

ABSTRACTS

Presentations, Posters and Workshops

 **SRH** HOCHSCHULE
HEIDELBERG
Intelligence in Learning

1. CONFERENCE ON
**INNOVATION
IN HIGHER EDUCATION**
DEC 4 AND DEC 5, 2014



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FOREWORD

Now, 15 years after the beginning of the Bologna process, it is time to review the international educational landscape and evaluate its impact to date. »How has teaching in higher education and in universities changed and what are the next steps?«

The International conference on innovation in higher education is intended to be a platform for knowledge transfer concerning the following issues:

- › innovative teaching and learning methods in higher education, especially in the areas of architecture, business, engineering, informatics, psychology, social and legal sciences and therapeutic sciences,
- › research-based teaching,
- › change management and new organizational trends in higher education,
- › international cooperation in teaching and research.

The implementation of the Bologna process is, of course, an ongoing development. During our conference we look forward to sharing experiences and insights with our colleagues from worldwide universities.

Heidelberg, November 2014

Prof. Dr. Dr. h.c. Jörg M. Winterberg
President of the SRH University Heidelberg



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9.45–10.30am	<i>Adalbert Wilhelm, Jan Eichhorn</i> It's not just about the p-value: Taking research led-teaching seriously – a pilot	Poster presentation	Jacobs University Bremen; University of Edinburgh, UK	44
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3:30– 4:30pm	»How much innovation needs Higher Education«	Podium discussion		



ORAL PRESENTATIONS



TOWARDS COMPETENCE BASED LEARNING IN LATIN AMERICA?

Stijn van der Krogt

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ABSTRACT

This presentation provides an insight in the causes of increasing youth employment in Latin America. The presentation focuses identifying the demands for 21th century competences by the private sector and lack of response by the tertiary education sector. A case study of the Universidad Paraguaya Alemana, an initiative of SRH and the Paraguayan Industrial Employers Union sheds light on a possible approach to reconnect the youth to the employment opportunities in Latin America.

Youth unemployment

At global level, economies are facing increasing challenges to achieve inclusive economic development. One of these challenges is the rapid increase of youth unemployment, which deepens inequalities in developed countries and developing countries alike. Youth unemployment in developing countries has formally grown to 13%. Considering the large informal economy, this figure is estimated to be double in practice (ILO, 2014).

A call for 21 century competences

With overall economic growth rates at ... over the last 5 years, youth employment cannot be explained by the lack of employment opportunities. Yet, a mayor challenge is found in the mismatch between the competences required by the private sector and those offered by the tertiary education system. Studies indicate that the private sector calls for teaching and learning processes at tertiary level that are able to build key competences beyond knowledge such as ICT skills, entrepreneurship and work ethic, team work and project management.

Resistance to change by tertiary education

Despite the recurrent call for innovation, both private and public universities in Latin America face a strong resistance to change and adhere to traditional teaching and learning methods particularly so at bachelor levels.

Towards a solution

One of the exceptions is found in Paraguay, where SRH Heidelberg and the Paraguayan Industrial Employers Union have joined forces and founded the Universidad Paraguaya Alemana. The University applies a competence based learning process based on the SRH's CORE principles, in search for a response to the call for 21th competences.

ACTIVE LEARNING AND EXPERTISE DEVELOPMENT

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The last 20 years have seen a remarkable increase in our understanding of how people learn. These ideas have matured now to an extent that they are directly applicable to the teaching and the learning in higher education. However, despite these new developments, teachers tend to prefer the lecture-book-examination »trias« over perhaps more effective methods.

The talk will illustrate five principles of learning and how they help students to develop expertise in a particular domain.

STUDYING SUCCESSFULLY – IN TEAMS

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INTRODUCTION

We present a new method for teaching and learning in different areas of higher education called »Modell DREI« (model THREE) (Meyer, Olésiewicz, 2014). The innovative teaching and learning method has been successfully applied at different universities (Hildesheim, Bielefeld and Frankfurt) and in different fields of studies (Philosophy, German Studies, Studies of Romance languages). In this talk, we first give a detailed presentation of the successful application of the method in a Linguistics introduction class at the Goethe University of Frankfurt in the winter term 2013/2014. After that, we critically assess the contribution of the method to the improvement of the learning and teaching process based on evaluation questionnaires we distributed at the end of the seminar.

GOAL

The goal of this cooperation was threefold. Firstly, to offer students at the GU Frankfurt a new learning method – a method in clear contrast with classic teaching in the relevant department. Secondly, to learn whether the method can be easily applied when the method designers are not the subject-specific experts on the topic of the class. The author team constituted a perfect alliance: The method was developed by two of the authors, Mariola Olésiewicz and Markus Meyer, and applied in a seminar of the third author, Ingo Feldhausen, who is a member of the program »Starker Start ins Studium« dedicated to didactic aspects of higher-education at the GU Frankfurt. Thirdly, to test whether the method can be easily learned by interested parties not familiar with the method (namely the third author).

Presentation of the method: Learning is based on building small teams of three students (cf. Ryan, 2009), each of them working on different tasks under one common team-goal. The team goals are created with regard to the competencies to be gained in the seminar, provided by the teacher according to the curricula. Learning is based on

individual competencies, knowledge and interests, which will be collected at the beginning of a course with the help of a specific instrument called research map (Forschungskarten). Tasks will then be shaped individually, based on the formulated team goals. Three different perspectives make it possible for the students to approach a given thematic aspect of the seminar's content from different angles within one team individually: (a) managing knowledge, (b) analysing texts and materials, and (c) monitoring and evaluating. Students decide for themselves how to solve a task and how to present results. The teacher coaches the different teams and supports them if necessary.

Critical Assessment: First of all, we show how learning can be more efficient through self-organized teamwork and how students of the seminar at the GU took advantage from the method. Everyone made use of her or his competencies in an optimal manner (e.g. quite students could easily contribute, creative students applied different approaches to reach a team goal). Motivation was increased through individual management of time, workload, and output design and the feedback of the students was positive concerning this. Secondly, since only one teacher was the subject-specific expert, feedback and coaching intervals had to be monitored. In general, the teachers gained more time for individual coaching based on a specific way of feedback. Based on this they were able to adjust their general inputs, forms of discussions etc. to the resources and competencies in the different teams. Thirdly, the application showed that third parties can get easily acquainted with the method.

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INTEGRATION OF MULTIMEDIA-BASED MATHEMATICS TEACHING INTO UNDERGRADUATE ENGINEERING COURSES

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ABSTRACT

The mathematics education in undergraduate engineering degree programs is typically provided in mathematics courses parallel to the technical courses during the first semesters of study. Mathematics courses as well as technical courses usually develop their respective contents independently and in a systematic manner by subject areas building up on each other. Nevertheless, technical courses often require advanced mathematical expertise directly at the beginning of degree programs. In this work, exemplarily, a fundamentals of electrical engineering course being held at the University of Paderborn is considered. Among other subjects, this course imparts the description of electromagnetic fields requiring students to cope with multiple integrals in relation to various coordinate systems. Such subjects apparently exceed school mathematics and are regularly covered only later in mathematics courses. This is particularly significant as deficient mathematical knowledge is one of the main reasons for high dropout rates in undergraduate engineering degree programs (cf. Lawson et al., 2012).

Addressing this challenge, the authors developed an integrated blended learning approach for surveying specific mathematical expertise within the fundamentals of electrical engineering course. The approach avoids restructuring the syllabus and does not emerge as an extra-curricular (and therefore possibly unattractive) intervention. The key component of the developed approach is a web-based learning platform in the form of a wiki¹. Students are usually already used to this software (Pscheida et al., 2013) which is conducive to the acceptance of the platform. The wiki contains articles covering mathematical key subjects

which have been identified as appearing particularly difficult to the students of this course (Hennig and Mertsching, 2012). These subjects include the already mentioned multiple integrals in relation to various coordinate systems. Within the articles, the mathematical subjects are occasionally explained with respect to the technical contents of the course (e.g. the description of the magnetic field of a current-carrying conductor). In this connection, a range of interactive 3D visualizations and descriptive graphics (Hennig et al., 2013) are employed for effectively clarifying complex mathematical contents. On the one hand, the wiki is systematically called within lectures and exercises in order to conduct short mathematical digressions and to motivate students for own usage of the platform. Therefore, on the other hand, the wiki is intended to be used by the students outside the face-to-face course in the interest of closing individual mathematical knowledge gaps. By this means, the approach explicitly accounts for the diverse mathematical backgrounds of today's incoming students.

The wiki is now being enhanced by short video teaching units to further facilitate the teaching of mathematics within the fundamentals of electrical engineering course. The course requires a large amount of mathematical modelling competency that can be specifically trained using the advantages of audiovisual presentation. To be able to describe electromagnetic fields and to approach related integral theorems, generally the construction of suitable »geometric objects«, e.g. closed surfaces or curves, is initially required. For this matter, particularly the symmetrical properties of the respective setup (a current-carrying conductor is usually cylindrical) have to be considered. 3D presentations and animations which can highlight individual parts (e.g. closed surfaces) demonstrate this process clearly. Given the compatibility of the video teaching units

¹ Note that the wiki was used to provide contents created by academic staff and that students were not asked to develop contents by themselves.

with mobile devices, location- and time-independent learning is supported.

In this contribution, the developed blended learning approach is described and selected results of its evaluation with regard to student acceptance and effectiveness are presented. It has been found that the learning platform was frequently used by the students on their own initiative, particularly for preparing exams, and that the failure rate in the final exam could be significantly reduced. Moreover, first video teaching units are introduced and discussed with regard to technical and didactic (e.g. content structure and graphical description) aspects. Finally, the planned evaluation of enhancement by adding video teaching units is discussed.

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GAME BASED LEARNING IM VIRTUELLEN MIKROBIOLOGIE-LABOR

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Game Based Learning (GBL) hält derzeit Einzug in unterschiedliche Bereiche von schulischer und universitärer Lehre und industrieller Ausbildung. Mittels spielerischer, interaktiver Beschäftigung wird oftmals eine aktivere Durchdringung von Themen erreicht als bei rein theoretischer lesender Tätigkeit. Wir gehen davon aus, dass der Bereich in den kommenden Jahren weiter an Relevanz gewinnen wird und daher auch an Hochschulen entsprechend berücksichtigt werden sollte.

Wir setzen GBL für die Vorbereitung von Laborübungen im Fach Mikrobiologie ein. Diese laufen entsprechend eines komplexen nebenläufigen Prozessplans ab. Es ist die Aufgabe der Studierenden den Ablauf der Prozesse selbstständig zu planen und im vorgegebenen Zeitrahmen erfolgreich durchzuführen.

Um die Labore und die Betreuung in den Übungen optimal zu nutzen, stellen wir den Studierenden mittels einer game-basierten Simulation die Möglichkeiten zur selbständigen, realitätsnahen Vorbereitung zur Verfügung.

Dazu agieren die Studenten spielerisch in einem virtuellen Labor. Als Basismodell für die Logik der Prozesse wird ein Graph als Ablaufdiagramm eingesetzt. Das Nutzerinterface ist eine Abbildung des Labors in dem eine direkte Manipulation aller Komponenten der zu planenden Prozesse möglich ist. Eingangskomponenten und Zwischenresultate können entsprechend der verborgenen Prozesslogik verwendet werden. Die Studierenden können in beliebigen Wiederholungen versuchen den Prozessablauf zu optimieren. Ist das Ergebnis dieser Vorbereitung hinreichend gut, kann das Erlernte im realen Labor unter persönlicher Betreuung umgesetzt werden.

Die Ergebnisse des Projekts werden mittels eines Fragebogens evaluiert. Die Auswertung zeigt den Mehrwert der Anwendung die für die Teilnehmer und für die Betreuer der Laborversuche.

INTERDISCIPLINARY BLENDED LEARNING PROJECT AT THE FACULTY OF ENGINEERING, RWTH AACHEN UNIVERSITY

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In order to improve the quality and sustainability of teaching and learning for undergraduate students in their first semester, nine Institutes and research departments of the Faculty of Civil Engineering at RWTH Aachen University are working together in the course design project »Introduction to Civil Engineering« (Einführungsveranstaltung Bauingenieurwesen, WS 2014/15). The main educational purpose of the introductory course is to provide first-year students a broad understanding of the tasks and interdisciplinary efforts amid core civil engineering subjects and to encourage different students with diverse backgrounds to graduate.

First year students encounter contrasting teaching methods and university course designs than those previously used in school. Traditionally designed university courses strongly focus on the student's ability to organize and control personal learning processes and study habits. Those students who are capable of reflecting and managing their personal progress (for example, setting study or learning goals) from the very beginning of their studies are more likely to stay motivated and get their work done on time and well. Unfortunately, however, in reality, the majority of freshmen struggle finding an efficient study routine; it can take a great deal of motivation and effort for a student to discover this.

For this reason, this project functions to find a compatible and coherent course structure to support and widen the diverse learning approach possibilities for all students. By utilizing a well working selection of Blended Learning methods and tools – using both face-to-face lesson just as designated study times – as well as the consideration of gender- and diversity aspects during the whole

process and as part of the lecture, the design provides an abundance of variety and progress report options for both students and lecturers referring to the existing diversity of the students with different backgrounds and individual demands. Lecture contents, such as short video summaries, knowledge application tests, formulated self-assessments and regular surveys, address and activate various learning styles (visual, textual, aural). With these learning guides and feedback options, students will receive more accurate and immediate feedback, in addition to a better understanding of their study progress.

The central theme of the lecture is the RWTH Aachen University real estate development project of the new university campus. The very diverse themes of the field of study »Civil Engineering« are structured in the course like in a real project. So there is a direct transfer between the different subjects and the field of responsibility as a civil engineer.

The project started in February 2014 for developing and preparing the course. The finished course design will be implemented for the first time in Winter Term 2014/15 at RWTH Aachen University.

The full paper will present both the project and its implementation in detail. Furthermore, the presentation can give initial feedback of the courses started until that point.

ACTIVATION OF STUDY-RELEVANT RESOURCES: A CROSS-YEAR TEACHING CONCEPT FOR ACTIVE PROBLEM-BASED LEARNING

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ABSTRACT

The conception of powerful practice-based learning environments does not automatically guarantee students' optimal utilization of learning opportunities. Besides well-known learning relevant factors, such as active learning methods, the gradual implementation of practice-based methods as well as innovative assessment methods support students to pursue the targeted deep-level learning approaches. However, the adaption of those features to a specific curriculum concept is a challenging task. The contribution will demonstrate concrete implementation strategies in a cross-year problem-based learning environment. In addition, evaluation data regarding students' perception of the teaching-learning environment as well as their aspired and achieved learning goals will be reported. The results will be critically discussed with respect to necessary changes and possible adaptability to other learning arrangements.

BACKGROUND

Despite ample learning opportunities for practice-based knowledge, students sometimes fail to use situated learning environments to pursue the conceptually targeted deep-level learning approaches (e.g. Gijbels, Segers, Struyf, 2008; Nijhuis, Segers, Gijsselaers, 2005; Struyven, Dochy, Janssens, Gielen, 2006). As critical factors for deep-level learning, research has identified a gradual implementation of practice-based methods and innovative assessment as important features of teaching-learning environments (e.g. Baeten, Struyven, Dochy, 2013; English, Kitsantas, 2013). However, the implementation of those learning-relevant features in powerful learning environments is a challeng-

ing task. Pre-defined assessment forms as well as limited teacher experience with a shift from more directive teaching forms towards process-oriented guidance can jeopardize innovative teaching concepts. For this reason, the contribution aims at the exemplary demonstration of how learning-relevant features of practice-based teaching learning environments can be practically transformed into curriculum development. In addition, it will be exemplified how to evaluate active teaching-learning environments. Finally, possible conclusions that can be drawn from evaluation data of a problem-based teaching concept will be discussed.

The concept in focus is a cross-year teaching concept for the activation of study-relevant personal resources (see figure 1). The central group consists of Health Psychology students in their third semester, who design a resource training for first semester students (B. Sc. Health Psychology). A teacher guides and prepares the student trainers for their task and shifts from directive modelling towards process-oriented facilitation within the semester. In addition to an introductory lecture on health psychology, first semester students participate in the resource training that is conceptualized with regard to the first semester students' individual training needs. The training is videotaped with standardized guidelines. Student trainers receive a video-based supervision from first semester M.Sc. students (Mental Health and Psychotherapy). Student supervisors are guided, prepared and supervised by another teacher with a similar gradual shift from directive guidance towards more process-oriented facilitation. Also, student supervision is videotaped to promote active problem-based teacher support for the student supervisors. All three groups take part

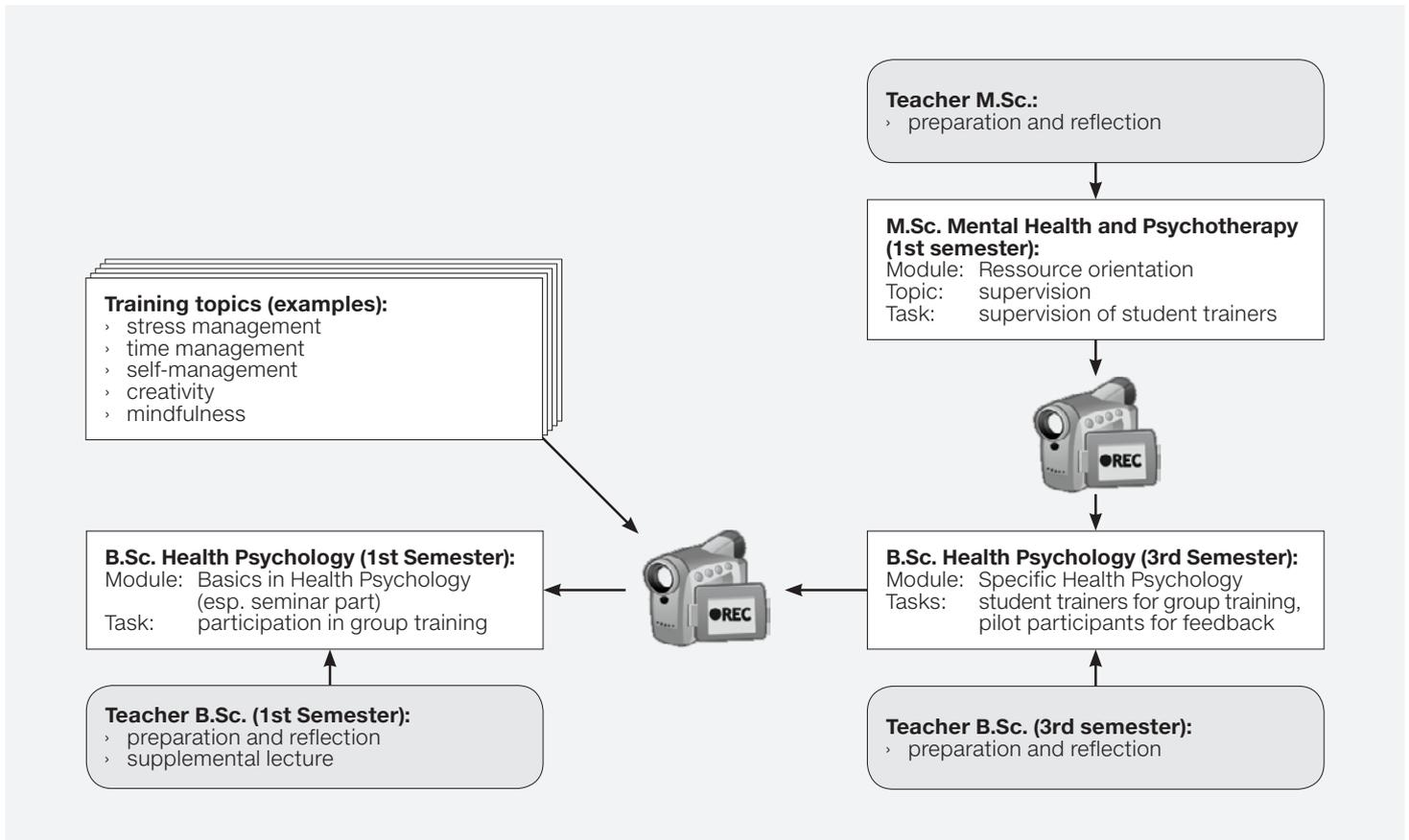


Fig. 1: Basic outline of the teaching concept

in a formative evaluation to monitor the teaching-learning processes.

AIMS OF THE CONTRIBUTION

The aims are twofold. First, we want to give a vivid picture of how we practically achieved to create a powerful teaching-learning environment. Second, we want to focus on what learning processes students actually underwent, respectively what learning goals they achieved. This analysis could help to draw a connection between empirical derived criteria for successful teaching-learning environments and the exemplary application to a specific teaching concept.

In short, our contribution will allow a glance on the following aspects:

- [1] Which variables are crucial for the successful implementation of a problem-based learning environment?
- [2] How should students be ideally prepared and supported to facilitate an optimal use of learning opportunities as offered in the learning environment?
- [3] How do students in all three roles (participants, trainers, supervisors) perceive the problem-based learning environments? What learning goals do they pursue – what goals do they achieve?

METHODS

For the consideration of the aims, teaching material as well as documentation of teaching (e.g. video sequences, exemplary handouts, syllabi for the group training, guiding questions) will be presented and used for interactive discussion. In addition, empirical evaluation data serve as indicators for student learning goals (aspired as well as obtained goals). For example written free-form written reflections are analysed with qualitative content analysis. In addition, results of questionnaire-based Likert scale ratings will be reported.

EXPECTED OUTCOMES & DISCUSSION

The data will have process-oriented character as the teaching concept will still be carried out at the conference date. We expect to identify certain characteristics of the learning environment (e.g. teaching scripts, setting of specific goals, aspects of time scheduling between the three student groups, preconditions for successful learning etc.). A first pilot study pointed out certain directions, but has to be cross-validated in the following run of the concept that starts in October. In addition, we aim to show examples of stimulating teaching material to discuss practical application of learning-relevant teaching characteristics in the concept. A discussion with the audience will aim at critical reflection and possible adaptability of effective components to other learning arrangements.

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DEVELOPMENT OF COMPETENCES THROUGH RESEARCH-ORIENTED TEACHING AT KARLSRUHE INSTITUTE OF TECHNOLOGY

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Karlsruhe Institute for Technology (KIT)

ABSTRACT

Education at the Karlsruhe Institute of Technology (KIT) aims for qualifying young people through extensive scientific and research-oriented training and the acquisition of interdisciplinary competences. To reach this goal, the KIT pursues the strategy of research-oriented teaching, which is embedded into the guiding principles for studies and teaching at the KIT and enables students to actively undertake research during their entire studies.

As merger of the University Karlsruhe and the Research Centre Karlsruhe (Helmholtz Association), Karlsruhe Institute for Technology provides an ideal basis for research-oriented study conditions and a close linkage between teaching and research.

The poster shows different ways of integrating research-oriented teaching into the provided courses along the stages of a research process and how participation not just at the research process as a whole but also at single stages of this process could develop and deepen a range of specific scientific, occupation-relevant and interdisciplinary competences (e.g. Huber, 2013).

Furthermore the poster illustrates how the quality management system for studies and teaching, called »KIT-PLUS«, ensures that the strategy of research-oriented teaching is implemented in all degree programmes and courses at the KIT to foster and to support the development of learning outcomes and pursued competences which are defined in the guiding principles for studies and teaching.

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UNTERSTÜTZUNG FÜR DOZIERENDE AUF DEM WEG ZU EINER VERSTÄNDNISORIENTIERTEN LEHRE

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Der Bologna-Prozess hat vielfältige Neuerungen im Hochschulbereich angestoßen. Die Verwirklichung des europäischen Hochschulraums wurde bis ins Jahr 2020 verlängert. Ein wichtiger Punkt dabei ist die Förderung einer verständnisorientierten und studierendenzentrierten Lehre (The Bologna Process 2020, 2009). Denn immer noch gibt es in den Fächern der MINT-Studiengänge relativ fest gefügte, tradierte Lehrkonzepte mit hoher Inhaltsdichte und wenig Methodenwechsel. Die Lehrveranstaltungen müssen überarbeitet werden, damit andere Methoden zum Einsatz kommen, mit denen Verständnis gefördert und Studierende eingebunden werden.

Von diesem Bedarf ausgehend, erklären sich die Zielsetzung und Struktur des Projekts HD MINT (Hochschuldidaktikdepartment für MINT Fächer). Das Projekt legt erstens den Fokus auf Verständnisdefizite, die in Form von Fehlkonzepten sichtbar werden. Zweitens werden neue Lehr-/Lernkonzepte an den Hochschulen eingeführt, die genau diese Verständnisdefizite identifizieren und beheben können. Drittens stehen den Dozierenden an den Hochschulen didaktisch geschulte Teams zur Seite, die Sie bei der Einführung und Umsetzung der Methoden umfassend beraten und unterstützen, damit diese auch nachhaltig in der Hochschullehre verankert werden können. Auf diese drei Punkte wird nachfolgend näher eingegangen.

VERSTÄNDNISSCHWIERIGKEITEN UND FEHLKONZEPTE BEI STUDIERENDEN

Viele Vorstellungen, die Studierende aus ihren Lebenswelten mit in die Lehrveranstaltungen bringen, stammen aus Alltagserfahrungen und -sprache. Sie beeinflussen das Bild, das sich Studierende von der Welt machen (Duit, 2002, 1 ff.). Dieses Wissen und die Vorstellung entsprechen nicht un-

bedingt den wissenschaftlichen Tatsachen eines Faches, halten sich erstaunlich konsistent in der Wahrnehmung der Studierenden und sind nur schwer zu korrigieren. Ein Konzeptwechsel, der in der Lehre vollzogen werden soll, muss demnach das Vorwissen der Studierenden berücksichtigen. Die Lehrveranstaltungen müssen sich vom dozenten-zentrierten Frontalunterricht zu verständnisorientierter Lehre entwickeln, die Studierende aktiv einbindet, und sich an deren Lernschwierigkeiten sowie Fehlkonzepten orientiert (Carey, 2000, 1970 ff.).

Für das Fach Physik und verwandte technische Fächer gibt es eine große Anzahl von weit verbreiteten Verständnisschwierigkeiten, die zentrale Fachbegriffe betreffen.

Bei mehr als 20 Prozent der Studierenden können diese Verständnisschwierigkeiten nachgewiesen werden, bei manchen Studiengangskohorten betrug die Zahl sogar mehr als 50 Prozent (Kautz, 2012, 2). Die Verständnisprobleme tauchen nicht nur zufällig, sondern beständig auf und sind schwer zu überwinden. Ein Verweis auf alternative Vorstellungen in den Lehrveranstaltungen reicht dabei nicht aus, die Verständnisprobleme zu bewältigen (Kautz, 2012, 2). Kautz sieht daher Lehr-/Lernformen als notwendig an, mit denen sich Studierende über ihre eigenen Vorstellungen bewusst werden, indem sie diese schriftlich oder mündlich ausdrücken (Kautz, 2012, 12).

VERSTÄNDNISORIENTIERTE LEHRE ANHAND AUSGEWÄHLTER LEHR-/LERNKONZEPTE

Aus diesem Grund werden im Projekt HD MINT diesem Ansatz entsprechend ausgewählte wissenschaftsbasierte Lehr-/Lernmethoden eingesetzt, die vorhandene Fehlvorstellungen identifizieren und für die Dozierenden der MINT-Fächer Lehr-/Lernmaterialien zur Verfügung gestellt,

um vorhandene Fehlkonzepte zu überwinden. Beispielhaft werden drei ausgewählte wissenschaftsbasierte Lehr-/Lernmethoden vorgestellt, die im Projekt HD MINT zum Einsatz kommen:

- › Peer Instruction,
- › Just-in-Time Teaching,
- › problembasiertes Lernen (Problem-based Learning).

PEER INSTRUCTION (PI)

PI ist eine von Eric Mazur begründete Lehr-/Lernmethode, die Studierende (Peers) während einer Lehrveranstaltung aktiviert und über wissenschaftliche Fragestellungen argumentativ diskutieren lässt (Instruction). Studierende, welche grundlegende Zusammenhänge verstanden haben, diese ihren Mitstudierenden besser erklären können, weil sie die Verständnisschwierigkeiten ihrer Mitstudierenden i.d.R. besser nachvollziehen können als Dozierende (Mazur, 1997, 16). Ziel der Methode ist es, Studierende in einem abwechselnden Prozess erst eigenständig nachdenken und anschließend wissenschaftlich argumentieren zu lassen. Die Methode kann sowohl bei Klein-, als auch bei Großgruppen angewendet werden (Crouch, Mazur 2001, 1970 ff.). Bei der Anwendung wird eine konzeptionelle Multiple Choice Frage gestellt, die Fachverständnis für den Zusammenhang der Lehrinhalte erfordert. Es folgt eine mehrminütige Diskussionsphase, in der die Studierenden gebeten werden, mit anderen Personen über die Fragestellung zu diskutieren. Bei der erneuten Abstimmung wird in der Regel mehrheitlich die richtige Lösung angegeben. Die Diskussion über die Zusammenhänge der Lehrinhalte hat das Lernergebnis verbessert und trägt zum Gesamtverständnis des behandelten Lehrgebietes bei. So werden gezielt Fehlkonzepte sowie Verständnisschwierigkeiten der Studierenden aufgegriffen und falsche Sichtweisen korrigiert.

JUST-IN-TIME TEACHING (JITT)

Die Methode PI lässt sich sehr gut mit der Lehrmethode JITT kombinieren, um Studierende vor der Lehrveranstaltung in Kontakt mit den Lehr-/Lerninhalten zu bringen (Mazur, 2006, 11–15). Dies schafft die Möglichkeit, die Kontaktzeit der Studierenden mit den Dozierenden im Hörsaal effizienter zu nutzen. Die Studierenden erhalten bei JITT einen Teil der Bildungsverantwortung in ihre eigenen

Hände gelegt (Novak, 1999, 11). Ca. eine Woche vor Unterrichtstermin erhalten die Studierenden Arbeitsmaterialien und Begleitaufgaben zur Verfügung gestellt, die bis zu einem festgelegten Termin vor der Veranstaltung selbständig bearbeitet werden. Zusammen mit den Lösungen können die Studierenden aufkommende Fragen über die Inhalte an die Dozierenden senden. Vor der Vorlesung werden zum einen die Ergebnisse der Aufgaben ausgewertet, um anhand der Lösungen Wissensstand und Verständnisprobleme der Studierenden zu identifizieren. Zum anderen bieten die studentischen Fragen zusätzliche Anregung für die inhaltliche und bedarfsgerechte Anpassung der nächsten Lehrveranstaltung.

PROBLEM-BASIERTES LERNEN (PBL)

PBL ist ein Lehr-/Lernprozess, bei dem ein praxisnahes und anwendungsbezogenes Fachproblem am Anfang steht und die Studierenden motiviert und befähigt werden, dieses selbstständig zu lösen. Entscheidend ist, dass der Lösungsweg des komplexen Problems nicht vorgegeben ist, sondern der Problemlösungsprozess von den Studierenden selbstständig gestaltet wird (Zumbach, 2006, 245). Die Lehrveranstaltungen wechseln von Phasen eigenständigen Arbeitens in Abschnitte kollaborativer Teamarbeit. Auf diese Art werden parallel fachliche Inhalte erlernt (Selbstlernphase) und soziale sowie kommunikative Kompetenzen in den Gruppenarbeitsphasen gefördert (Weber, 2007, 31). Die Studierenden übernehmen aktiv Verantwortung für ihren eigenen Lernprozess und definieren in der Gruppe die konkreten Lernziele zur gestellten Aufgabe. Die Lehrenden begleiten diesen Prozess und motivieren die Studierenden in ihrem Lernverhalten. PBL wird methodisch in sieben Schritte (sog. Siebensprung) eingeteilt (Moust, Bouhuijs, Schmidt, 1996, 21), die sich in drei Phasen differenzieren lassen: Problemanalyse in der Gruppe, Wissensaneignung im Selbststudium und vertiefte Problemanalyse (Weber, 2007, 31).

DIDAKTISCH GESCHULTE TEAMS VOR ORT

Diese kurz beschriebenen Lehr-/Lernkonzepte erfordern nicht nur von den Studierenden ein Umdenken, sondern auch von den Lehrenden. Sie haben zwar die inhaltliche Kompetenz für ihr Fach, ihre didaktischen Fähigkeiten beruhen aber auf ihrer bisherigen Erfahrung mit traditionellen Unterrichtsmethoden. Um die Lehrenden zum Einsatz

der neuen Lehr-/Lernkonzepte zu befähigen und diese auch nachhaltig und in der nötigen Qualität zu verankern, stehen den Dozierenden an den sechs bayerischen Hochschulen für angewandte Wissenschaften (Amberg-Weiden, Augsburg, München, Nürnberg, Rosenheim und Weihenstephan-Triesdorf) im Verbund ein speziell ausgebildetes Team von 20 MINT-FachwissenschaftlerInnen und PädagogInnen zur Seite, die sie in der Lehrvorbereitung und -ausübung unterstützen sowie coachen. Das Team wurde zu Beginn des Projekts vom Zentrum für Hochschuldidaktik (DiZ) umfassend in den Lehr-/Lernkonzepten geschult und kann so die Dozierenden in den neuen Methoden beraten, bei der Lehr-Lernmaterialerstellung helfen und bei der Umsetzung der Methode unterstützen und begleiten. Darüber hinaus betreuen die Projektmitarbeitenden Studierende in ihrem Lernverhalten und setzen dadurch zusätzlich auf der Ebene an, die die Lehre erreichen soll, indem sie Veranstaltungen zum persönlichen Lernverhalten, Zeit- und Zielmanagement sowie Tutorenschulungen durchführen. Um die Projektmitarbeitenden wissenschaftlich-inhaltlich zu betreuen und die Ziele des Gesamtprojekts einzuhalten steht eine Professur für MINT-Didaktik zur Verfügung. Zusätzlich kommen wichtige neue Impulse zur Umsetzung und zum Einsatz der Methoden aus dem international besetzten wissenschaftlichen Beirat und dem DiZ. Für die wissenschaftliche Begleitforschung ist das Bayerische Staatsinstitut für Hochschulforschung und Hochschulplanung (IHF) zuständig und misst, wie wirksam die Lehr-/Lernkonzepte im Vergleich zu traditionellen Lehrmethoden sind. Um die 20 Mitarbeitenden an sechs Hochschulen zu koordinieren, steht als zentrale Anlaufstelle für alle organisatorischen Fragen das Projektreferat zur Verfügung. Dieses ist zusammen mit der Professur und einem Mitarbeiter des IHFs in die Projektleitung eingebunden.

WISSENSCHAFTLICHE BEGLEITFORSCHUNG – ERSTE ERGEBNISSE UND AUSBLICK

In den vergangenen zwei Semestern wurden 48 Lehrveranstaltungen begleitet und ausgewertet. Standardisierte Fragebögen wurden erstellt, um die Unterschiede in der Selbsteinschätzung der Studierenden hinsichtlich ausgewählter Sachverhalte zu messen. Die Konstrukte wurden unter anderem auf Basis des Berliner Evaluationsinstruments (Braun, 2008, 30–42) und der Motivationskalen

(Ryan, Deci, 2000, 54–67) entwickelt. Im Fragebogen sind Konstrukte enthalten, die den Kompetenzerwerb, die Studierzufriedenheit zum einen allgemein und zum anderen mit der Lehrveranstaltung messen. Im abschließenden Teil des Fragebogens werden soziodemographische Merkmale erfasst.

Die Vorgehensweise der Untersuchung basiert auf einem Vorher-Nachher-Vergleich. Die Studierenden werden in Lehrveranstaltungen, die bis dato in herkömmlicher Weise (Frontalunterricht) durchgeführt wurden, jeweils vor und nach der Einführung der neuen Lehrmethode befragt (zu Semesterbeginn und zu Semesterende). Erste Tendenzaussagen sind möglich, auch wenn es sich um eine längsschnittlich angelegte Befragung handelt: PBL fördert in besonderem Maße die Kompetenzentwicklung der Studierenden. Der Einsatz von PI wirkt sich positiv auf die Studierzufriedenheit innerhalb der Lehrveranstaltung aus und verbessert die eigene Kompetenzwahrnehmung. JiTT führt in der Kombination mit PI bei der Wahrnehmung der Methodenkompetenz sowie in der Kompetenzwahrnehmung bei den Studierenden zu positiven Ergebnissen. Ein erstes zusammenfassendes Ergebnis lautet, dass die Lehrmethoden des HD MINT Projekts gegenüber dem traditionellen Frontalunterricht besser für eine zeitgemäße Hochschullehre geeignet sind.

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SAFE UNCERTAINTY IN THE FIELD OF RESEARCH

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Safe uncertainty stands for the everyday tension that will be recognized by many researcher. Every researcher needs a certain measure of uncertainty in order to step out of his comfort zone and pursue his quest for the unknown. Too much uncertainty however, ensures stops the researcher from taking any risk, and so he might even get stuck in his research. So, the right measure of uncertainty has to be supplemented with just enough safety. This article explores the anatomy of safe uncertainty and shows that the process of doing research bears much resemblance to the learning process: both need uncertainty in order to be effective. Safe uncertainty is studied through the lens of motivation theory and also the philosophical perspective offers interesting insights in this phenomenon. Consequently, the article reveals four dimensions of safe uncertainty: self-disclosure, translation; judgement and risk. These forces are not only relevant to the person who is actually performing the research, but they are also very recognizable to his tutor or lecturer. Because he may improve his coaching and guidance of the researcher when he is aware his this person's and his own safe uncertainty.«

»Safe uncertainty stands for the everyday tension that will be recognised by many researcher, be it a student, or a professional. Uncertainty and research go hand in hand as uncertainty is omnipresent in the process of research. Mostly in the background, but sometimes looming large in the foreground. The researcher experiences this uncertainty usually as a rather disturbing factor. It feels uncomfortable, it drains energy, and it can halt any progression in your research. At worst the overflow of uncertainty results in paralysis and the researcher locks up. This means that also the supervisor or tutor is confronted with the uncertainty of the researcher. So how to view and handle these inarticulate tensions that surface (or remain submerged) during the research process of the student?

We tend to expel uncertainty from research. We try to make the research process as predictable as possible by

creating clear criteria, planning, making agreements and organising supervision. Also with regard to the content, uncertainty has to be decreased. We try to reduce uncertainty by emphasizing precision, objectivity, logic, accountability, measurability, validity and reliability. And in the process, we are actually searching for the right concepts, language, or even shared images, in order to get as much grip as possible on the intangible research process.

Despite of all our efforts, uncertainty keeps popping up. And happily so. For a researcher needs a certain measure of uncertainty in order to step out of his comfort zone and pursue his quest for the unknown. Uncertainty stirs the researcher into action: he will become alert and critical, prepared to organize feedback, able to make hard choices and search for solutions. Too much uncertainty however, stops the researcher from taking any risk, and eventually he might get stuck in his research. This means that the omnipresent uncertainty has to be supplemented with a certain measure of safety in order to create a productive energy for the researcher in question. In this article I explore the anatomy and dimensions of this »safe uncertainty« within the context of research.

This exploration will be conducted from theoretical perspectives (educational psychology and educational philosophy) in combination with my personal experiences in the combined practice of research and education. Three main components form the core of the exploration, and will be elaborated on further: research and learning; balance and motivation; four dimensions of safe uncertainty.

INNOVATION IN INTERNATIONAL LEGAL EDUCATION IN THE UNITED STATES: AN AMERICAN LAW DEAN'S PERSPECTIVE

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ABSTRACT

This presentation is about innovation in international legal education in the United States from an American law dean's perspective. My presentation focuses on a variety of international legal education programs and innovations, as well as an examination of some of the shortcomings of traditional American study abroad programs and how innovative new programs overcome these shortcomings.

Until about five years ago, American international legal education grew in popularity and achieved a relatively prominent place in the legal education landscape. However, in recent years, many international study abroad programs have stagnated and enrolments have declined. In addition, there has been great change in all of American legal education over the past several years, including dramatic declines in law school applications and enrolment and much greater emphasis on the cost of legal education. These systemic changes in legal education have driven change and innovation in American legal education generally and in international education in particular.

This presentation will consider what these systemic changes have meant for US international legal education and look at how US law schools have innovated to make international legal education both relevant and cost effective for their students. In addition, this presentation will include a discussion of what the future holds for international legal education in the United States.

These topics are important and deserve consideration by international educators seeking to develop and administer programs that provide opportunities for students to develop the skills, values, and knowledge that will enable them to succeed in their fields in the global environment of the twenty-first century. In addition, these topics are relevant to universities interested in collaborating with American law schools.

As a case study in innovation in international legal education, I will present SIU Law's Legal Globalization Program. This program is comprised of a set of courses entitled Legal Globalization and Comparative Law, and taught by various faculty members. The course description is as follows: »This course introduces students to the phenomenon of globalization and its impact on cultures and legal systems using different countries and topics of examination as case studies. In this full-semester course, students learn about a particular country and a specific legal topic. This might include examination of a country's history, legal systems, culture, and languages. Students travel to the country of examination with their instructor, typically for a period of one week, to continue their studies. Activities in the country of destination might include service learning and other experiential learning opportunities, lectures from foreign academics, business leaders, governmental officials, and attorneys, and visits to legal institutions.«

A pilot program was offered in fall 2011, and the first full set of Legal Globalization and Comparative Law courses was offered in academic year 2012–2013. To date, SIU Law has offered Legal Globalization and Comparative Law courses focusing as follows:

- [1] Germany and the Development of International Courts,
- [2] Australia and International White Collar Crime,
- [3] Doing Business in Cuba (cross-listed with SIU College of Business masters program).

This fall, we are offering a course on South Africa and Botswana; and in the future, we plan to offer a course on Practising Law in Japan.

The Legal Globalization Program has enabled SIU Law – which is a relatively small law school compared to

many American law schools – to offer students a wide variety of international study abroad opportunities similar to what they might expect to find at a much larger law school. Moreover, this program has numerous pedagogical and economical advantages over traditional study abroad programs. It represents an innovative way to provide the benefits of international legal education without incurring the costs and other drawbacks associated with other types of study abroad programs.

The following is an outline of my presentation:

I. What are the goals and purposes of International Legal Education for American law schools?

- › Provide opportunities for students to develop competencies to prepare them to be lawyers in a globalised legal environment.
- › The importance of skills development, including so-called »soft« skills as well as professional practice skills.
- › Doctrinal knowledge of international law and comparative law concepts.
- › Provide experiences that are not duplicable at home campus.

II. What are some of the challenges US law schools face in international study abroad for their students?

- › High cost of legal education & US law student debt.
- › Challenges in bringing international students to US due to tuition costs.
- › Do US employers value study abroad?
- › Accreditation issues facing US law schools.
- › Logistical and other problems associated with being away from home for an extended period.
- › A brief overview of the shortcomings of traditional study abroad programs for US law students and the challenges American law schools face in offering quality international legal education.
 - › Lack of pedagogical advantages of the traditional model.
 - › Challenges of declining enrolment.
 - › High cost of the traditional model.

- › Challenges posed by the American Bar Association accreditation standards.

III. What innovations have developed in American law school international programs?

- › Trend toward experiential education.
- › Trend toward more interaction with local people.
- › Clinical experiences at home and abroad.
- › Hybrid models – classroom study plus externship/clinical experience/pro bono.
- › Partnerships with NGOs.
- › Innovations in international exchange.
- › Short intersession programs.
- › Technology's role in international legal education innovation.

IV. SIU Law's Legal Globalization Program as a case study in innovation in international legal education.

IMPLEMENTING TRILOGICAL LEARNING – FROM THE PERSPECTIVE OF THE STUDENT, TEACHER AND ORGANISATION

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It can be considered quite remarkable that teaching methods in universities have remained largely the same for the past 100 years, although society as a whole has change dramatically. The main teaching method still seems to be that the teacher speaks in front of the class and students are sitting in rows listening and taking notes (Ruberg, Calinger, Howard, 2010). This could be considered even more remarkable in light of the fact that more and more reports point out that the skills, competencies and know-how of newly graduated from universities does not match the requirements of working-life (e.g. Ruberg, Calinger, Howard, 2010; Elinkeinoelämän keskusliitto, 2011; Stenström, 2006; Tynjälä et al, 2006; Barnett 2004; Dall’Alba 2009; Koulutus ja tutkimus 2011–2016). Furthermore, young people in many parts of the world are facing increasing difficulties in the transition from education to work (OECD, 2013). What is evident is that universities need to better prepare students for working life, implying that universities not only focus on academic skills, but also different competencies and generic skills. Working life is today emphasizing such skills as social competence, interpersonal capacity, creativity, team working skills, development skills, interaction and selfguidance. Also entrepreneurship and leadership skills are required (Tutkimus jainnovaationeuvosto, 2010). It is thus in the public interest to rethink the way in which higher education is delivered (CDIO, c.f. Crawley, Malmqvist, Lucas, Brodeur, 2011)

In Finland, both in the university sector and the polytechnics, the dominant curricular model is the discipline-based model, even though there has been perennial critique of the discipline-based curriculum (Athavale, Rod, Myring, 2008, Minzberg, 2004; Navarro, 2008; Pfeffer, Fong, 2002). More and more researchers, scholar and policymakers are, hence, proposing that is high time that universities start implementing an integrated business curricula.

Answering this call for change, there is a small, but vibrant and internationally oriented community of practitioners inspired by Team Academy in Finland applying a fully integrated team-based project curriculum through triological learning practices. In triological learning, a term coined by Hakkarainen and Paavola (2007), there is a triple focus: the focus is not just on (1) learners and knowledge acquisition, nor (2) the social processes, but also on (3) a third distinct element, namely the creative process of jointly developing »objects« such as processes, practices, concepts, patents, or even small businesses, which are intended for subsequent use outside the educational setting.

In concrete terms, study programmes following a team-based project curriculum do not have students (but team entrepreneurs), classrooms (but open plan office), teachers (but coaches), simulations (but real business), nor control (but self-organization). Instead of completing courses, the students engage in three learning activities: readings, mandatory dialogue sessions (e.g. 2×4 hrs/week) together with one’s team and coach, and projects. The coach is responsible for one team until its members graduate.

The results of this team-based project curriculum has been encouraging. For instance Team Academy in Finland report that 37% of Team Academy’s graduates start their own companies, and 47% become entrepreneurs within 2 years of graduation. The 200 students of Tiimiakatemia conduct more than 150 projects with companies yearly. Student motivation is high, and 96% of students graduate on time and 85% are employed within 3 months.

In this workshop, triological learning is discussed, and insights from the implementation of a fully integrated team-based curriculum will be presented and discussed. Insight from both a student, teacher and organisational perspective is discussed.

The following questions will guide the discussion:

- › students' mastery of basic business facts (micro & macro) and application of that knowledge,
- › students' academic motivation and general causality orientations,
- › team functioning and collaborative knowledge building (= finding of creative, new solutions to stated problems),
- › promoting the employment status of the graduates, i.e. the development of working life skills and competencies,
- › the pedagogical principles and practices used,
- › transition from teacher to coach,
- › organisational hurdles, physical learning environment.

The workshop organizers have experience from designing and implementing triological learning for a bachelor degree 3.5-year programme for a whole department, consisting of three degree programmes in business administration, tourism and social work. The organizers have also since 2009 applied triological learning on courses ranging from 5 ECTS to 15 ECTS credits, at both basic, intermediate and advance level courses. They have also experience from implementing triological learning for small businesses in 1.5-year programmes.

THREE YEARS OF CORE: THE TRANSFORMATION OF A UNIVERSITY

Jörg Winterberg, Julia Rózsa, Adrian Thöny, Christian Kempf

SRH University Heidelberg

THE CORE PRINCIPLE

At SRH University Heidelberg, the »CORE principle« is a frequently discussed topic. The acronym, which stands for Competence Oriented Research and Education, represents our particular understanding of teaching and learning. This understanding is based on an analysis of the future challenges facing universities and students in Germany.

SRH University Heidelberg also focuses intently on the challenges facing universities in a time of change, as well as on the good practice approaches required to overcome them. This article analyses the initial situation in 2011,

describes the shared vision of an original philosophy that arose from this situation, and looks at how this vision was implemented.

THE INITIAL SITUATION

Our role as a private university differs from that of many public ones. Our task, as we see it, is not just to finance the university differently, but also and especially to imagine and to live it differently. As a university for applied sciences, we are fully committed to the Bologna Process, and our study programs consistently focus on competence orientation as well as on the transfer of knowledge.

Our aim with the CORE principle, is to continue our journey down the road that we took with the introduction of the bachelor and master programs. We want to show that *modern and more effective structures* for studies in Germany are possible and to become a role model for other universities.

In doing so, we stay true to our vision of a university for students, one that organizes its structures toward the *optimization of the teaching and learning processes*. In our view, this orientation is not just necessary from a pedagogical and psychological perspective, but also serves to improve our position in the competition for future students in light of the expected decline in the number of students as of 2015 (see dark blue and turquoise graph in figure 1).

We compete for the best students by offering the CORE principle as an alternative method to the classical course of study. In this competition, SRH University Heidelberg essentially faces the same requirements as all German universities (see table 1). This naturally includes the recommendations of the German Rectors' Conference

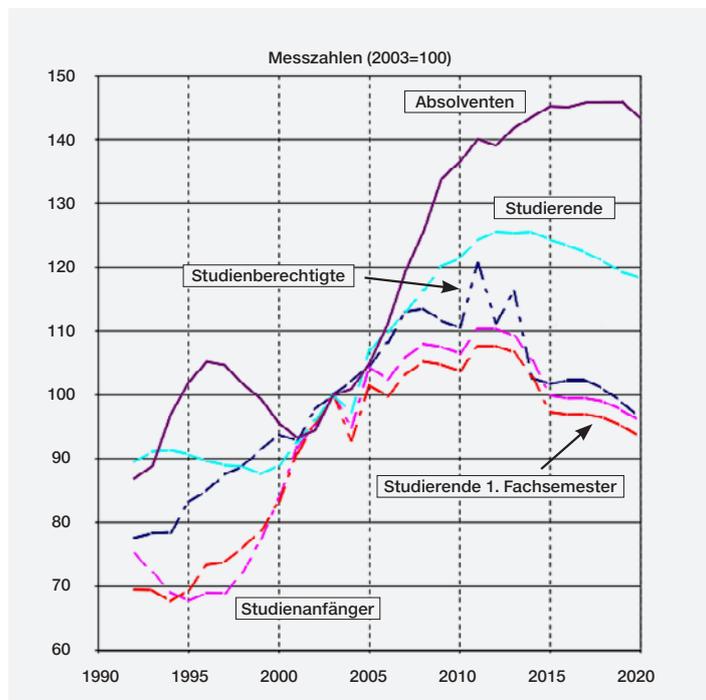


Fig. 1: Development of the number of students (Statistisches Bundesamt)

Table 1: Information on SRH University Heidelberg.

SRH University Heidelberg	Facts
Founded	1969
Students	Around 3000
Employees (Professors)	200 (75)
Teaching load of professors	18 hours per week
Study programs (bachelor/master)	37 (19/18)
Certification	State-recognized, accredited institution and programs

(Hochschulrektorenkonferenz, HRK) from 2008: »University and education research has shown how much more effective *student-centered teaching* is compared to the traditional forms of knowledge transmission. It is *at the core of a change in the conceptual understanding* of teaching at universities and the foundation for the restructuring of the learning environment. (...) For all involved, this transformation is crystallized in the study program, where carefully crafted *qualification goals, adapted forms of teaching, learning and assessing, the further education of the teachers and a more active role of the students* have to be harmonized and work together.« The German Chamber of Commerce and Industry (Deutsche Industrie und Handelskammer, DIHK) underlined this with a comment from 2011: »The main competences that companies expect of graduates are *commitment, responsibility, and the abilities to work independently, to communicate and to work in a team*«. It also calls for an increased focus on »the task of optimally preparing students for working life«. Further, »universities must *create incentives for good teaching and provide support where it is lacking*. An active learning culture does not consist of frontal lectures, but rather sets the conditions for the students to acquire the knowledge themselves through research and practice. Study programs should be output-oriented, because what counts is *what the students can actually do at the end of their studies*« (Heidenreich, 2011).

THE VISION

SRH University Heidelberg began this process in 2011 with a vision that its name would in the future be associated with a unique understanding of teaching and learning. The vision was shaped by the core themes as shown in figure 2.

Didactic foundation: the basis of the »CORE principle«

With its *consistent orientation toward learning results and toward the competences to be acquired*, the CORE principle places the potential of the learner, rather than the contents to be learned, in the foreground. This is described in detail in Rózsa (2012) »Participative Methods in Tertiary Education«. The carefully thought out learning requirements, together with targeted further development, contribute significantly to preparing the students for professional life. Varying levels of difficulty and complexity are to be achieved, based on *Benjamin S. Bloom's taxonomy of educational objectives*. This taxonomy of educational objectives is a classification for the formulation of course objectives. It allows teachers to formulate the objectives of their courses in a combination of levels and processes. These schemata allow students to see what concrete efforts are required of them – and what they will subsequently have learned.

Every course of study consists of *modules* that are

SRH UNIVERSITY HEIDELBERG BRAND

- › We want SRH University Heidelberg to stand for optimal academic education!

SECURING THE FUTURE

- › We still want to be an educationally and financially successful university after 2015!

TEACHING AND LEARNING MODEL

- › We want to be an example that other universities strive to emulate!

SELECTION OF THE BEST

- › We want to be able to choose the students that are the best fit for us!

Fig. 2: The University's vision, 2011

logically related in their contents and didactically. Within the modules, the three aspects of learning results, examination methods, and teaching and learning methods have to be harmonized. In the planning phase, the learning objectives form the starting point for the conception of a module: the students are to acquire a specific competence. The selection of the testing method depends on the measurability of the acquired competence. Based on this, those teaching and learning methods are then chosen that can best accompany and support the process all the way to the examination. This concept is known as *constructive alignment* (Biggs, 2007).

Block structure: semesters are a thing of the past

In the wake of the introduction of the CORE principle, a time structure based on *5-week blocks* was implemented. This means that the modules described above essentially take place within five weeks and are usually concluded by a single examination. Depending on the orientation of the module, it can sometimes be preferable to integrate the examination into the course of the module. Deviations from this time structure are also possible within a study course depending on the competences to be acquired and the thematic orientation. But fundamentally all past time structures have been replaced by the new 5-week blocks system.

Variety instead of monotony: teaching, learning and testing methods

In order to achieve an intense study and work atmosphere within the modules and to provide the learners with the opportunity of experiencing an optimal learning process, the *use of activating teaching and learning methods* (e.g. debates, flash feedback or buzz groups) in the courses is essential. Only thus can the participation of all students be obtained. Each module has a *thematic focus*, ensuring an intensive engagement with this theme. This main module is linked to at most one subsidiary or accompanying course to allow the learners to concentrate on the current thematic block and so to support the learning process in a targeted manner. The use of less conventional examination methods is a direct consequence of this approach. These include for instance the OSPE (Objective Structured Practical Examination), in which the student goes through sever-

al testing stages that resemble a simulation, or the learning diary, which is kept by the students during the course of the module and is then included in the final grade. The 5-week block structure allows for a clearer and *less loaded examination schedule*.

When teachers learn: CORE as a means of further education

The role of the teachers and the nature of the method require a university-wide training system so that the teachers may also have the opportunity to try out new situations, learn new methods and use them effectively. They further learn to select and switch between the various new roles (for instance *mentor, coach or examiner*) and to feel secure not just in their mastery of the method, but in their own skin while doing so.

Measuring success: evaluation, quality and professional change management

The sustainable establishment and continuous development of the CORE principle necessarily requires the *continuous assessment of its positive characteristics and goals*. This involves in particular the evaluation by our students of the competences acquired, learning success, feasibility of the study courses and learning environment, but also the evaluation of the teaching and learning situation and of the University's organization as well as the support provided to the students all the way to their graduation and beyond.

Teaching and learning culture: our Code of Conduct

Basic rules of behavior for successful and respectful cooperation within the entire organization promote self-reflection, mutual recognition and open communication, thereby contributing to creating and maintaining a positive climate within the organization. That is why we conceived a *Code of Conduct* that applies to all the members of the University: students, teachers and administrative staff.

PLANNING AND IMPLEMENTATION

At the initiation of the »change process«, examples of good practice, such as the universities of Linköping (Sweden), Maastricht (the Netherlands) and Helsinki (Finland), were analyzed, as these European universities follow didactic philosophies that are less object-centered. Furthermore,

experts from relevant organizations were integrated into the planning process, including the German Council of Science and Humanities, the German Rectors' Conference, the company Datenlotsen, which makes software for universities, as well as several accreditation agencies.

Besides these external partners, all the University's internal stakeholders were involved in the process: the faculties and institutes, the Senate, the University Council and the students. The implementation process was agreed upon in close cooperation with the deans of all faculties.

The central components in the implementation of the change process were *personnel and organizational development, communication, accreditation and project management*. Regarding *personnel development*, lecture series were presented by external partners and experts to prepare for the switch to the CORE principle. Further, training was made available to all professors and teachers. *Organizational development* consisted for instance in the introduction of project-specific bodies or the drafting of guidelines for sub-project managers, for example to create module handbooks adapted to CORE. In the field of *communication*, personal elements (e.g. conferences for employees, meetings for advocates) as well as written elements (e.g. strategy papers, newsletter) play a decisive role.

The accreditation of the study courses following the CORE principle was another complex but necessary step. First the model itself was evaluated by a distinguished group of experts to verify the validity of its didactic foundations. The disciplines were then organized into clusters, before the accreditation process was carried out with the Central Evaluation and Accreditation Agency (Zentrale Evaluations- und Akkreditierungsagentur, ZEvA). For the coordination of the change process, a dedicated project management team for quality control and development was set up at SRH University Heidelberg. This made it possible to transfer many tasks from the main organization into the project's structure.

CURRENT STATUS

The evaluation of the results some three years after the introduction of the CORE principle shows that SRH University Heidelberg's choice of CORE as the learning model for the future was the right one. All 37 study courses on offer have

now been adapted to CORE and accredited. Along with the accompanying supporting measures – of which the teachers make intensive use – the infrastructural conditions have also been created: a large number of rooms with modern amenities are available for the students to work in small groups. The atmosphere at the university has also changed for the better. It is worth noting here that the process of introducing the CORE principle required a mere two years, thanks to the tireless efforts of all those involved. Looking back, we can be proud of what we have accomplished together, and we live the CORE principle at SRH University Heidelberg every day, fully aware of the constant need for optimization.

FUTURE CHALLENGES

The change process has thrown up a number of challenges that we want to address together in the future:

- [1] The tools established for the implementation and accompaniment of the change process must remain available in the long term so that all employees can be brought into the change process.
- [2] For the change to be successful, the contents and the structures need to receive equal consideration.
- [3] The obstacles faced by the change process usually arise in unexpected places. While scenario analyses can help to identify them, there is no substitute for a heightened awareness of the existence of hurdles.
- [4] The change process naturally has advocates who are committed and motivated in their participation in its implementation. The potential of these advocates to bring on board the moaners and complainers needs to be activated.
- [5] Communication is a decisive success factor. A successful communication concept answers the question of when which employees receive what information (see Kostka et al., 2002, p.61).
- [6] The walls have a memory: lasting behavioral changes take time to set in. While the actual structural changes may seem clear enough, it takes longer for the behavior of teachers and students in the classroom to change.
- [7] An outside perspective helps one to understand oneself better, celebrate successes and be critical

of oneself. At the same time, however, it can be a stress factor in the climate of insecurity created by the change.

- [8] The customers (our students) want the highest quality. If they are not integrated into the change to help them understand the change process, they risk becoming dissatisfied whenever a process does not run completely smoothly.

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POSTER PRESENTATIONS



INNOVATIVE TEACHING AND LEARNING METHODS IN HIGHER EDUCATION IN THE DOMAIN OF ECONOMY AND DESIGN USING THE EXAMPLE OF THE INTERDISCIPLINARY COURSE »AUDIOVISUAL COMMUNICATION« OF THE BACHELOR PROGRAMS »MARKETING COMMUNICATION« AND »COMMUNICATIONS DESIGN«

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1. A BRIEF COURSE DESCRIPTION

The course of audiovisual communication is an interdisciplinary course, which is designed as projects work with a business partner in the context of the module of »Integrated Communications«. The course is part of the compulsory curriculum of the 5th semester of the undergraduate programs »Marketing Communication« and »Communications Design«.

The assignment of the projects work is to draft and produce advertising spots. The project work is designed as group work done by teams, which are composed by students of the two different departments of Marketing and Design who in most cases have not personally met before the beginning of the course. Depending on the size of the class and the number of teams 4–10 spots are created within the time frame of one semester.

The business partner (client) takes part in a strategic briefing in the beginning of the semester and attends an interim presentation 2 months later as well as the final presentation towards the end of the semester. The client, represented by several employees of the marketing department, gives on these occasions direct feedback about the (intermediate) results.

The course takes place within the time frame of 16 calendar weeks with 4 weekly hours of contact the first 10 weeks. During the last six weeks a higher amount of 8 weekly hours of contact is scheduled in order to provide the consulting and support the students need in the period of post-production and the finalization of the spots. The scheduling of the working process throughout the semester is strongly determined by the great need for coordination among the team members and with the business part-

ner, by the wide range of pre-production activities and by the time-consuming post-production period.

Since 2010 we were able to acquire 50000€ from our business partners. The funds enabled us to finance expense allowances, project documentaries and extra-curricular lecturer's fees. The fall semester of 2013/14 will exemplarily be introduced and analysed in this paper. The business partner was the beverage group »Spreequell« (Rhönsprudel Group) and their brand Club Cola.

2. INSPIRATION FOR THE COURSE

The inspiration for a course that connects students of the economically oriented Marketing Communication program with the artistically oriented Communications Design program has been generated by the consideration of practical demands that working life will impose on our students in the future. Vital part of the work of any marketing department or independent agency is being done in teams with employees with a strategic and conception focus and employees who have an artistic and design-related focus. The understanding of one another is indispensable for the success of the project or the enterprise as whole. No concept can be created without a Design, and no design can be created without a concept. Above making the acquaintance of the way the other one thinks and acts, students feel encouraged to try the other ones métier, sometimes with extraordinary results.

The social aspect of interaction and also »networking« of the students among each other is not to be underestimated especially in regard of their own professional future.

The first meeting with Spreequell was organized in winter 2014 in the office of the Spreequell Group in Berlin. Prof. Gilbert Beronneau, who is responsible for training, and

Melanie Böttcher, responsible for the marketing department of the Spreequell Group, decided on the brand Club Cola as theme of the project in spring semester 2014. Club Cola was initiated as alternative to Coca Cola in the GDR in 1967. 1990 it was taken over by the Spreequell Group.

Miss Böttcher explained her marketing strategy for Club Cola. In the domain of Social Media the spots produced by the students of the design akademie berlin, SRH Hochschule für Design und Kommunikation should as viral spots target the further development of the internet and Facebook appearances of the corporation into frequently visited web pages.

3. THE ASPIRED RESULTS

The course Audiovisual Communication has throughout the last years been constantly modified and advanced regarding the teaching and learning methods. Thanks to these efforts we have had opportunities to work together with well-known companies and organizations such as Samsung, PayPal, Citroen, Benetton, United for Africa, German Federal Armed Forces, Anne Frank Centre, Marché, German Opera Berlin, the German Centre for Tourism and the United Nations. The design akademie Berlin, SRH Hochschule für Design und Kommunikation has been able to build these kinds of partnerships not only by approaching companies and organizations but also by being asked by them about potential opportunities to cooperate.

The 4th semester of our bachelors programs includes a period of mobility in which the students have an internship of 4–6 months. One important target of the curriculum and teaching organization is to create the best possible practicable link in between the experience made in the period of mobility and the taste of professional working life that has been taken to the modules and courses of the 5th and 6th semester without harming the principles of academic freedom and teaching autonomy.

Our business partners have published the best spots on their websites and/or YouTube channels. The spots became part of the communication strategy and have been used on public events. The professional utilization of the spots is a vital part of the idea and motivation of the teaching staff and the students involved in the project.

The quality of the productions can be taken as main criteria of success and finds approval in the wide usage

of the work done by the students in real contexts such as Internet publications.

The quality of the work and the appreciation of our partners correlates positively with the evaluation of the students work (on long-term average between »very good« and »good«) and the evaluation of the course by the students (on long-term average between »very good« and »good«) as well as with the individually written (self-critical) reflections of the students on the project.

4. COLLATERAL RESULTS

The grading as described above lies in the long-term average and has therefore not been too big of a surprise for us.

Surprising was for us an unexpectedly high appreciation of the students work by the clients. The great approval has been excited by the fact that the work of the students corresponds highly with the current objectives of the clients campaigning. A circumstance we were able to achieve through the close coordination with the client by means of transparent and efficient communication.

In the following semester a new stage of application was initiated which required the monthly coordination of students, teaching staff and clients. The four spots were integrated in the communication campaign of club cola and have for instance been presented on the Facebook page in the context of a contest. Within four weeks the best spot was appointed via Facebook and later on shown in cinemas in Berlin, Leipzig and Dresden over the time frame of a couple of weeks.

The internal campaigning-report of Club Cola declares: 3500 additional Facebook likes have been generated (previously 50 likes in total), the aspired target group of 18 to 34 year-olds has been reached and approximately 1 500 000 people in Germany have seen the spots done by the students of the design akademie Berlin, SRH Hochschule für Design und Kommunikation on the internet or in the cinema.

5. TEACHING CONCEPT AND LEARNING PROCESS

The ideal teaching and learning conditions targeted in this course are based on the following most important criteria:

- › Optimal coordination between the teaching staff, the lecturers involved, the course instructor and the client.

- › A briefing which is designed in coordination with the client and is presented and provided to the students in the beginning of the semester with frame conditions concerning content and time scheme.
- › Compulsory attendance of two third of the hours of contact.
- › Autonomy concerning the composition of the student teams given a minimal size of two students to five students maximum.
- › Physical presence of at least one representative of the business partner in the beginning of the course, at the interim presentation and the final presentation of the project.
- › Integration of a contest among the student teams with a jury that is consisting only of representatives of the business partner.
- › A transparent and open communication throughout the working process (also regarding changes that might occur).
- › Guaranty of openness concerning the results of the students work in order to ensure the teaching autonomy and academic freedom.
- › Upload of the teaching materials of the lectures on the university server.
- › Response to student requests by the teaching staff within 24–48 hours.
- › Possibility of the students to have direct email contact to a contact person from the business partner throughout the course of the project.
- › An adequate amount of expense allowance given to the students by the project partners according to the size and organizational structure of the partner (e.g. non-profit-making, local organization: 2000 Euro; big internationally operating enterprise: 10000 Euro).
- › Prize money from contests is distributed to the student teams.

6. EDUCATIONAL OBJECTIVES

The educational objectives of the students focus on their professional-, operational-, and interdisciplinary competences as well as the further development of personal and social skills.

The advancement of the professional and technical competence is being achieved by means of the further the-

oretical comprehension of the planning, the selection and the conception of audiovisual communication focusing on commercial spots. This includes the ability to analyse and evaluate audiovisual productions that are part of integrated communications for instance as part of an advertising campaign.

The operational competences include the conception, the pre-production, the production and the post-production of an advertising spot as well as a documentation of these processes written by the team. The written documentation is divided into 3 parts. The first part incorporates a research done by the students looking at the economic circumstances and conditions of the business partner or the brand, which is to be promoted. In the second part the students describe their strategic approach. The third part consists of a written presentation of the production process.

The further development of the personal skills of the students focuses on the qualities of:

- › self-reliance,
- › creativity,
- › flexibility,
- › open-mindedness,
- › determination,
- › judgment,
- › endurance,
- › ability to self-assess and self-criticize,
- › frustration tolerance,
- › personal responsibility,
- › organisational skills.

The social skills of the students are strengthened in the following disciplines:

- › ability to work in a team,
- › willingness to help and assist others,
- › ability to compromise and be considerate,
- › accountability,
- › reliability,
- › cooperativeness,
- › respectfulness and tolerance,
- › conscientiousness.

7. TEACHING AND ASSESSMENT MEDIA

A precise and well-coordinated sequence of different instructional formats such as lecture, project and group work has been applied throughout the course. The lectures were methodologically subdivided into a lecture, a moderated discussion and team teaching.

The different instructional formats have been applied according to the project phase. The first project phase (communication of content-based knowledge, research, preproduction) has been characterized by the formats of lectures and group works.

During the phase of production and post-production, lectures, group works and the method of team teaching have been applied in collaboration with the associate training staff of the departments of film editing and motion design. During the last phase of the project – the phase of post-production and realization – the training took place in the form of individually supervised group works for each team.

To assess the students' work a presentation has taken place and an evaluation done by a colloquium.

8. THE STUDENT'S PERSPECTIVE

In the end of the project work the students are asked to write an essay to reflect the project works they have participated in. The two following excerpts written by a student of the »Communications Design« program and a student of the »Marketing Communications« program represent exemplarily the student's perception of the course.

Natascha K. (B.A. Marketing Communication)

»I went blue-eyed and with many expectations into the first lecture of »audiovisual communications«. Up to that point I hadn't gotten in touch with the domain of film making and was excited to learn more about camera work, angle and the analysis of current advertising spots.

The thought of it being an interdisciplinary course in which we get the chance to work together with the students of the B.A. »Communications Design« pleased me a lot as well.

This circumstance also turned out to be a great preparation for our future working life. We learnt a lot coordinating and organizing ourselves with the different professional backgrounds and priorities we had. Because of the experience I had made in the domain of project man-

agement I was also able to adopt a coordinating function in this process. I am convinced that we were all able to learn a lot in the process of our projects work especially during the weekend of our shooting.

In the beginning I slightly underestimated the complexity of the project and the time we would need for the preparation and follow-up processing. Preparing our set for shooting the spot has for example taken us until late at night. After the weekend, which appeared to us like 48 hours of shooting, we ended up having to bring back the equipment in another unexpected extra time slot.

Being part of the project has been a lot of fun to me, and it was a great feeling to see the spot we produced in the end. We had stressful moments and of course we experienced some ups and downs but our group harmonized well and I am really proud about what we achieved.

The course posed a challenge that we faced with commitment and passion.«

Christopher P. (B.A. Communications Design)

»It was the first real cooperation with the department of Marketing Communication at the design akademie berlin, SRH Hochschule für Kommunikation und Design and turned out to be a very interesting experience.

The different mode of operation of the two departments was noticeable right from the start. The phase of brainstorming went well. We put all ideas into one pot and created the concept. During the midterm presentations we became convinced by the competences of our fellow students from the Marketing Communication department to deal with statistics and research, which is exactly what designers do not like. The division of labour among us took place according to these preferences my fellow student and me got in charge for the technical implementation, while the other team members dealt with the organization and planning.

The focus on organizational matters and deadlines carried out by the students of the Marketing Communication department was very noticeable and very different to what we designers are used to. We were able to find a middle course, which worked out quite well for all of us. We had a great midterm presentation from which we could start into the preparation of the shooting.

The shooting itself went by smoothly. We met one hour before the arrival of the actors and prepared the set.

Some of us had also organized a catering. Everything was prepared except the camera. We had a small problem with the colour profile of the camera, which apparently had not been installed correctly the night before. We hectically tried to fix it but did not succeed.

So we shot with the normal camera profile and definitely learnt something ... Preparation is everything! But none of that was really a big problem and the shooting went by perfectly. Everybody was in a good mood and the actors did really well!

The project has been a successful work and I personally was able to learn a lot concerning technical matters which I did not pay much attention to before in the fields of acoustic engineering, directing and film cut.«

9. CONCLUSION AND FUTURE PROSPECTS

The course »Audiovisual Communications« is considered as »success model« at the design akademie berlin, SRH Hochschule für Kommunikation und Design, which has also found application in other modules in the departments of Marketing and Design.

The high amount of interdisciplinary networking which is being pursued while studying the theoretical and practical contents of the course can be regarded as exemplary and perhaps trendsetting part of our higher education strategy.

The high standard of close networking demands a consistent coordination and harmonization of the learning targets with the learning contents and the teaching methods undertaken by the teaching team.

The learning progress of the students and the criteria of teaching and learning conditions as described above may be described as remarkable.

10. REFERENCES

The students' perspectives from Natascha K. and Christopher P. were taken from the written documentaries of their project groups (Booklet AV WS 2013/14).

FOSTERING DIGITAL MEDIA USE IN UNIVERSITY TEACHING – TOWARDS A THEORY BASED MODEL FOR IMPLEMENTATION

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PROBLEM STATEMENT

The use of new digital media has become ubiquitous in the context of private usage by now. However, new digital media still are not used systematically in university teaching and, accordingly, the didactical potentials of new technologies (e.g. Interactive Whiteboards, Classroom Response Systems) are not fulfilled appropriately.

Frequent problems and obstacles concerning use are deficient didactic know-how and technical difficulties on the teachers' side. New media are often purchased for technical reasons, while human and organizational factors are not considered sufficiently.

Accordingly, a lack of acceptance can often be observed, which leads to new media not being used in teaching. The main hypothesis underlying our research is that a systematic implementation can counteract these problems.

Goals

In the context of a Design Based Research approach (Design-Based Research Collective, 2003; Reinmann, 2005) a general theory based implementation model will be developed for including new media systematically in university teaching, thus enabling their potential for improving teaching and learning. As exemplary digital teaching media we focus on Interactive Whiteboards (IWB) and Classroom Response systems (CRS).

Theoretical background

For the development of our implementation model, existing implementation theories and technology acceptance models are consulted and combined with each other.

Meyers et al. (2012) summarize 14 critical steps of a successful implementation in a prescriptive model, which are clustered in four phases:

- [1] Initial considerations regarding the host setting (e.g. capacity-building strategies).
- [2] Creating a structure for implementation (e.g. structural features for Implementation).
- [3] Ongoing structure once implementation begins (e.g. Process evaluation) JLU Gießen – Professur für Hochschuldidaktik und Evaluation.
- [4] Improving future applications (e.g. Learning from experience).

Our second theoretical perspectives is technology acceptance research (Venkatesh et al., 2003). According to the popular UTAUT-Model, there are four essential factors influencing technology acceptance and usage:

- › Performance Expectancy (What does the teacher have as added value by use? Does use make a contribution to their teaching performance?)
- › Effort Expectancy (Can the teacher use the new media quite easily?)
- › Social Influence (Do relevant others, e.g. colleagues or students, expect that one uses the system?)
- › Facilitating Conditions (Is there an organizational, technical and didactical infrastructure to support usage for teaching purposes?)

METHOD

In the context of a Design Based Research study, a general theory based implementation model will be developed for systematically implementing new media usage in university teaching. Components of this study are:

- [1] Study on current state and determinants of innova-

tive media use in teaching, drawing on the theoretical frame of Venkatesh et al. (2003).

- [2] Application of Meyers et al. (2012) implementation and UTAUT models to systematically influence determinants of new media usage.
- [3] Accompanying evaluation measures and specific substudies.
- [4] Adaption and optimization of the initial implementation model.

In this paper, we will report on the early phases of the Design Based Research study, namely the first draft of the theoretically based implementation model.

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EINE INNOVATIVE ART DER LEHRE: »WISSENSCHAFTSKOMMUNIKATION – KREATIVES WISSENSCHAFTLICHES ARBEITEN«

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ABSTRACT

*»Gewisse Bücher scheinen geschrieben zu sein,
nicht damit man daraus lerne,
sondern damit man wisse,
daß der Verfasser etwas gewußt hat.«*

(Johann Wolfgang von Goethe, dt. Dichter, 1749–1832)

Ein Schlagwort beherrscht die Medien und Öffentlichkeit: »Lebenslanges Lernen«. Vor diesem Hintergrund – und nicht zuletzt auch in Anbindung an das Eingangszitat – steht die Wissenschaftskommunikation im Fokus des Interesses. Lernen geschieht mehrfältig, ein interessierter Mensch kann Bücher lesen, Kurse der Volkshochschule besuchen – nicht zuletzt steht auch die Universität in einer gesellschaftlichen Pflicht. Von der Gesellschaft getragen hat diese einen An-

spruch, an den Erkenntnissen des Wissenschaftsbetriebs teilzuhaben.

Das im Rahmen der Allgemeinen Studien angebotene Seminar »Wissenschaftskommunikation – kreatives wissenschaftliches Arbeiten« folgt diesem grundsätzlichen Gedanken. In dem Seminar geht es um die Aufbereitung wissenschaftlicher Expertise zu alltagsrelevanten Themen in eine laienverständliche Form. Der Seminarverlauf folgt einer festen Struktur, in der abwechselnd theoretische und praktische Elemente vorkommen (vgl. Abb. 1).

Im ersten Schritt »Themenwahl« werden durch die Studierenden im Plenum wissenschaftlich relevante Themen oder aktuelle Forschungsergebnisse bestimmt, welche die Grundlage für das weitere Seminar darstellen. Für die Themen gilt als einschränkender Rahmen, dass diese eine hohe alltagspraktische Relevanz beinhalten und konkrete Inhalte besitzen sollen, die sich wissenschaftlich hin-

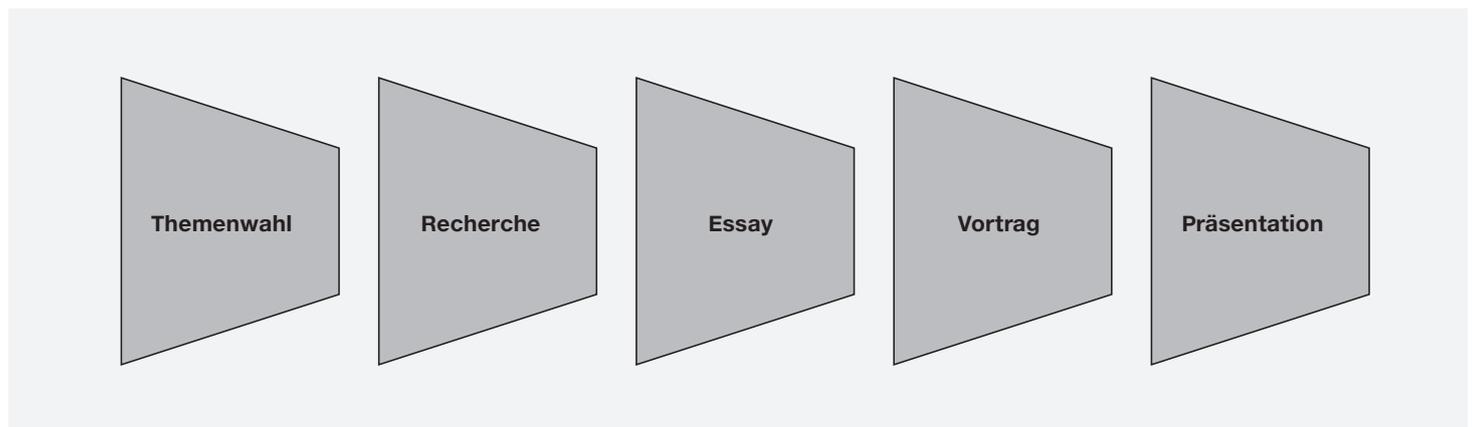


Abb. 1: Prozess »Wissenschaftskommunikation – kreatives wissenschaftliches Arbeiten«

terfragen und darstellen lassen. Die Studierenden teilen sich themenorientiert in Kleingruppen auf.

Im zweiten Schritt »Recherche« erarbeiten die Studierenden in ihren Kleingruppen in Eigenregie wissenschaftliche Hintergrundinformationen zu den jeweiligen Themen. Hierbei gilt zu berücksichtigen, dass jedes Thema aus unterschiedlichen wissenschaftlichen Perspektiven betrachtet wird. Flankierend begleitet wird dieser Schritt durch die Vermittlung entsprechender Wissensinhalte zu Recherche-möglichkeiten und Strategien.

Im dritten Schritt »Essay« fassen die Studierenden in den jeweiligen Kleingruppen die Ergebnisse der Recherche strukturiert zusammen. Das Essay soll am Ende als Handout für die Adressaten der Präsentation dienen, um im Gedanken der Nachhaltigkeit über die reine Präsentation hinaus Informationen zu transferieren. Flankiert wird dieser Schritt durch die Vermittlung entsprechenden Wissens zum Aufbau eines Essays, den Grundlagen wissenschaftlichen Schreibens sowie rhetorischer Elemente und Stilformen.

Im vierten Schritt »Vortrag« werden die Informationen zunächst auf die Kerninhalte reduziert und anschließend gebündelt, um in einer didaktisch anspruchsvollen und gleichzeitig laiengerechten Form zusammengefasst zu werden. Als Alternative zum mündlichen Vortrag kann auch die Anfertigung eines wissenschaftlichen Posters angestrebt werden. Flankiert wird dieser Schritt durch die Vermittlung entsprechenden Wissens hinsichtlich der Struktur wissenschaftlicher Poster und Vorträge, genereller Arten der schriftlichen Informationsvermittlung sowie der sinnerhaltenden Kürzung umfangreicher Informationssammlungen.

Im fünften Schritt »Präsentation« legen die Studierenden einen Präsentationszeitpunkt fest und bewerben diese aktiv in der Bürgerschaft. Zum angegebenen Zeitpunkt findet an einem öffentlich zugänglichen Ort die Präsentation der Poster oder Vorträge statt. Die Studierenden erklären die dargestellten Inhalte und stehen für Rückfragen zur Verfügung. Die Essays stehen als Handout zur Mitnahme bereit. Flankiert wird dieser Schritt durch die Vermittlung entsprechenden Wissens bezüglich einer gelungenen Veranstaltungsorganisation sowie durch das Training spezifischer Vermittlungskompetenzen im Sinne von Gesprächstechniken.

HOW TO TRIGGER COLLABORATIVE LEARNING EXPERIENCES? – INNOVATION CAMPS FOR TEACHING, LEARNING AND KNOWLEDGE TRANSFER.

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ABSTRACT

Academic teaching focuses very often on the delivery of concepts. Seldom we share experiences or experiment in teaching innovation management. This is due to the lack of time, large groups, fixed curricula or limited resources. Rather interactive teaching formats, e.g. multi-faceted camp models (Bager, 2011, 280), summer schools (Jones and Iredale, 2006; Collins and Robertson, 2003) or boot camps (Clarysse et al., 2009) could be a suitable way to incorporate the understanding of concepts, the possibility for experiments and experiences with time for fruitful reflections. Those models have in common that a dense academic program is centred on a specific issue. The teaching staff aims at encouraging students to take action, learn and use skills to analyse and develop results. Consequently, the whole area can be classified as action-based learning (Rasmussen and Sørheim, 2006).

In order to learn more about the usefulness, outcome and limitations of action-learning approaches, two case studies on innovation camps, are implemented and evaluated. According to Bager (2011, 280) three types of camps – conceptual, creativity and innovation camps – exist. In our case, we implemented an innovation camp, which starts with a distinct corporate innovation management issue for which different ideas for solutions will be generated, evaluated and conceptualized.

In the execution of our innovation camps three different stakeholder groups, with different perspectives are involved. While the involved corporate manager as one stakeholder is rather focused on solving the identified innovation challenge, the academic staff, as another stakehold-

er, concentrates on providing a valuable learning experience for its students. The students, as the third stakeholder group, want to experience a practical innovation challenge with close linkages to the involved company and practical issues but also get insights into theoretical innovation management concepts.

Since the excellence in managing an innovation camp seems to be the main success factor for ensuring a positive outcome for the three stakeholder groups, the following research questions is raised: How should an innovation camp be implemented in order to meet the expectations of corporate managers, educators and students?

We implemented the concept of innovation camps as an action-learning approach in teaching innovation management in higher education. Our data consists of two innovation camps held in 2012 and 2013, where a large international retailer has presented innovation challenges to a class of 12–20 students from different disciplines (e.g. management studies, logistics, legal sciences, engineering, informatics, design).

The camp's management took notes and records regarding their observations of the reactions of the participants and the corporate partner and different reactions of the participants were discussed with the team coaches in regular team debriefs. Furthermore, the output is assessed and evaluated by the participants, educators and corporate partner.

Based on the implementation and evaluation of the two cases, we selected key elements of large significance for the success of innovation camps, which we want to share and discuss with academic practitioners but also

with corporate managers. These key elements include (1) the usage of the innovation management process as framework for the camps, (2) the implementation of design thinking elements, (3) the role of creative room concepts, (4) visualization and rapid prototyping, (5) tailored tools and method, (6) the implementation of user groups and (7) the mix of distance and presence learning phases.

Overall, the probability of success in reaching innovative solutions for the corporate challenge, transferring knowledge and providing a positive learning experience through innovation camp is raised.

IT'S NOT JUST ABOUT THE P-VALUE: TAKING RESEARCH LED-TEACHING SERIOUSLY – A PILOT

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Many undergraduate social science programmes contain courses on research methods and increasingly students are asked to submit original research as part of the assessment at the end of the course. However, there are several problems with this: the way methods are taught in courses often present a clean, ideal-type narrative, while actual research is too messy for students to satisfactorily engage within a small assignment at the end of the course if a standard course structure was followed. Taking into account written feedback from students and focus group input, we designed a course in which their research was given prime status.

Funded by the »Lehre hoch N« network and in collaboration with staff from the University of Edinburgh and think tank d|part we designed a course in which students developed and conducted their own research projects beginning in week one of the course. The research, focussing on political and social participation in the local community, was original and informed by their knowledge from previous courses taken. After a whole day intensive theory workshop, students went through a full research cycle as the paramount element of the course, rather than adding the research to the programme in the end. Rather than being taught particular methods, they were mentored by the instructors how to engage with the methods they had chosen in an applied manner. Through regular progress points in which they had to present in front of the other student groups they also had to engage with other methodological approaches and could learn from others' mistakes and best practices.

The effects were astonishing: The depth of methodological discussions went beyond any other methods course we, as instructors, have ever taught. Furthermore,

concepts such as statistical significance, discourse or self-selection bias were not only comprehended, but actually understood and correctly applied following peer and mentor feedback. The strong involvement of the students resulted in research output that has received interest by local politics and media outlets, as their engagement extended beyond the course. Flexible means of mentoring arrangements (for example through the use of video feedback) allowed for continuous forms of engagement between students and instructors without requiring weekly classroom sessions.

In our paper we will reflect on the great opportunities this course structure holds for an engagement with methods learning by students that results in concepts being taken up in a way that the understanding thereof is long lasting. We also reflect on problems with this sort of course, in particular concerns about grading arrangements, group work concerns in flexible settings and scalability. At the same time we make suggestions of how to address such hurdles as the overall evaluation of the course both from staff and students side was very positive.

IMPLEMENTING OASE AS AN ALTERNATIVE CURRICULUM DESIGN TO IMPROVE LEARNING IN HIGHER EDUCATION

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All programmes in higher education aim at enabling students to become independent, critical-thinking professionals. The University of Leuven (KU Leuven) empowers this with a research-based educational approach that corresponds to the Dublin Descriptors. The objectives of this approach stimulate students to acquire academic competences, including thorough knowledge and skills in the discipline, coupled with a critical and research-oriented attitude and a broader interdisciplinary perspective. Within this context, students are responsible for their own learning process, while the didactical teams provide optimal support. However, lecturers and students indicate some discordance between the approach theory and practice, mainly caused by the standard curriculum design at KU Leuven. For instance, the applied semester system, consisting of 13 weeks of classes followed by two or three contact-free weeks and three examination weeks, typically causes students to procrastinate active studying. Moreover, students tend to lose track of the course content after a few weeks, resulting in passive class attendance and didactical guidance that is not used optimally. Deep learning and long-term retention of knowledge and skills are therefore not always reached.

During the last five years, the Faculty of Science at the University of Leuven (KU Leuven) investigated the potential of changing curriculum design to tackle this problem and improve learning. More specifically, the faculty aimed at anticipating students' tendency to postpone active studying and consequential superficial learning. Furthermore, the faculty wanted to avert passive class attendance and a lack of long-term retention of knowledge and skills. After a thorough preparation by integrating existing academic research and own in-field experience, an ultimate curriculum design within the boundary conditions was defined. This

alternative approach, named *Onderwijsorganisatie met Alternatieve Semesterindeling en Evaluatie (OASE)*, was implemented in September 2013 in the first year of the mathematics and physics programmes and entails the following components. First, at a curriculum level, the typical number of different courses programmed a day is decreased to only one, allowing optimal concentration on this course. Additionally, two weeks of the exam study period at the end of each semester are repurposed for teaching and guided studying. Second, at the course level, contact hours are reduced and students are activated to study in the free time to improve study efficiency. Third, during contact hours cognitive load is reduced and interactive-engagement methods are applied to allow students to actively process new knowledge and skills. Fourth, continuous assessment evaluates the extent to which students reach curriculum goals, activates students and provides regular feedback.

Establishing the necessary conditions to implement this alternative curriculum design successfully was and remains challenging. A well balanced change management which integrates a top-down with a bottom-up approach was necessary to proceed towards implementation. This entailed actions at the following levels, ranging from didactical teams over administrative staff to students. The didactical teams were involved from the beginning, allowing a certain flexibility for translating the OASE approach towards the course level. Administrative faculty staff were committed to assure practical feasibility of implementing OASE, and students were consulted regularly in order to keep an active link with the target group. After implementation, careful monitoring of the students' learning process and of the didactical teams' experiences allows fast intervention when problems occur. Additionally, success rate, motivational aspects and retention of knowledge and skills

were measured before implementation, and this monitoring of key performance indicators is continued in the OASE approach. Also, a survey of the general consent by students and didactical teams has been done.

After one year of implementation preliminary results can be presented. However, caution is advisable when drawing conclusions at this stage. Some observations are not new but did only emerge now because of the continuous measurements and tests. Moreover, preliminary results are not sufficiently supported with data to draw definitive conclusions. Furthermore, as it takes time to adjust for all involved stakeholders (change management), it is important to permit this time before drawing any conclusions. Nevertheless, the overall consent of didactical teams and students is positive, while study results and pass rates have not changed significantly compared to previous years.



WORKSHOPS



ENCHANCING INNOVATION IN EDUCATION – THE CASE OF LEANINNO

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ABSTRACT

Although governments in most countries in the western world has emphasized the importance of innovations as a remedy for the challenges economies are faced with, there is little evidence that an increased focus on innovations has increased innovations. For instance SITRA, the Finnish Innovation fund, has noted that although the R&D expenditure has increased 2.5-fold over the past 10 years, the achieved results have not matched the invested money [1]. The critique is also aimed at the universities, since a core idea of western innovation is the triple helix concept, where universities play a key role. However, there seems to be a level of passiveness of academic staff towards technology and knowledge transfer, which the European Commission also noted: »An effort should be made to better convert knowledge into socio-economic benefits. Therefore, public research organizations need to disseminate and to more effectively exploit publicly-funded research results with a view to translating them into new products and services.« [2]. An interesting aspect related to the role of universities in the innovation process is how innovation is organized within the universities. Traditionally, when attempting to improve the innovative performance of universities, the focus has been on researching staff. The interesting question is, therefore, which role students could take in the innovative capability of the university, as well as how students could be integrated in the innovation processes of universities?

Three universities in Turku, Finland, have since 2009 focused on involving students in the innovation capability of universities, a pedagogical concept referred to as LeanInno. When fully developed, LeanInno offers 80 ECTS of innovations studies over a 2-year period. Leaninno has three aims, namely, (i) increasing the innovation competencies of students, (ii) increasing innovation cooperation between industry and university and (iii) promoting active, self-directed learning.

The core concept of LeanInno is close cooperation between universities and companies, combining students from different backgrounds and disciplines, forming multicultural and multidisciplinary teams that work closely with companies on development tasks formulated by the firms. Students and firm representatives innovate and design development processes together. In contrary to traditional courses, teachers in LeanInno act as coaches. The coaches' task is to facilitate the learning and team processes as opposed to directing and transferring knowledge to students. LeanInno is also unique as it depends on team based learning (cf. [3]), whereas most traditional innovation educational programs are based on traditional teaching methods (lectures, exams, assignments) or sometimes project based learning.

LeanInno distances itself from traditional teacher-student knowledge sharing, focusing on active knowledge acquisition as outlined by Nonaka and Takeuchi [4] and their theory on organizational knowledge creation. LeanInno has been strongly inspired by the Lean startup principle [5] and the five disciplines of innovation developed by Stanford Research Institute (SRI) [6]. Central to LeanInno is the realization that universities often focus on factual knowledge tied to a single subject matter. Not only is such knowledge often hard to apply outside the classroom, but students also seldom practice important working life competencies. And since working life is increasingly characterized by fast changes, a dynamic environment and a need for constant development, students need skills and competencies which universities traditionally place little focus on. Furthermore, innovations and especially the innovation process is characterized by a high degree of uncertainty and unpredictability, a lack of information, risk taking, collaboration and a rapidly changing con-

text. The traditional university curriculum and teaching methods seldom provide students with the opportunity to develop skills and competences to deal with the unpredictable innovation process. As a result, there is an increasing criticism that competences and skills of newly graduates do not match the needs of working life [7][8].

The paper addresses innovative ways of designing and facilitating learning processes. The purpose of this paper is to discuss the pedagogical foundations of LeanInno. The leading idea is that students are integrated into expert communities, where they learn by doing and assume the role of self-oriented learners working in teams with different development tasks. We also discuss findings from eight previous innovation courses and offer insights from individual, group and organizational perspectives. We pinpoint the role of the teacher/coach in making this kind of learning happen and discuss how the education/program can be structured and modelled.

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TRANSFORMING MASS COURSES IN BUSINESS SCHOOLS – STUDENTS’ EXPERIENCES OF A PROJECT BASED APPROACH

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In business schools and universities today we see an increasing pursuit of efficiency and students graduating on time, at the same time as resources for teaching are diminishing. This often leads to growing student groups, more mass courses (in this paper defined as courses with more than 100 students) and several new challenges for teachers as well as students. Many teachers we have met who work with large student groups still seem to think that mass lectures are the only option for approaching mass courses. However, research shows us that this kind of traditional, behaviouristic and often passivating approach is not necessarily efficient in supporting the students’ learning or meeting the new challenges (e.g. [1], [2], [3], [4]). Instead, building on a socio constructivist view, we propose moving the focal point also within the context of mass courses from trying to transfer knowledge from teacher to student, to encouraging knowledge sharing and knowledge creation through an active dialogue that involves both students and teachers. Transforming mass courses according to this approach requires teachers to rethink the whole planning and design process of the course as well as the roles of the teacher and the students throughout the course.

At the Åbo Akademi University School of Business and Economics we have experimented with redesigning the introduction course in marketing for several years in line with the proposed socio constructivist and knowledge creation approach. This mass course has gone through major changes moving from a lecture based course to an entirely project based design where the students are put in the centre and are responsible for their own learning. Today, students work together with companies and organizations with real life projects and real clients throughout the entire course. In addition, models and approaches like knowledge creation [5], team based learning [2], and activating learn-

ing methods [4] has also influenced the course design. By encouraging interactions and discussions around not only the projects but also students’ own experiences, previous knowledge and readings we want to offer our students opportunities for deep learning, learning from each other and creating new knowledge together.

In this paper we aim at exploring and comparing students’ experiences of and opinions on the redesigned introduction course in marketing in the spring of 2013 (partially project based; 160 students) and the same course in the spring of 2014 (entirely project based; 120 students). A lot of new ideas, tools, methods and approaches were tested and feedback from the students was collected continuously throughout both courses. The aim of this paper is to gain a better understanding of the students’ experiences of the redesigned courses to identify opportunities as well as challenges for further developing this specific course, but also to gain a better insight into how to approach redesigning mass courses in general within other subjects and contexts.

Student feedback collected at the very end of both courses form the empirical base of this paper. The feedback was collected both in teams and individually and consists of written reflections (team and individual) as well as an electronic course evaluation form. Preliminary findings show that most students appreciate the new approach and find it especially motivating »doing real things, with real people« and working closely together in smaller teams with the other students. However, students are not used to this way of thinking and working and therefore they often seem to question for example the teacher’s role, the lack of «the right» answer or solution, and unclear guidelines and instructions. Quite simply put, they do not get what they are expecting which makes them feel somewhat uncomforta-

ble. Some students quickly adapt to the new approach, but many admit that they do not really understand this way of working and find it hard to tackle the freedom given and taking responsibility for their own learning.

Still, in the end, we believe that giving the students an opportunity to face this uncomfortable situation and dealing with the uncertainty will prepare them better for the future than serving them exactly what they expect and want. How can we help creating the responsible, flexible and creative people who are ready to tackle any new situation, who are highly sought after in the job market [6] if we don't push them outside their own comfort zone from time to time already during their years in university?

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AN EDUCATIONAL ALLIANCE APPROACH FOR FURTHER ACADEMIC EDUCATION CONCEPTS

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1. THE GERMAN PROJECT MINT-ONLINE

Germany has an outstanding role and position in the world markets – especially in the fields of engineering or natural sciences. Within the process of globalization and the shrinkage of simpler production processes and main fields of work in the last decades, the knowledge factor became more and more important. A shortage of professionals especially in the STEM-subjects¹ caused by the demographic change, academization of the world of work or extension of working time endanger the country (see Wolter, 2011, Stock, 2012): One out of a large number of measures by the German Government to counteract the loss of competency and know-how is the BMBF-founded² Project MINT-Online. The aim of this project is to enable four German universities, further research organizations, Fraunhofer Institutes and the Fraunhofer Academy to (re-)develop new and existing extra-occupational courses in the STEM-subjects. Therefore, in a first phase, nine programs will be (re-)created. Four cross-cutting fields have been installed to ensure the support of scientists in the workspace of the program-development in terms of a) educational technology and media didactics, b) quality management and gender mainstreaming, c) accumulation and transfer of credits and d) target group orientation. Seven continuing education and certificate programs will develop and two existing programs will upgrade (see figure 1) in the time period from 2011 until 2015.

¹ The STEM-subjects (science, technology, engineering and mathematics) are the equivalent to the German MINT disciplines (mathematics, computer science, Natural sciences and Technology):

² BMBF is the abbreviation for the Federal Ministry of Education and Research. It is a Ministry of the Federal Republic of Germany. It aims to promote applied research and technological development.

2. THE IMPORTANCE OF EXTRA-OCCUPATIONAL COURSES OF STUDY

Extra-occupational courses of study are quite a new field for most German providers. Therefore a change in the focus of how to enable the creation of knowledge at the participants needs to be done. As a conclusion, the programs (re-)development has to be realized with the following requirements, objectives and frame settings (see figure 2):

The project mainly focuses on part-time study programs with a master's degree level. Particularly for German universities and Higher Education Institutions (HEI) this implies a change since continuing education programs don't have such a long tradition as for example in the U.K. or the USA. The German further educational system is in the need of optimization of the framework, professionalizing of lifelong learning and opening of new markets (Hanft, Knust, 2007), even though first changes are visible within the last few years. One significant barrier in the German system of continuing education is the principle of financing the courses by payment against a fee. In most of the German federal states the whole costs have to be covered by private paid fees (Faulstich, Oswald, 2010): If we sum up the framework conditions of these extra-occupational study programs, we have to confess, that the offer follows the logic of markets and the providers of the programs will have to act in a competitive situation in comparison to other national and international competitors. From this market oriented perspective of offering an academic course of study, the whole way to build up the training concept and to interact with the relevant stakeholders has to be renewed. As a conclusion of this fact, the studying processes are no longer just relationships between universities and

students, but the companies are getting more and more important. In continuing education programs also stakeholders like the employers or the families of the students should be taken into consideration while creating and running the lifelong learning concept. Otherwise the acceptance of the program may suffer. The providing institutions of these courses are increasingly forced to interact in a proactive manner instead of just acting in the traditional way. There is a need to strengthen the demand orientation of extra-occupational programs that can be done on three ways: First by training content, for example practical orientation, second by forms of training, for examples learning infrastructure and collaboration and third by the organization of training, for examples interfaces between training and the everyday working practice (Botthof et al., 2008):

Two central aspects are relevant to be successful on the market of extra-occupational courses of study within the STEM-subjects: The target orientation on the one hand and the quality management on the other hand. Without bearing in mind these two factors, there will scarcely be a chance to stay on the market and to optimize the programs continuously in the sense of a customer orientation. As a consequence, we focus on these two aspects as important tools to manage the changes of programs and to keep the quality level high at the same time.

3. THE IDENTIFICATION, ADDRESSING AND SUPPORT OF THE BROAD TARGET GROUP

Focusing on extra-occupational courses of study, this project addresses especially so called non-traditional students.

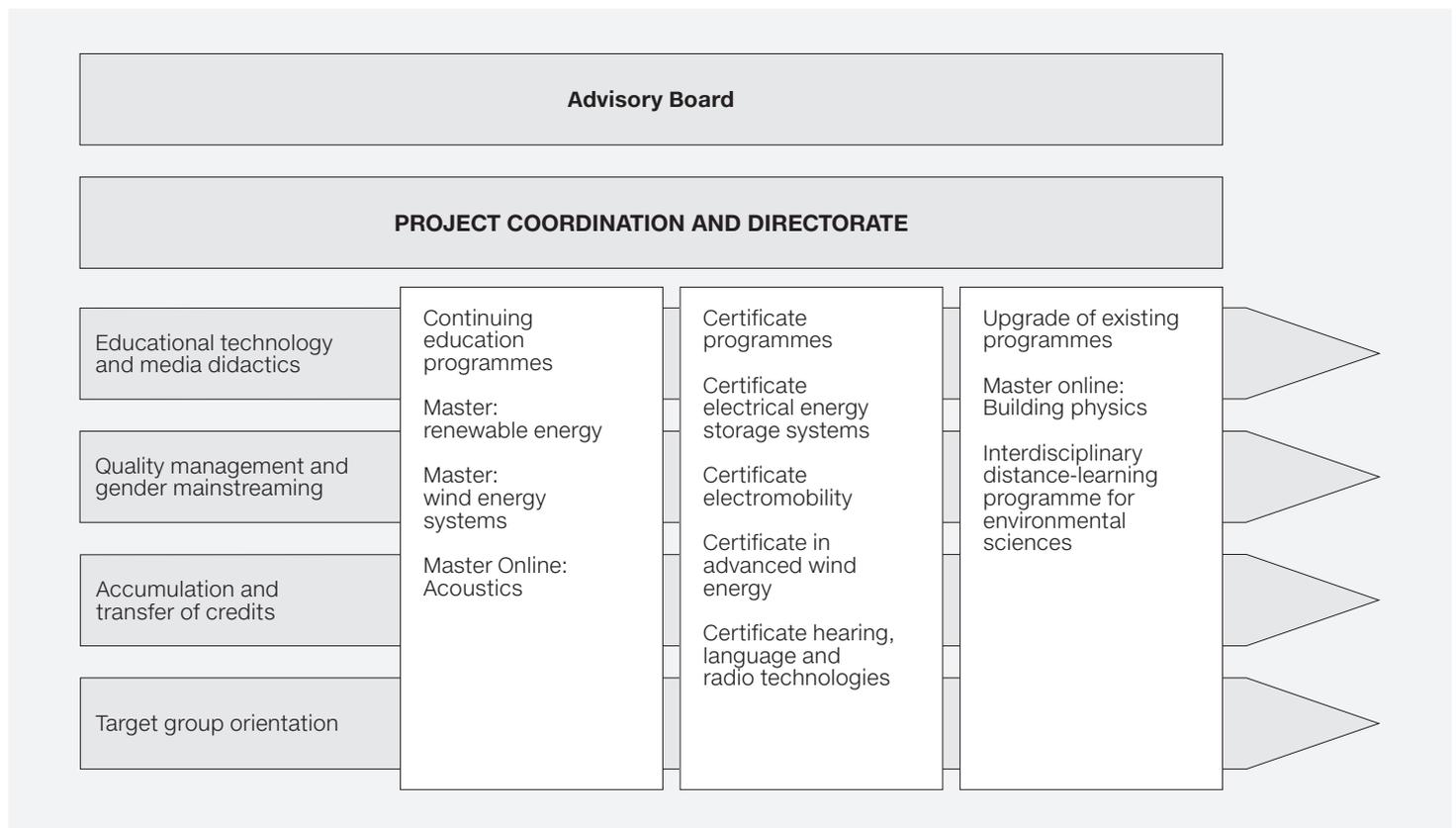


Fig. 1: Project structure (see: www.mintonline.de)

These non-traditional students are defined according to their »access to higher education through the validation of prior learning and work experience – with or without a higher education entrance examination« (HIS Hochschul-Informations-System, 2008): In an international context, many different ways of defining non-traditional students are used (Slowey, Schuetze, 2012), for example taking into account age and gender, general representation in the academic system, educational biographies, access to higher education or the working status of the students (Jürgens, Zinn, 2012): Non-traditional students can be characterized as highly mo-

tivated, self-dependent, solution-oriented (Rau, 1999) and able to deal with challenges individually and self-reliantly. Therefore these students expect exactly these competencies to be met by a high quality and target group orientated educational program (Wolter, 2012): In addition to organizational circumstances such like time- and location-independent learning designs, the didactical standard has to meet the expectations of such a group of non-traditional working students (as mentioned before i.e. through practical orientation in the study materials), In the context of this project we describe non-traditional students as mature students with at least one year of professional job experience and interest in continuing academic education while still working full or part time.

To develop a target group oriented program it is essential to gain an in-depth knowledge of the different target groups: Their biography, social circumstances, professional working background, expectations and needs as well as their communication and information behaviour. The latter indicates another important element of developing continuing education programs for working professionals: The market oriented, professional and precise communication (Hanft, Simmel, 2007):

Therefore in this project we took a more marketing oriented perspective and chose the market segmentation strategy to divide the broad market of continuing education in Germany into subsets of relevant customers and to identify the target groups of different non-traditional students in the field of STEM. We developed a tool which considers three categories of segmentation criteria (Meffert, 2012) (see table 1):

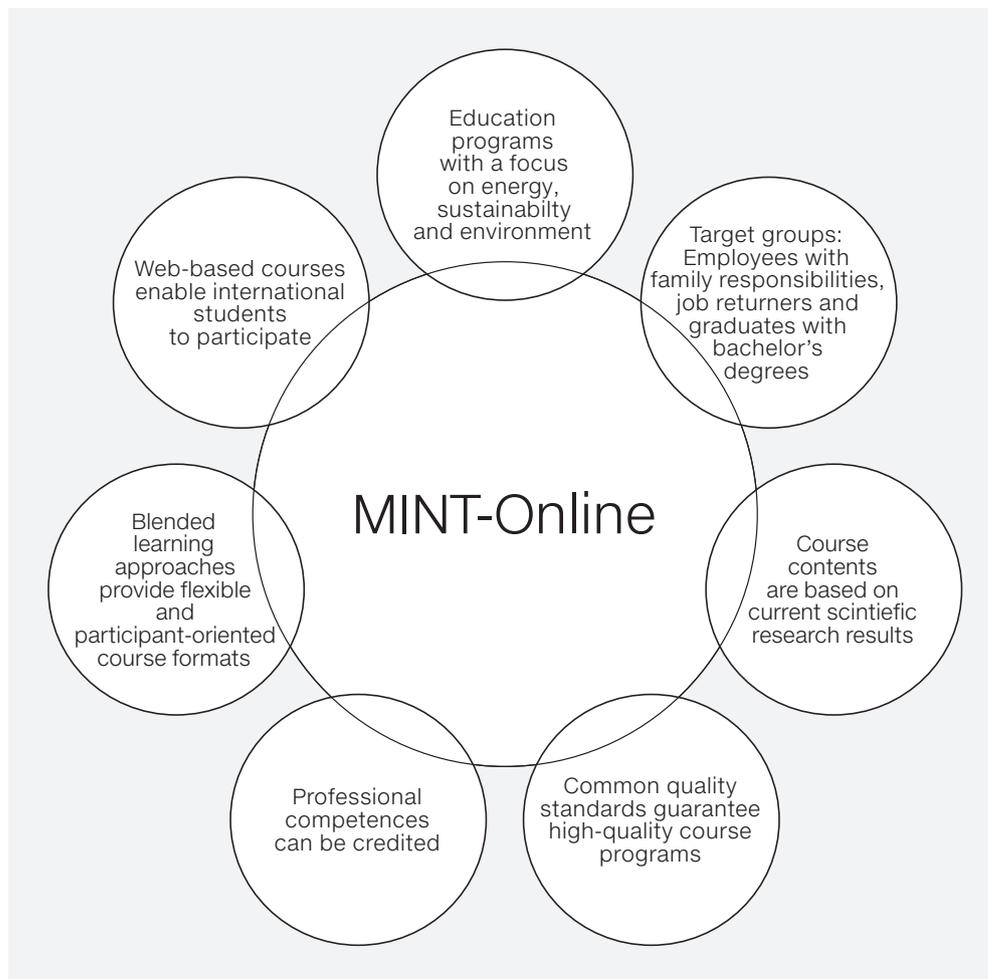


Fig. 2: Requirements, objectives and frame setting in the project MINT-Online (see: www.mintonline.de)

Table 1: Market segmentation for continuing education
(Source: Authors compilation)

Segmentation categories	Sub-criteria
demographic and socioeconomic segmentation criteria	<ul style="list-style-type: none"> › person related attributes: i.e. age, gender, education › company background: i.e. industrial sector, number of employees
psychographic segmentation criteria	<ul style="list-style-type: none"> › personality traits › attitudes › expectations › motivation
behaviour oriented segmentation criteria	<ul style="list-style-type: none"> › information behaviour › communication behaviour › buying patterns

This tool was tested and first evaluated in nine part-time study programs and has been refined ever since to ensure a target group oriented program development and communication. The results of the market segmentation can be used to optimize the curriculum and learning designs, the student support services, management and responsibility structures as well as custom-fit communication with potential students and interested companies and acquisition of new target groups and markets.

4. QUALITY AS A FRAMEWORK FOR AN EDUCATIONAL ALLIANCE

As a result of the changing context for extra-occupational study programs at universities and HEI, an entrepreneurial way of thinking becomes necessary and a quality discussion concerning the study programs is coming more and more into focus. Therefore, it becomes necessary to broaden the established quality assurance systems, to fulfil the expectations of the relevant stakeholders in the process. The cross-cutting field of quality management identified two main areas within the research project, which have an important influence on this specific situation: On the one hand there are measures that can be implemented at the course and programme level. This level focuses on the teaching-learning-process. On the other hand, the im-

Table 2: Relevant framework of the course and program level
(Source: Authors compilation)

Quality standard	Description
Learning outcomes	<ul style="list-style-type: none"> › Formulation of clear objectives › Determination of skills and competencies, which the participants reach in the academic further education
Teaching-learning interaction	<ul style="list-style-type: none"> › Opening a variety of opportunities for the interaction between participants and lectures › Support of active learning
Educational technology	<ul style="list-style-type: none"> › User-friendliness › Offer a variety of communication tools for an active learning process
Course materials	<ul style="list-style-type: none"> › High-quality teaching materials with professional didactic methods and a regular update
Exams and assessment	<ul style="list-style-type: none"> › Regular feedback on the individual learning progress › Development and communication of an assessment-system

provement of quality of academic further education opportunities can be realized on the organizational level. These two levels allowed to break down five quality standards for each level and associated structures, which are presented below.

4.1 QUALITY FRAMEWORK OF THE COURSE AND PROGRAM LEVEL

The learning outcomes are important for the framework because the intended learning objectives are achieved by an extra-occupational training, which must be clearly defined and communicated to the participants by all partners. In addition, these outcomes have to be reflected in the chosen field of the study format in the teaching-learning interaction and in the testing formats. The teaching-learning interaction bases on the fact that adult learners prefer an activating learning style. For example, it can be supported by role plays and group discussions. Furthermore, academic knowledge should be integrated with practical

experience and the exchange with lecturers has to be guaranteed. Online-based study formats promise a high degree of flexibility and allow an independent learning setting concerning time and location. The educational technology implies the use of new educational technologies. That creates the possibility to develop innovative learning formats for example through learning-management-systems (i.e. case studies, simulations, playful test questions or virtual laboratory units): Further, the course material must be suitable for self-directed learning and there should exist a didactic concept for the learning achievement. The material need to have a relation to professional practice and should be state of the art. Exams and assessments assume that the assessment of coursework fulfils various functions. Lecturers receive information regarding the performance level of the participants out of formal assessments (i.e. through tests and exams): In addition, informal tests provide an important feedback to the learning level and students' performance progress. The following table 1 contains relevant fields of the course and program level (see table 2):

4.2 QUALITY FRAMEWORK OF THE ORGANIZATIONAL LEVEL

The management and structure of responsibility focuses on the organization of universities. Therefore it is important (i.e. admission or exam organization) to define clear responsibilities with regards to relevant organizational matters in the academic education. Based on the heterogeneous target group, the concern about the design of admission and transition is a relevant factor. The target group often has diverse and sometimes international and/or non-academic skills and abilities. Due to the recognition of such benefits, there must be a legal certainty and also a transparent and within an adequate turnaround at the university. The heterogeneous target group once again is the reason for a further standard. The aspect of consulting and service is limited in the classic service facilities and offers of an university. The continuing education students are able to use these offers only in a limited maximum, so good advice and support is essential. Furthermore, the requirements for lecturers in continuing study programs are different. The qualification in the fields of technical and social competence, methodological knowledge and skills in the use of educational technology influences the quality of the offer. The system and

Table 3: Relevant framework of the organizational level
(Source: Authors compilation)

Quality standard	Description
Management and responsibility structures	› Embedding further education into meaningful responsibilities and management structures
Design admission and transition	› Review of further education offers in terms of the transfer and crediting of earlier achievements
Consulting and service	› Adaptation of consultancy offers and infrastructure on the needs of the heterogeneous target group
Requirements for lectures	› Professional and methodological training of lectures › Competence of lectures in dealing with non-traditional students › If necessary further qualification
Evaluation and information management	› Regular evaluation of the offers › Reporting the results back to all the involved persons › If necessary: Introduction of improvement measures

rules of evaluation and information management at the university are a very important standard to assure quality. The description, analysis and evaluation of projects, processes and organizational units are performed by evaluation and can be executed by external or internal staff and in formative or summative way to improve the course offerings. The following table 3 contains relevant fields of the course and program level.

4.3 IMPLEMENTATION OF THE QUALITY FRAMEWORK

For the implementation and establishment of a good working quality assurance system the special needs of all partners must be take into consideration. It intends to complete already existing quality assurance instruments at different universities in order to achieve a superior quality range of degree programs and certificate courses. Therefore, a

uniform description of the quality framework, associated challenges and options to influence these challenges are provided. Deduced from this, success criteria to secure an improve quality are given. To simplify the handling of the quality standards in the everyday work of the staff in the further education area, the developed success criteria are complemented by checklists. They can be used for self-assessments or for any external audits.

The main issue in the cross-cutting field quality management in the research project is to come to an agreement with all involved partners in the project in order to have an accepted, successfully tested and evaluated document available in 2015.

To ensure the fulfilment of the stakeholders needs, the researchers interviewed German universities and companies. In total, eight members of universities (e.g. university management and internal quality management) and ten company representatives (e.g. management and human resources management) were questioned via interview in the period from September 2012 to April 2013. The following table 4 shows whether the expectations on quality are

equal, or even if they differ in dependence if the answer was given by an university or a company.

As a third pillar of the research work on the quality standards, a student survey is on the way and first results will be available in November 2014.

These surveys in combination with different expert reports will help to complete the quality-assurance tool in the context of MINT-Online.

5. CONCLUSION

Organizational trends and reforms in higher education are such relevant for the relatively young field of further academic education. Especially the fields of marketing, acquisition of new target groups and quality management are relevant factors as impetus for changes in higher education institutions. As an innovative model it could be a way to develop an educational alliance, in which several partners bundle their different competencies. An important objective is to open new profit potential and exploit potential synergies. Such an educational alliance indicates common offers that are being developed by individual federated organizations.

Table 4: Results of the survey with universities and companies on the ten quality standards (Source: Authors compilation)

Quality standard	Universities	Companies
Learning outcomes	Consistency of the teaching concept	Reference to the workspace
Teaching-learning interaction	Excellent scientific teaching process	Networked teaching and learning structure
Educational technology	Interface to students	Mix of the transfer tools
Course material	Topicality and quality of the materials	Topicality and interdisciplinary
Exams and assessment	Flexibility and suitability	Management and responsibility structures
Relevance and professionalization	Relevance and marketability	
Design admission and transition	Linkage to the professional practice	Transparency and simplification
Consulting and service	Professional consulting and services	Transparency and simplification
Requirements for lecturers	Economically oriented teaching staff with expertise with »life-long learners«	
Evaluation and information management	Continuous improvement of the offer	To satisfy demand

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7. ONLINE SOURCES

<http://www.mintonline.de>

<http://www.esrea.org>

<http://www.eua.eu>

<http://www.bmbf.de/en/>

TRAINING FOR STUDENT TUTORS – A NEW APPROACH TO ATTEND TO AN ALMOST FORGOTTEN GROUP IN HIGHER EDUCATION

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Innovative teaching and learning approaches are nowadays an important asset to every university, therefore the implementation of new methods in Higher Education is in full swing in many academic institutions throughout Germany. Accordingly, many universities offer teaching-courses for their academic staff in order to provide them with basic knowledge about learning processes and to improve their teaching techniques. Student tutors, on the other hand, also contribute to the daily interactions with students, yet their role has often been neglected in the past. However, in the last years there is an increased awareness of the essential role of student tutors among academic institutions, so that numerous programs emerged which support and teach didactic knowledge to student tutors. At the University of Hamburg, the first attempts to train student tutors date back to the 1970s, but it took, however, until 2011 before the »Hamburger Tutorienprogramm« (Hamburg Student Tutor Program) was established as part of the university's effort to a more effective support of students. This program aims at qualifying student tutors for their task to assist students with their studies and to prepare them for their exams. With a current total of 41 000 students, the University of Hamburg is the biggest research and education institution in Northern Germany and one of the most extensive universities in Germany and so it is rather a challenge to build a program that meets the needs of all student tutors.

The training of student tutors reveals a lot about the reality in Higher Education institutions: lecturers provide their students with loads of content to study whereas the tutors have to deal with the problem of active vs. passive learning, the familiarization of freshman students with the academic world and other emerging problems which arise

from the transition between school and university. It seems as though the infamous »shift from teaching to learning« has to be performed mainly by student tutors with their role between lectures and students.

As the project coordinator of the Hamburg Student Tutor Program, I would like to present the main challenges, questions and aims in the field of student tutoring which has led to our current program structure. This may also relate to a lot of similar problems in Higher Education in general, however our focus on student tutors could provide some insights that arise from their specific function as students and teachers. For instance, the question of how to activate students and to create a learning group instead of a classroom atmosphere plays a crucial role in our workshops, because naturally student tutors are not supposed to be all-knowing experts. Beyond that, this question is also quite relevant for the old ideal of universities as research and learning communities.

I would like to give a speech (max. 10–15 minutes) on my past experience on the student tutor program at the University of Hamburg, ideally with sufficient time for a concluding discussion. Alternatively, I may present a poster on our issues and program structure.

A PROFESSIONAL DEVELOPMENT PROGRAM TARGETING CONCEPTUAL CHANGE IN HIGHER EDUCATION

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ABSTRACT FOR A WORKSHOP OR PRESENTATION WITH INCORPORATED ACTIVITIES

A growing number of disciplines have been turning their attention to studying how students learn a scientific discipline – and how they don't. Over the past decades basically all branches of Discipline-Based Education Research (DBER) have established that learning subject matter is likely to require conceptual change: Students bring certain preconceptions with them into the learning process which are typically at odds with the scientific concepts taught. Traditional teaching has been shown to contribute hardly to the conceptual change from preconceptions to scientific concepts while DBER informed research based teaching is far more successful there.

While these findings relate to the teaching of students we see a strong need to frame professional development of instructors by conceptual change as well. We will present a development program for instructors at university level which targets conceptual change at least twofold: It intends to raise instructors' awareness about their students' conceptual difficulties with subject matter and to train them to cope with such issues in their teaching. It also intends to foster conceptual change in instructors' teaching from typically content and teacher centred to student centred teaching. We believe that students' conceptual change with respect to subject matter and instructors' conceptual change with respect to teaching do not differ conceptually. Hence, we model the development program for instructors by research based instructional strategies (RBIS) developed within DBER to achieve students' conceptual change. What has proven to be successful in university teaching at least seems plausible to be helpful for instructors' professional development as well. At the same

time this provides participating instructors with models for and concrete experience about RBIS.

The program design strongly builds on findings of the conceptual change literature and in particular makes use of the elicit-confront-resolve strategy (McDermott, 1991): Elicit participants beliefs and understandings about teaching, conflict them at least partially with data and observations, and support the group of participants in resolving this conflict in order to facilitate conceptual change. Elicit-confront-resolve has shown to be helpful to overcome students' conceptual difficulties and lies at the core of many RBISes such as clicker based peer instruction.

In this way we connect participants' beliefs about teaching and learning with evidence based teaching approaches and good practice. »Homework assignments« between meetings encourage participants to apply and test RBISes in their own teaching and link the theoretical themes (e.g. conceptual difficulties within the disciplines, constructive alignment, formative feedback processes) to their personal experiences.

The program stretches over at least one semester with participants meeting regularly every fortnight and has been run five times by now. Besides fostering conceptual change the meetings are intended to create a community of practice among participants and to provide a space to talk about teaching. In addition participations are offered individual coaching including classroom observations.

In order to exemplify the program the presentation will include some hands-on activities taken from the program.

KNOWLEDGE CONSTRUCTION AND MUSIC THERAPY: CULTURAL INFLUENCES ON THE IDENTITY OF A PROFESSION

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The profession of music therapy has existed in industrialized Western countries since the middle of the 20th century, and cross-culturally, one can say that music therapy involves a triadic relationship among three partners: the music, the client, and the therapist. However, depending on multiple contexts, music therapists work very differently within this triad. In the summer of 2014, a group of students from the US and Canada travelled to Germany to learn about music therapy, and to compare music therapy in North America and Germany. In this presentation, I will discuss the themes that emerged from their learning, and how interviews, group discussions, concept mapping, and clinical observations helped students construct a deeper, more nuanced understanding of music therapy and its cultural contexts.

MULTICULTURAL EDUCATION IN HIGHER EDUCATION INSTITUTIONS

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According to Gorski (2010) multicultural education acknowledges that educational institutions are essential to laying the foundation for the transformation of society and the elimination of injustice. The underlying goal of multicultural education is to affect social change. The pathway toward this goal incorporates three strands of transformation: the transformation of self, the transformation of educational institutions and learning, the transformation of society. Transformation of educational institutions and learning is characterised by five criteria: student-centered pedagogy, multicultural curriculum, supportive learning climate, continuing evaluation and assessment, inclusive educational media and materials.

Based on international (Intensive programmes) and national (incorporating multicultural education in mainstream higher education study programmes) examples, presentation discusses how multicultural education could influence learning and professional development of students, benefit to higher education study programmes and bring positive changes in society.

Foreign researchers pay a big attention to the field of multicultural education and often operationalize it through multicultural competences: Jensen (2003), Tied and Tied (2005), Cooper (2007), more recent Neuliep (2009), Minkou (2011), Liu (2011) could be mentioned. Multicultural competences are investigated for example by Healy (2001), Midgley (2001), Stier (2004), Lyons (2006), Tripody et Tripody (2007), Hugman (2010), Palmu (2010), Seden et al. (2011) and others.

In Lithuanian context some works on multicultural competences are done: Pruskus (2004), Baršauskienė, Janusevičiūtė-Ivaškevičienė (2007), Jančaitytė (2009), Paurienė (2010), Virgalaitė-Mečkauskaitė (2011).

At this point should be noted, that next to the most popular »international« (older one) and »multicultural«

(more recent one) terms, there are more different concepts which are used in the papers: cross-national, cross-cultural, intercultural, global, etc., but as Healy (2001), Bryan (2010) explained, all these words have similar conceptual meaning. In this presentation the term multicultural will be used as it encompasses emphasis not only at the activities out of origin but also in the origin countries (based on Bryan, 2010).

The notion of multicultural competences is differently described in various publications. One of the models defines that multicultural competences are composed from knowledge, attitudes, skills of interpretation and connection/relation, skills of interaction and discovery, cultural consciousness and sensitivity (Virgalaitė-Mečkauskaitė, 2008; Healy, 2001). Stier (2004) describes multicultural competences as interactional and cognitive and relates them with general competences.

Research data of national survey shows that students have assessed critically their ability to communicate with representatives of others' cultures, mainly because of lack of knowledge about others cultures and skills of foreign language. More than half of respondents can freely communicate in one of the foreign language but they don't think that one foreign language is enough. Data shows that students have multicultural experience during their studies: they often communicate with representatives of others' cultures mainly at university and during field placement. However, data shows that students acquired their multicultural competences at university more often during general education courses than in profession discipline courses; and all of them agree that curriculum has to be updated in one or another way adding multicultural education (Uselyte, 2012). Research data shows that transformation of learning is happening but there are many things to do in order to develop multicultural education at university level.

Research data of students who participated in Intensive programmes shows that this experiences has provided opportunity for students to gain comparative interdisciplinary intercultural approach toward topic under study; to gain knowledge about other cultures and to become more tolerant to them; to participate in student-centred international learning environment and all this had an influence on personal and professional growth (Pivoriene, 2010). The data reveals that experience of multicultural education is connected not only with transformation of learning (what was the main object of the research) but also with transformation of self and even with transformation of society (according to Gorski classification, 2010). Respondents emphasised that the main benefit is that acquired multicultural competences were recognized and included in their curriculum (mainly as substitute of elective courses). This makes higher possibility to move in European labour market and work more efficiently with vulnerable groups all across Europe thus building the social capital of European community. As Gorski (2010) says, multicultural education uses the transformation of self and education as a metaphor and point of departure for the transformation of society.

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MATHEMATICS ON DEMAND: ENHANCING ENGINEERING COURSES WITH SITUATED MATHEMATICS TEACHING

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ABSTRACT

Engineering courses during the first semesters of bachelor's programs are usually attended by students with heterogeneous mathematical backgrounds. Referring to this, students frequently lack certain mathematical knowledge required to work on particular specialist subjects [Alpers et al., 2013]. A representative example is the course Fundamentals of Electrical Engineering being held at the University of Paderborn: Among other subjects, this course imparts the description of electromagnetic fields requiring students to cope with multiple integrals and vector calculus in relation to various coordinate systems. Corresponding subjects often times exceed school mathematics and are regularly covered only later in mathematics courses. A similar challenge appears in connection with courses at international master's programs, for example the course Robotics also being held at the University of Paderborn. In this case, students are required to cope with in-depth knowledge from linear algebra and quaternions for describing kinematics and dynamics of manipulator arms and mobile robots in 3D Euclidean space. The international composition of the students again leads to heterogeneous mathematical backgrounds and deficiencies in these areas.

Addressing above mentioned challenges, the authors developed an integrated blended learning approach for surveying specific mathematical expertise within engineering courses. The developed approach avoids restructuring the syllabus and does not emerge as an extracurricular (and therefore possibly unattractive) intervention. The key component of the developed approach is a web-based learning platform in the form of a wiki.¹ The wiki contains articles covering selected mathematical key subjects [see e.g. Hennig and Mertsching, 2012].

¹ Note that the wiki was used to provide contents created by academic staff and that students were not asked to develop contents by themselves.

Within the articles, the mathematical subjects are explained occasionally with respect to the technical contents of the course (e.g. the description of the magnetic field of a current-carrying conductor or the movement of a manipulator arm). In this connection, a range of interactive 3D visualizations and descriptive graphics [see e.g. Hennig et al., 2013] are employed for clarifying complex mathematical contents in comparably short periods of time. On the one hand, the wiki is systematically called within lectures and exercises in order to conduct short mathematical digressions and to motivate students for own usage of the platform. Therefore, on the other hand, the wiki is intended to be used by the students outside the face-to-face course in the interest of closing individual mathematical knowledge gaps. By this means, the approach explicitly accounts for the diverse mathematical backgrounds of the student groups. In this contribution, above mentioned and related interventions as well as corresponding future developments are presented and discussed.

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STUDY ON UNIVERSITY DIDACTIC: COMPETENCE ORIENTED MODIFICATION OF »ENTREPRENEURSHIP«

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Seldomly study programs, but especially specific courses, are well based on the fundamental ideas of the Constructive Alignment, »(...) a principle used for devising teaching and learning activities as well as assessment tasks, that directly address the learning outcomes intended in a way not typically achieved in traditional lectures, tutorial classes and examinations« (Biggs, Tang, 2011) or focused on the predefined Learning-Outcomes (expertise and skills). Yet, in an environment, which turns more complex every day, it is not only utterly important to be able to recall acquired and stored knowledge at any time, but also to be able to operate with expertise and skills in specific cases of real life. This particular application of expertise and skills is only possible when the Learning-Outcomes are defined beyond the knowledge itself, i.e. simple knowledge repetition and the adequate methods of instruction have been chosen to impart certain skills. In order to be able to promote these skills in students, it is of utter importance, to focus the core of any course on the expertise and skills to be acquired and to adapt the learning process with its contents to these goals. (cp. Rózsa, 2012, p. 13 et sqq.)

The purpose of this article is to reinvent the organizational structure as well as the procedure of the master course »Entrepreneurship«; to implement it and, subsequently, to evaluate the Change-Process of the course, in order to review if the set goals have been achieved.

One of the major problems is the heterogeneity of the target audience (the students), who attend the courses with very diverse levels of prior knowledge, expertise and skills, due to various tertiary education systems they have attended before. In order to cope with this heterogeneity, a quick scan of the expertise and skills of all students was carried out right at the beginning of the course. By this, knowledge gaps could be identified and the focus of the

methods of instruction could be defined according to certain corresponding topics.

In the planning process of any course, all three components: Learning-Outcomes, methods of evaluation and methods of instruction have to be balanced. (cp. Rózsa, 2012, p.21 et seq.)

In the first step, the Learning-Outcomes (1st) have to be defined exactly – as the essential basis for the conception of the course. For this it is important to consider the expertise and skills according to Pfäffli (2005), which are categorized in four areas. (cp. Pfäffli, 2005, p.65) The defined expertise and skills are designed based on the learning target taxonomy according to Bloom. (cp. Bloom, 1972) This procedure facilitates and assists the learning process for the students and increases the Learning-Outcomes of the course. The quality and applicability of the Learning-Outcomes are subsequently reviewed on the basis of test questions according to Reis (2008) (cp. Reis 2008, p. 45–57).

Subsequently, a method of evaluation (2nd) has to be selected, which helps to review both, the Learning-Outcome as well as the to-be-acquired expertise and skills. It is important that the evaluation method indeed allows the Learning-Outcome to be reviewed. (cp. Rózsa, 2012, p.21) In this step, it is very important to challenge and analyze which methods of evaluation facilitate to systematically display and review the expertise and skills. At the same time, these methods should also enable giving feedback to the students about their performance level.

After having defined the target Learning-Outcomes as well as the methods of evaluation, (3rd) the methods of instruction, which provide the best preparation for the post course evaluation, have to be selected. The method of instruction should not only allow students to be active-

ly involved in the course, but also offer a certain range of tolerance for modifications to the specific technical topics. These active methods of instruction are based on several studies on modern learning research, which highlight that learning is more effective and mostly achieved with enduring Learning-Outcomes, whenever the learning setting is cooperative and allows self-directed learning. (cp. Strittmatter-Haubold, Ehlail, 2012, p.9) By this fundamental orientation, the old concept of students being mere passive listening entities is left behind. Rather than passively, students are actively involved in the instructing and learning process.

The main objective herein is to integrate the students into an instructing-learning-architecture in which they can define and shape the learning process independently and cooperatively in a team. (ibid.)

At the end of the course, another scan of the expertise and skills was carried out. The same questionnaire was used with which the students had evaluated their expertise and skills at the beginning of the course. This was very

important in order to be able to compare the results with each other and identify the changes, as shown on the following graph (see figure 1).

The light gray expertise and skills profile shows the results of the first review at the beginning of the course. The dark gray expertise and skills profile shows the results of the second review, carried out after the course had been concluded.

Apart from the reviews of the expertise and skills, another (general) evaluation of the University of Applied Sciences was conducted, as well as an evaluation of the respective instructor. Both evaluations were analyzed after the conclusion of the course and the observed results and findings were documented, so that they can be considered and incorporated into the planning of subsequent courses.

Such a reflection process of every individual course after its conclusion does not only enable the instructor to verify and strengthen his convictions and actions while instructing. It also allows him to identify possible discrepancies between the set goals and the achieved goals. Only by

means of defining the causes for discrepancies is it possible to develop strategies, which can contribute to the quality assurance and improvement of their own instructing methods. (cp. Urban, Al-Kabbani, Schaper, 2012, p.119) A sustainable positive development of the courses and instruction methods can only be achieved through a continuous gathering and reviewing of the quality attributes and goals.

KEYWORDS

University didactics, change process, Constructive Alignment, maximization of the learning outcome, competence oriented, modification, integration of students.

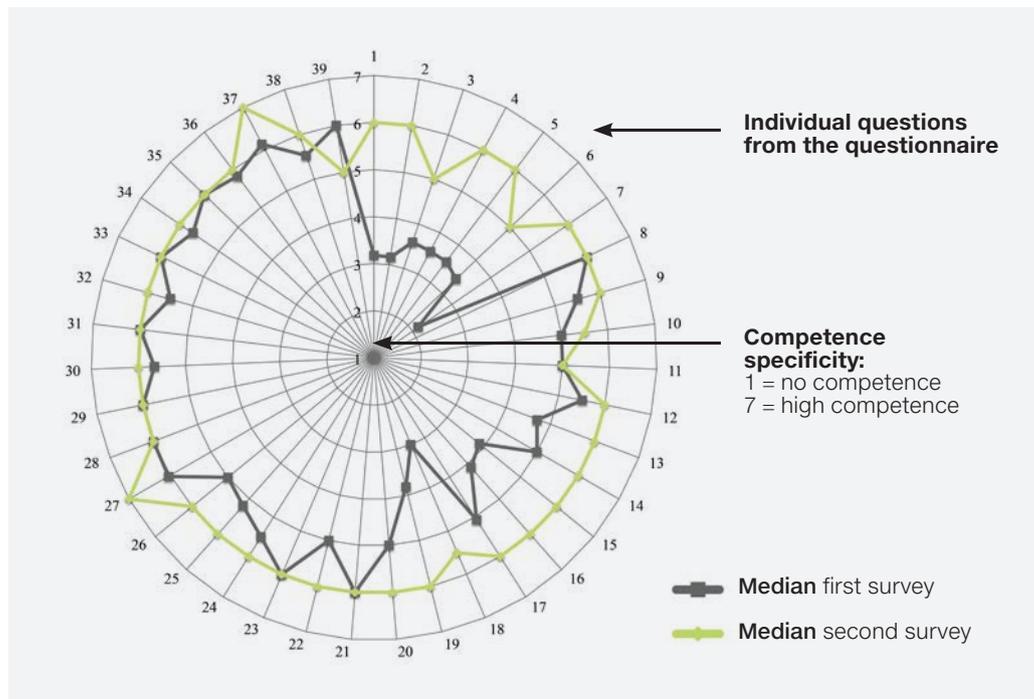


Fig. 1: Results of the inquiry on competence

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HOW TO TRANSFORM A STUDY PROGRAM TOWARDS COMPETENCE ORIENTATION – PRACTICAL TIPS FOR THE CHANGE PROCESS BY THE EXAMPLE OF LEGAL STUDY PROGRAMS

Carolin Sutter, Marcel Crisand

SRH University Heidelberg

Since the Bologna reform, the education policy discussion in Germany has intensely addressed the issue of contemporary teaching and learning. Graduates' competencies are in the foreground, which should be imparted by suitable and innovative teaching and learning methods, and supported by appropriate test forms.

How is this abundance of requirements to be managed and transferred to a concept for a law degree program without overloading it with even more detailed knowledge?

Starting from the principle of constructive alignment, the Department of Social and Legal Sciences at the SRH University Heidelberg adopted the outlined requirements and implemented law degree programs in a competency model which is oriented on the students' and graduates' achievable learning outcomes on both the degree program level and the module level.

The competencies from module to module, but also primarily from academic year to academic year increase continuously and systematically. In the bachelor's degree program, the students should be identifiable on a new competency level after each completed year (fundamental level, consolidation level and bachelor level). The same applies to the master's degree program that is built upon a successfully completed bachelor's degree program and differentiates between the specializing consolidation level and the master's level. Based on the Learning Outcome, appropriate testing as well as teaching and learning forms are stipulated on the module level.

In the end, our change process towards competence orientation targeted three levels:

Level 1: »System«-level of the Department of Social and Legal Sciences

- › On this level we worked on changing culture, structure and processes towards the new, competence oriented degree program and modules.
- › Especially cultural challenges of the new system in comparison to the former, classic teaching approach had to be mastered resp. normative management issues on the level of faculty members and process issues on the organizational level. Both had to be solved, new approaches had to be found and implemented.

Level 2: »Competence«-level of faculty members and staff

- › Competence oriented teaching and learning, which we call the »CORE«-principle requires a plenty of new competences, be it on the teaching level for professors and lecturers or on the organizational level for staff members.
- › The required competences had to be identified, agreed upon and trained on both teaching and organizational level. Especially unpredictable changes, high student's support expectations and a resulting high level of required flexibility set challenges on the competence level, which were demanding to meet.

Level 3: »Attitude and Motivation«-level of students

- › The new teaching and learning system requires not only significant changes on the teaching and organizational level, but also on student's level regarding attitude towards learning style and effort and motivation towards more self-directed and -prepared learning.

- › Especially the classical passive, consumption oriented learning style which concentrates on »knowledge« and recitation of learning matter is obsolete and generates failure in the new system. Therefore we also had to promote a change process on the student's level to ensure a successful implementation of the new, competence oriented teaching and learning system »CORE«.

Topics of the workshop

After a short introduction to the legal study programs and how they were transformed towards competence orientation, we will give you an overview of the change process as described above (change process on level 1–3). You have the option to bring your own examples and issues, which we would like to discuss with you in the light of our experiences and to develop jointly possible approaches to solve your issues and answer your questions.

ON THE INTERDEPENDENCY OF DIDACTIS AND SPACE

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ABSTRACT

For some time, a broad discourse on innovative teaching can be noticed in higher education. One central approach is the shift from an *ex cathedra* teaching style towards manifold teaching and learning methods to better meet students' expectations and learning success.

Understandably, the disciplines involved are mainly pedagogical psychology, pedagogy and didactics. However, teaching and learning are activities that pretty much depend on architectural space; especially when a wide range of teaching methods should be realized within a single classroom. Consequently, didactics and space are highly interdependent – more than they have been in the pre-Bologna-era.

In this presentation, the two and most relevant issues of interdependency – didactics and space – will be focused from a general point of view: Firstly, from a perspective of architectural and spatial theory; and secondly, from an empiric perspective on the basis of a current survey with students and faculty members at SRH University Heidelberg. The aim of the following workshop is to scrutinize, reflect and comment on the results presented and to deepen the topic with experience of the workshop's participants.

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ORGANIZATIONAL INFORMATION



SRH CAMPUS

Venue

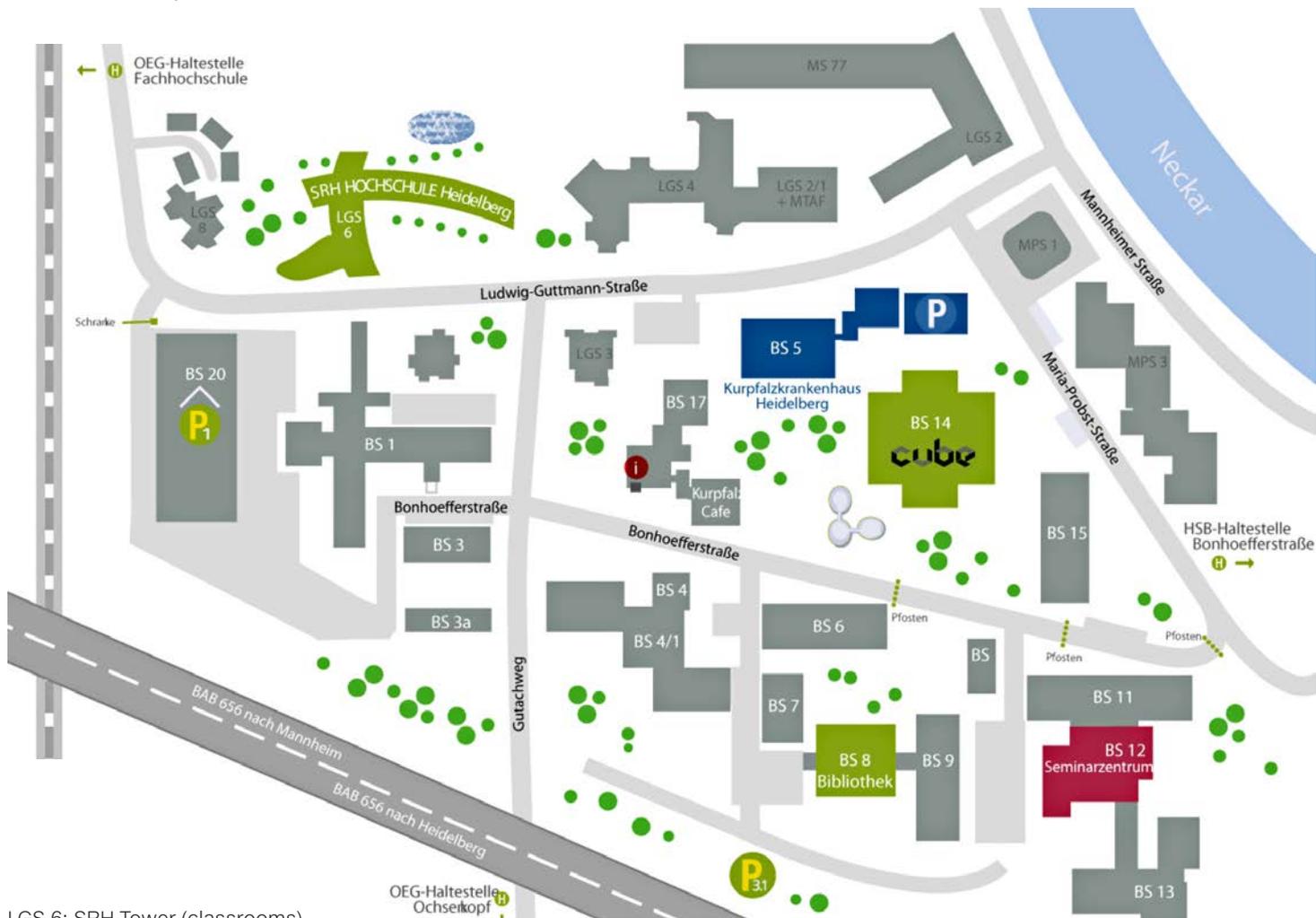
All presentations and workshops will take place in the University's Science Tower (Ludwig-Guttman-Straße/LGS 6).

Wi-Fi

You will have the possibility to use the Wi-Fi eduroam. Just log in with your usual data.

Guest house

The SRH guest house is located in Bonhoefferstraße/BS 12 (»Seminarzentrum«). On both days lunch is provided by restaurant »cube« in BS 14.



LGS 6: SRH Tower (classrooms)

BS 11: School of Engineering

BS 14: Cube (meals and cafeteria)

BS 17: Laundry room and service point (meals/copy cards etc.)

MPS 3: School of Applied Psychology, School of Therapy Sciences

ARRIVAL

How to find us:

Arrival by car

From Frankfurt/Karlsruhe:

Exit Autobahn 5 at interchange 37-Kreuz Heidelberg and follow Autobahn 656 in the direction of Heidelberg. Turn left to the Vangerowstraße which changes to Mannheimer Straße. After 1200m, turn left to the Ludwig-Guttmann-Straße to arrive at the SRH campus.

From Karlsruhe:

Exit Autobahn 6 at interchange 31-Kreuz Walldorf and follow Autobahn 5 in the direction of Heidelberg. After 15 km, change to Autobahn 656 (see above).

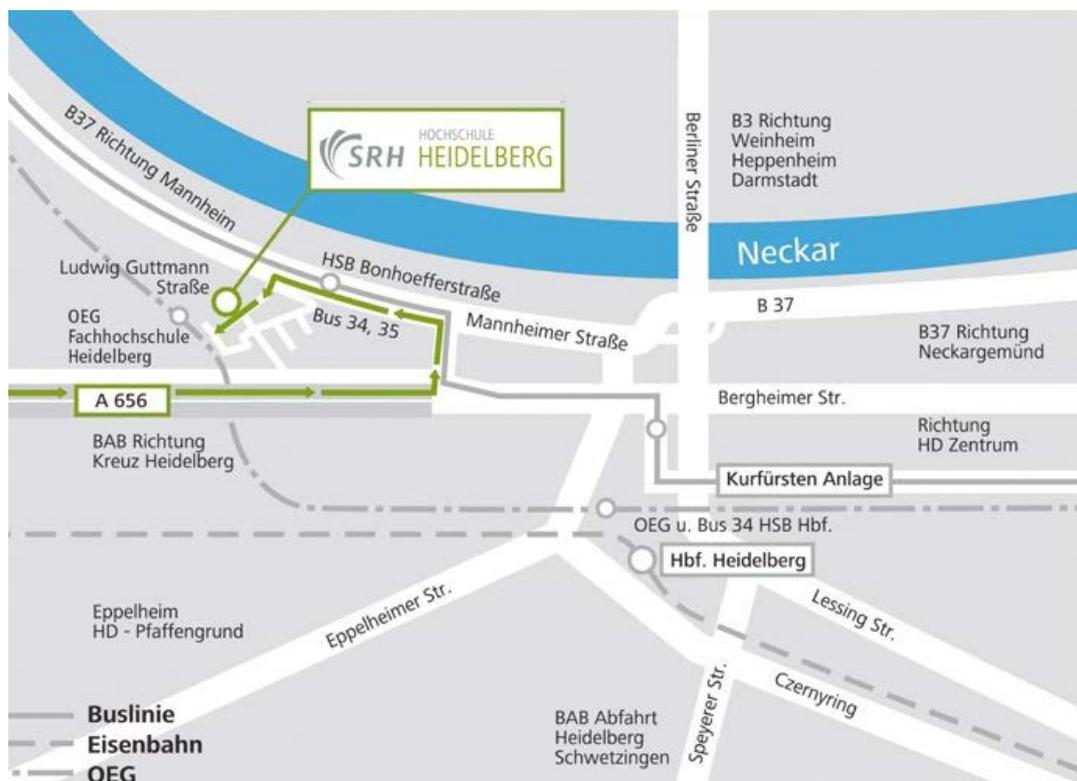
Arrival by public transport

After you have reached Heidelberg main station, use tram route 5 (in the direction of Mannheim) and exit at station Heidelberg Fachhochschule which is located next to the SRH campus. Or take the bus line 34 (in the direction of Steinhofweg, Heidelberg-Pfaffengrund) and get off at Bonhoefferstraße. Cross the street to arrive at the campus.

Visit the website of the local transport association VRN to find your connections: <http://www.vrn.de>

Frankfurt airport shuttle

The transcontinental group offers a direct connection between Frankfurt International Airport and Heidelberg.



PARKING

If you arrive by car, please use car park P1 (see SRH Campus map). Ask for a free exit ticket at the info desk.

TAXI

Call the »Taxizentrale Heidelberg« +49 (6221) 30 20 30 to get a taxi.

ELEVATORS

There are four elevators in the Science Tower transporting you to most of the event rooms. Choose the right level by controlling the display which you find on any floor of the Tower. The elevator (A, B, C or D) that picks you up will show up on the display. Example: Room 62 is on level 6, room 112 on level 11.

CONFERENCE ORGANIZATION

If you have any questions concerning the conference, do not hesitate to contact our organizing team:

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NETWORKING – CONTACT PERSONS

Please refer to our university management or to the responsible persons in our schools anytime. We are looking forward to get in touch with you!

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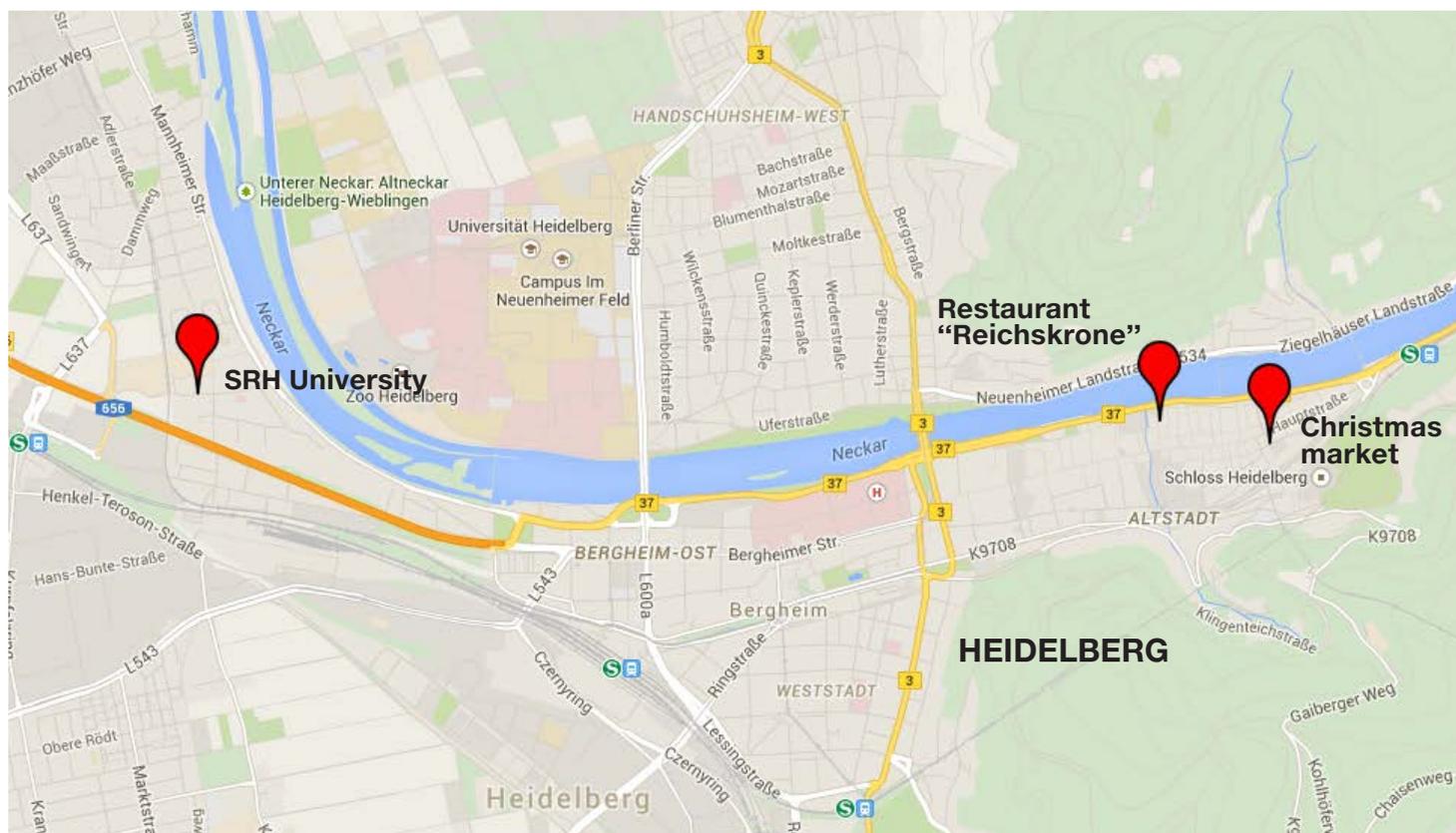
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EVENING EVENT

After the official part, a shuttle bus will transport you to the Heidelberg Old Town on Thursday. Departure is going to be at 6pm in front of the Science Tower (Ludwig-Guttman-Straße 6). In the Old Town, the beautiful Christmas market (on the Karlsplatz) is waiting for being entered. You will receive vouchers to enjoy a Glühwein or any other drink of your choice. In case that you have registered for dinner, we are going to move over to restaurant »Reichskrone« (located at Dreikönigstraße 1) afterwards, where a delicious dinner will be served.



DISCOVER HEIDELBERG

CITY OF ROMANTICISM

As the epitome of German Romanticism, Heidelberg comes high on the wish-list of many city tourists. »The city with its location and the whole surrounding area has something ideal about it«, wrote Johann Wolfgang von Goethe over 200 years ago in his diary. The Romantic poets such as Joseph von Eichendorff, Clemens Brentano and Achim von Arnim also fell under the spell of the city, as did the author Mark Twain, the composer Robert Schumann and the painter William Turner.

And justly so, since the city offers a cornucopia of different sights to see, all within a compact area. The majestic Heidelberg Castle perched high above the Old Town is literally the crowning tourist glory of Heidelberg.

Another famous spot is the Philosophers' Walk – where scholars once strolled in their stiff frock-coats to relax their thoughts with a walk. Exotic plants flourish here on this tiny climate island: Japanese plum and American cypress, Spanish broom and Portuguese cherry, lemons and pomegranates, bamboo, palms, pines. The outlook is unique – the Philosophers' Walk reveals a true picture-postcard view of the city, the river, the Castle and the Old Bridge – another petrified relic of the old residence city.



CHRISTMAS MARKET

The scent of roasted almonds, cinnamon, and hot chestnuts wafts through the winding alleys of the old city center. In front of the romantic backdrop of the castle, couples trace circles hand-in-hand on ice skates, and the festively decorated stalls are filled with the hubbub of many languages. Soon it will be Christmas in Heidelberg once again and from November 24 to December 22, 2014 the old town in Heidelberg will shine with soft gleam of Christmas. The path through the festively lit pedestrian zone leads to many places in the old city – at more than 140 stalls, handicrafts and Christmas delicacies are offered for sale. The Heidelberg skating rink »Christmas on Ice«, located in the Karlsplatz at the foot of the Heidelberg Castle, is one of the most beautiful skating rinks in all of Germany – from November 24 to January 18, many pirouettes will be turned here. A magical winter forest beckons from the Kornmarkt. The centerpiece of the old town markets is the Universitätsplatz. Silk paintings, hand-blown glass object, candle houses, and gifts from around the world can be found here. And visitors large and small will delight in the nostalgic horse carousel.

Whether by foot up the castle stairs or with the cable car, head up to the Heidelberg Castle Christmas – from December 4 to December 16, festively decorated pagoda tents will feature regional artists offering their handicrafts made of felt, wool, glass, wood, ceramic and leather. Many visitors can find the last gift to put under the tree right here. Visitors have a wonderful view of Heidelberg from the Stückgarten. In the historic castle chapel, Christmas music rings out and sets the mood for the upcoming holidays.



IMPRESSUM

ABSTRACTS – PRESENTATIONS, POSTERS AND WORKSHOPS

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