, that is why it is necessary to advocate competences of teamwork and cooperation between several disciplines. This is a characteristic of Master programs, while Bachelor apprenticeships should assure basic knowledge and competences of one branch. This fundament is the basis for interdisciplinarity (Zimmerli, 2010, p. 45) because “interdisciplinarity implies disciplinarity” (Müller-Christ, 2001, p. 46). Such a working process can lead to a reflection of the own disciplinary unit because team members hold a mirror before oneself in that cooperation. So the membership is able to learn new aspects of their own area of expertise (Müller-Christ, 2001, p. 46). Most of the time interdisciplinary teamwork starts with a problem and different sciences searching in cooperation for a solution. Nowadays it is necessary to be able to handle new situations, to work in teams, to find answers and to at least be flexible (Lenz, 2010, p. 18f). Those competences are required also by the labour market. Accessorily the cooperation between different disciplines can lead to an amplification of corpuses of knowledge and broadens one’s horizon because students and scientists learn to think in a problem- oriented way and acquire additional qualifications which may hike up the chances on the labour market (Petschel-Held *et al.*, 2001, p. 65).

Interdisciplinarity is about “communication and exchange of relevant knowledge and relevant information” between scientific units. Those units acquire mutual terms and definitions to avoid misunderstandings (Götschl, 2010, p. 93). It is also important that members in working processes are able to leave the “narrow confines of the own discipline” and to assess which topics of other disciplines are relevant. Scientists should work cooperatively and implement knowledge in guidelines of action that means to deliver new approaches for the problem. Those competences are seen as assumption for a successful teamwork (Götschl *et al.*, 2010, p. 106f). Although several disciplines are working together, no new single discipline should be developed but

different disciplinary methods and principles of operation should be integrated into the adaption of the problem. The members might draft a shared objective on which they can come back to every time (Fischer and Hahn, 2001, p. 16).

Critique of interdisciplinarity

Although interdisciplinarity is propagated worldwide there are no scores of publications. This may be due to the fact that interdisciplinary cooperation is very time-consuming on the one hand (Bernhard, 2010, p. 76) and – even worse – often fails (Berger, 2010, p. 65). When scientists of several disciplines work together they have to anticipate insecurities, challenges and difficulties. So it is not always easy for members to assign who is accountable for methodic acquisition, contents of analysis or decision-making (Altner, 2001, p. 24ff).

One allegation about interdisciplinarity is that single members in total underperform, so they do not really concentrate much on a subject and work hastily. That is why it is important that every single member has basic competences of his or her discipline in order to be able to engage with other disciplinary topics (Zimmerli, 2010, p. 45).

Role of high school

“Interdisciplinarity starts in mind” whereas the success of this working process depends on a professional management. For implementation it is not only necessary to have the right competences but the right teaching staff and financial frame. Teamwork, ability to communicate and cooperate, flexibility and ability of all participants are needed. The teaching staff has to work together with other colleagues and students, support the process and should make the development plan public (Fischer and Hahn, 2001, p. 21).

Universities have to adapt to the times we live in and have to make high quality research and teaching available. It is not about teaching one-sided knowledge of single lecturers but rather to involve students into research and to listen and respond. Thereby they should be able to find ways and methods for situations or problems and describe them by means of theory. Furthermore, solutions and recommendations for actions should be offered. The role of discussion is very important in this process (Egger, 2010, p. 90f).

In the following chapter we will take a closer look at an example of interdisciplinary discussion at the University of Graz.

Interdisciplinarity at the University of Graz

The first access presented to interdisciplinarity at the University of Graz is its “Faculty of Environmental, Regional- and Educational Studies”, established in 2007 which combines different branches of study. The integrated disciplines are Educational, Sports and Environmental Science, Geography and Regional Studies. The core aim is that several disciplines interchange and work together intensively. When disciplinary competences are highly sustainable, interdisciplinarity in research and teaching is achievable. The establishment of this university department leads to the public attention of the cooperation of several branches of study and it is an example for successful teamwork between more than one single discipline. The department is expecting innovation, intensive interchange, sustainable production of knowledge and a more multifarious view on problems and questions of research (Bernhard, 2010, p. 75f).

Methods

We conducted two surveys concerning interdisciplinary interchange. Therefore, we compiled:

- (1) one survey especially for a chosen course at the University of Graz which is the bundle of electives Global Studies; and
- (2) another survey for all students enrolled in the Master's program Global Studies.

Through the results of the Master's program survey (2) we wanted to know the reasons why students decided to study Global Studies, which modules they chose or what they think about the idea of including different disciplinary knowledge into one study. The other survey (1) takes a look at an interdisciplinary discussion: the questions are for example how open minded the students tend to be regarding other views and how much they think they have learned by this particular method of teaching. The questioning was carried out online with the Survey Monkey (2011) tool.

In the elective course (1) 27 from a total number of 45 students filled out the questionnaire. In the GS course (2) 53 out of 194 active students of Global Studies answered our questions. To get further information and data on the students of this Master's program we also took statistics about students of the University of Graz into consideration. We will present the detailed findings of the survey below.

Results

In the next paragraphs we will describe the online surveys of our research and also what we could find out through the received data regarding students of the University of Graz. On one hand we wanted to collect some general information about the students of Global Studies and what the scholars think about an interdisciplinary framework, on the other hand we will discuss the readiness of students for e-learning technologies such as the electronic web platform which is used by the university.

(1) Survey of an interdisciplinary dialogue at the University of Graz

As a concrete example for an interdisciplinary dialogue we chose the seminar "Ethikboom in der Wirtschaft" (Ethic Boom in Economy) by Leopold Neuhold which is offered at the University of Graz. This seminar is in the submission of courses that have been designed especially for Global Studies and Applied Ethics where it is either a compulsory optional subject or a compulsory subject. But also students of other branches often attend this seminar which is why we guess that many different disciplines have taken part in our example. Another reason why this course seems to be a fitting example is its teaching method which focuses on the discussion of relevant topics. These debates start with the presentation of a seminar paper written by a student. These topics are varied because of the different backgrounds of their diverse disciplines which lead to a complex discussion between the students and the professor. Different branches of study are reflected in the discussion and certain inputs lead to an added value which cannot be attained by a single lecturer. The course mediates openness and attendance toward other views which is very important especially in an interdisciplinary working process. Through the approach of discussion students are being taught to always see more points of view other than their own. This also makes it possible to get access to new disciplinary corpuses of knowledge. A current topic which is in the focus of society is chosen as a shared point of debate, in this case it is "the boom of ethics in economy and

abuse of ethical promises to advance the image of institutions and firms or violation of human ethic". Through an online survey we got an overview of the disciplines students in this course attend to and what they think about the dialogue system. 27 from a total number of 45 students filled out the questionnaire.

We can see a clear difference in the distribution between the sexes because most of the students are female (85 percent). They are between the ages of 22 and 68 years, interesting is that nearly half (44 percent) of the respondents are 30 years or older. On a scale from "very good" to "not good" we wanted to know-how much the students like the course and its content. About 85 percent answered "very good" and 15 percent think the seminar is "good", so none of them answered in a negative way. Another question dealt with the teaching method of discussion. About 74 percent think this method of teaching is very good, another 22 percent think it is good, only 4 percent said that they have learned little. Featuring an open question we wanted the students to tell us what they like about the seminar. More than the half of the group mentioned its multiplicity of opinions. They liked the exchange between students and professor, the chance to tell openly what is on their minds and to communicate their opinions. One student for example appreciates the chance to tell one owns opinion without getting condemned for it. Some students refer to the fact that the different views of others had broadened their own perspective. About 82 percent of the respondents said that they have learned a lot trough the discussions of the participants and 15 percent learned a bit. And when we take a look at the branches of study the members of the course mirror its high plurality. More than half study Applied Ethics, 15 percent study Sociology, 11 percent Ethics and History and the other ones for example Philosophy, Law, Business Studies, Global Studies or Pedagogics.

Most students (85 percent) mention that the discussion of different points of view had broadened their horizon and another 78 percent said that they have learned useful argumentations for their future. So it seems that the members in the seminar who answered our questions approve this way of teaching and have the feeling that through the method of discussion they can keep much more relevant information in mind. What the respondents did not like is that there is however too little time for the discussion of some topics. Many students mentioned that they would appreciate more courses at university conceived in this fashion to reach a more active arrangement of teaching and learning. The answers from the participants and also the situations during the seminar exemplified that there are a lot of students who want to talk with others about certain important topics of our society and feel a need to express themselves critically.

Based on these survey results and on own experience in this course we think that this example at the University of Graz is a good prototype for an interdisciplinary dialogue which shows that the interest in other opinions is huge and that the openness for different disciplines and their knowledge exists.

(2) Survey about the Master's curriculum Global Studies

We organized another survey about the Master's curriculum in order to map out the actual situation of students that are enrolled in GS. According to the University's database Uni Graz Online (UGO) there are currently 194 active students in Graz studying Global Studies, 121 of them are female and 73 are male. 20 females are from foreign countries and 13 male students are not from Austria. These numbers are shown in Figure 5. We obtained additional information from UGO that 103 of the 194 students

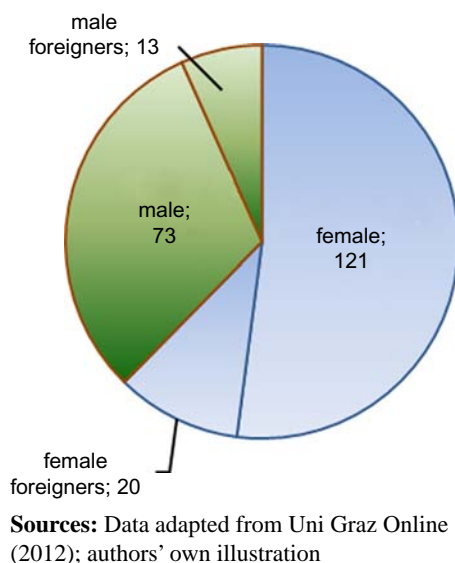


Figure 5.
Recently enrolled students
in the Master's program
Global Studies (absolute
numbers) ($N = 194$)

started in the first year (2010/2011) and that the remainder of the students started in 2011/2012 (Uni Graz Online, 2012).

From all responding students 73 percent have GS as their main subject, 19 percent in combination with another Master's program and 4 percent subscribed to the bundle of electives. The remaining 4 percent attend courses of GS as free electives.

As mentioned above there are several Bachelor programs with permission to enroll in Global Studies. Out of these programs most of the questioned students came from Business Studies (30 percent), followed by students of Sociology (14 percent) and Geography (8 percent). A number of students came from universities abroad or universities of applied sciences, for example there is one student who graduated in Business Studies in London and one in Tourism Management in the Netherlands. Other students attended Bachelor programs, like for example Event, Environment and Health Management or International Development. Although a significant number of students' origin in the same disciplines, there is a number of students that have done other Bachelors and so we can speak of interculturality (For the distinction between interdisciplinarity and interculturality, see Ahamer (2010, p. 2)) (Figure 6).

As mentioned earlier, there are five modules within the Master's program GS. We wanted to know which modules were chosen for specialization the most (a GS student has to specialize in two from the five modules). Most students chose module F "Culture, Religion, Society and Gender" followed by module B "Law and Politics". The same number of students preferred modules C "Economics" and E "Environment, Climate and Technology" and the smallest group of students specialized in module D "History". This is not necessarily due to the fact that students ignore history or are not interested in this topic, but maybe to the selection of courses supplied in this module (in the beginning there were just eight courses in History and nine in Economics compared to 16 in the module Environment and even 30 in the module Culture. Currently the number of supplied courses in each module has become even and now

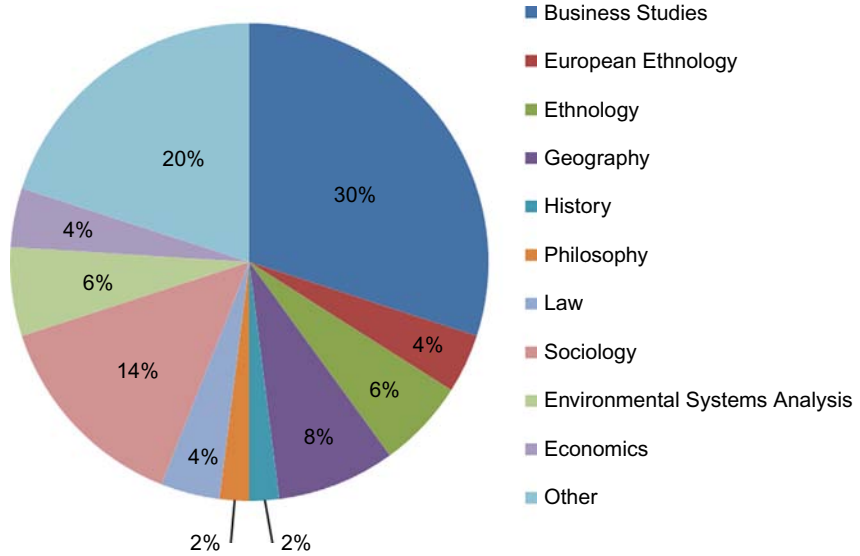


Figure 6.
Completed Bachelor
programs from Global
Studies students
(percentage; total = 47)

Source: Survey

there are between 20 and 30 courses in each module). In the course “Basics of Global Studies” we learned about the theory of Andre Gunder Frank “The Development of Underdevelopment” and the important role of history in the developing process:

We cannot hope to formulate adequate development theory and policy for the majority of the world’s population who suffer from underdevelopment without first learning how their past economic and social history gave rise to their present underdevelopment (Frank, 1966, p. 4).

And therefore we can just hope that new developing scholars in this field of science are able to recognize the important role of history (Figure 7).

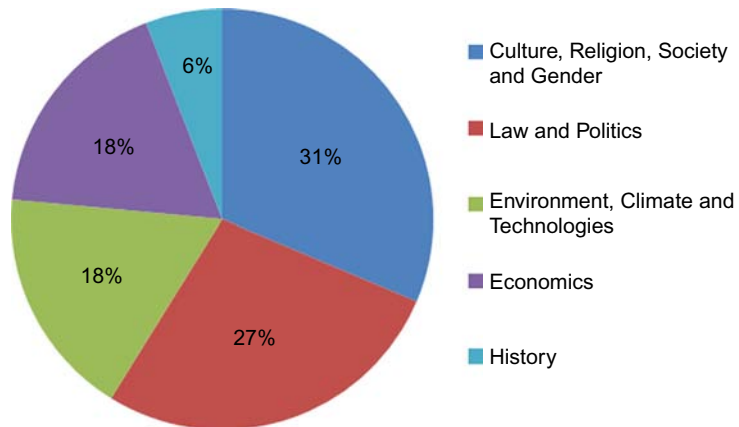


Figure 7.
Chosen modules
(percentage; total = 47)

Source: Survey

In the next question we asked the students for the reason they started studying the Master's program Global Studies. Most students (45 percent) answered, that they are interested in the multidisciplinary of the program. Further 40 percent answered, that they started Global Studies because it combines their favourite fields of study. The remaining 15 percent of students said, that they wanted to acquire additional qualifications. Another reason for one student to subscribe to this program was its internationality. There are just few programs at the Karl-Franzens-University Graz with a focus on international matters.

Beside questions with given answers to select from we also provided open questions to give room for criticism, wishes or proposals concerning the whole Master's program or just the course "Basics of Global Studies". Next to the findings of our own survey we also used the results of the survey from the module Culture that was done after the first semester of the course "Basics of Global Studies" and also some of the written exercises that were handed in with this part. First we asked about general criticism or proposals how to improve the whole Master's program. One important thing that a huge number of students noted is the missing role of languages in the curriculum of Global Studies (there is only one compulsory course held in English (Introduction to International Relations). In similar Master's programs at other universities languages play a more important role. At the University of Freiburg for example there is also a Master's program Global Studies with English as language of instruction and just optional courses held in German (University of Freiburg, 2012). Furthermore, within the Master's program Global Studies at the University of Leipzig, students have to provide evidence that they are able to speak English and at least two additional modern languages at a defined level (University of Leipzig, 2012).

Some proposed that the course "Basics of Global Studies" should be held in English or that there should be an extra module for attending language courses. Several students also asked for a better cooperation between the students of Global Studies. This is because most students attend the same courses only in the first semester and there is only little time to become acquainted to each other. Some asked for more seminars in the first semester (instead of the courses without compulsory attendance). The demand for a greater cooperation between the students seems a little bit strange, because at all the activities initiated from the students' representatives (one of the authors is head of the students' representatives), for example regular tables or parties, few or no students attend. The compulsory practical experience has received positive and negative criticism. Some students answered that they really like this part of the curriculum and that they see it as an advantage to gain practical experience. Other students criticize that the number of partners is too small and that it does not give a broad picture of all the possible areas in which a degree holder can then work. Another proposal concerning this topic is a compulsory practical experience abroad or a compulsory semester abroad (this connects to the first point made about the language). Here we can take a look at the Global Studies Program at the University of Freiburg where each student has to go abroad for two semesters (to special partner universities on different continents) and therefore study Global Studies on at least three continents. A year abroad is also compulsory at the University of Leipzig – there also have three partner universities, but all of them are in Europe. Within the Master's program "Europe: Integration and Globalization" at the University of Marburg there is no compulsory semester abroad but the practical has to be done in another country and the working language is not allowed to be in German (University of Marburg, 2012).

Next we asked for special criticism and proposals for improving the course “Basics of Global Studies”. One point that occurs several times is the introductory exam of the course (the course accounted for 15 ECTS and therefore the test in the end takes near to five hours). A huge number of students asked for the final exam to be divided into two parts or one test after finishing every module (the course consists of five modules: History, Economics, Environment, Culture and Law). Some students asked for more current themes. Despite a few exceptions the focus in this course is not on current themes but maybe this is due to the fact that it is not easy to combine history with up to date information. A significant number of students answered that the part “Economics” is too advanced and that it is nearly impossible to understand the huge number of theories and formulas in this short time (each module is taught in two weeks). So there is a big disadvantage for students that did not graduate at the School of Social and Economic Sciences and therefore never heard of all these theories about international trade, comparative advantages and so on before. Maybe a tutorial before the course or exam could be offered. A topic that appealed to a large number of students was “Social and Cultural Geography” in the module “Culture, Religion, Society and Gender”. The lecturer used the e-learning-platform WebCT in an extensive way and a lot of students liked this way of working and also his focus on interdisciplinarity was emphasized.

Evaluation of e-learning

As mentioned above, one lecturer of the course “Basics of Global Studies” used the e-learning-platform WebCT in an extensive way in contrast to all other lecturers who just use the platform in order to provide course notes. Please note that this is not usual at the University of Graz or at least not at the School for Social and Economic Sciences (there is a wider use of e-learning technologies at least at the Department of Educational Science). Within the module Culture students have the possibility to achieve points before the final exam. The lecturer gave two options for gaining points: on the one hand every student had to hand in a short standpoint about two theories of development and on the other hand every student had the choice to answer six out of 50 exercises. In addition the lecturer asked the students to review at least two other standpoints and he himself also reviewed all of the standpoints as well as every handed in exercise.

Previously we discussed that students of the Master’s program Global Studies asked for more cooperation and communication between themselves. The extensive use of WebCT as an information and communication technology therefore provides a good opportunity for more cooperation and communication. In this context it is peculiar that the supplied thread for communication between the students did not contain any other contributions besides the two contributions from the lecturer.

The survey also asked students how they liked the intensive use of WebCT and most of the students (41 percent) answered that they liked it. Around one fifth noted that they really liked this way of teaching and one-fifth did not like it very much (the rest absolutely did not like this method). We also provided a space to add explanatory notes and some students used this to give us an idea of what they think about the e-learning platform. Summarizing it can be said that the ones who liked the usage of WebCT liked the way of posting and reviewing standpoints and that they have learned a lot from this type of teaching. Other students mentioned technical problems with WebCT and therefore would maybe prefer the e-learning-platform “Moodle”.

Discussion

Interdisciplinarity starts in mind – that means it starts with an open mind. The results of our research show a significant high degree of openness in the student’s minds for knowledge of other scientific fields. This may be a consequence of their individual interests, but it may also be the outcome of an ongoing process which changes the way of scientific knowledge production. The article focuses on the difficulties of interdisciplinarity and complex problems which will need wide-ranging approaches in order to provide satisfying answers.

The empirical data show that students from different disciplinary backgrounds in a particular interdisciplinary course have been taught to respect other disciplinary knowledge. Scholars could profit immensely from different approaches as they acknowledge their own knowledge basis as a fundamental part of a solution finding process in multifaceted fields. In order to contribute to such interdisciplinary research students need to gain a profound knowledge basis of their own scientific methods and theories. Therefore, the value of disciplinarity in such a broad context should never be underestimated. Students are also given the capacity to reflect upon their own disciplinary work and are able to gain the ability to situate their own educational background within a larger context. The method of discussion as an educational tool could be the first step to unite students and lecturers of different scientific backgrounds in a direct exchange of knowledge. Through this intellectual encounter the involved people will have to learn to respect and value opinions of others and will feel the need to put their own knowledge into discussion.

In general the insights of this research indicates that Bachelor programs need to focus primarily on teaching the fundamental methods and knowledge of their respective discipline and should not underestimate the importance of providing some excursions into other scientific fields. The Masters’ programs on the other hand have to satisfy two important needs in the education of a modern scientist: First of all students should learn to apply their disciplinary knowledge in particular researches, to discuss and evolve creative approaches and to deepen their understanding in special scientific questions of their own interest. Second every modern Master’s program will have to open its boundaries and tear down the walls between the disciplines. The complex problems of today’s life will lead to the necessity of interdisciplinary work and the people especially educated for this purpose.

Conclusion

Interdisciplinarity is a challenge for teams of scientific researchers. The expected worth of such an approach is high, which has led to the conception of many new Master Programs. The University of Graz was one of the first universities that dealt with these challenges and continues to try and bring interdisciplinary work into practice. Consequently, courses that feature an interdisciplinary method exist, prominently so “Global Studies”, which is an official Master’s degree program at the University of Graz since 2010.

How first access to interdisciplinarity can look like and what students think about this method was shown with the help of a particular example. The intentions of interdisciplinary teamwork in today’s world are very important because problems and questions which concern societies worldwide are becoming so complex and versatile that they cannot be explained and solved by one single discipline.

So many different aspects interact and form one single problem like for example social aspects in connection with climatic-geographical conditions or economic prerequisites and resources. The teamwork of different disciplines with their respective know-how becomes more and more necessary for scientific work. In order to lead to openness and readiness for other disciplinary knowledge, educational institutions like the University of Graz include interdisciplinarity into particular curricula so that junior scientists will profit from future-oriented education. Therefore, it is important that Bachelor or Master programs like Global Studies exist as they teach and support these qualities and bring them to the public. This research paper and the results of the survey show that the questioned students see the positive aspects of an interdisciplinary exchange and that they are open minded to new knowledge and views.

E-learning technologies could make interdisciplinary work easier, especially in the case of international team research which often would not be possible without certain technologies. Therefore, it is important to teach students the handling of web based information and communication technologies like common platforms during their education. Students of Global Studies have to write short papers referring to their points of view and they have to review the writings of their colleagues. This procedure teaches scholars to communicate with other students of different disciplines, which are all bundled in this Master's program. Furthermore, it enables students to express their opinions in a critical way and to assess different approaches. These competences may not really be present in students' minds but will be of advantage to them when dealing with international, multicultural and interdisciplinary cooperation.

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