Work Integrated Learning - a Marriage Between Academia and Working Life

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Abstract

There is a demand for increased cooperation between higher education institutes and surrounding society, and different frameworks for such cooperation have been developed. University West in Sweden has a profile called work-integrated learning which could be regarded as a systematical approach for combining theory and practice. Actually work-integrated learning has become an ideology for the University which permeates all activities, i.e. education, research and cooperation with surrounding society. This article is a review, explaining and exemplifying our approach. We will also discuss strategies and challenges for bringing the relationship between theory and practice into a prospering marriage.

Introduction

Higher education is perhaps facing the most unprecedented challenges ever. Financial turbulence, high unemployment rates, demographical changes, technological development and increased demands for high competence and specialization implies new demands on higher education. It seems like higher education is entering a new era were knowledge has become a by-product of education while focus is to develop competencies for work life [1]. Higher education has become more economy driven and adjusted to knowledge needs generated in society. This new role for universities also implies the need for adopting more application-oriented and trans-disciplinary research [2]. It is also discussed how colleges and universities could take more responsibility for career development and re-develop curricula for both traditional and non-traditional students [3]. The enhanced role of the University in the Knowledge Society goes hand in hand with the "third mission", i.e. cooperation with the surrounding society regarding education, research and dissemination of results.

Different models for cooperation between universities and surrounding society have been developed and refined, e.g. triple helix and entrepreneurial university [4], for which a framework have been suggested [5]. Such models may lay the ground for long-term cooperation between actors and increase mutual understanding and trust. However, cooperation between government, industrial and educational institutes is not an easy task due to differences in culture, ways of working, expectations and motives. Consequently there is a need for a systematical approach for how learning can be increased by the interaction between academia and surrounding society.

A rapidly changing working life and increased specialization implies that people must prepare for a profession that demands lifelong learning. It is argued that the very qualities needed for being an efficient student in higher education are the very same abilities required for effective professional practice [6]. In this perspective, it is important that higher education takes responsibility. One way of increasing the professional preparation for students would be to find a systematical strategy for supporting these qualities. In this paper, we will present work-integrated learning (WIL) as such a strategy. We will briefly describe and exemplify WIL in terms of a course, a post-graduate program, a research institute and cooperation with surrounding society. The aim is to give an overview of how WIL could permeate all three missions that the university have, i.e. education, research and cooperation with surrounding society. Furthermore some future challenges will be discussed.

Shortly about University West

University West celebrates 25th anniversary this year and already in its origin WiL was adopted as a base for the university. One example is the concept of co-operative education "co-op", in which studies are sandwiched with periods of paid work. These co-op programs (engeenering, business management, informatics) are still an important part of WiL. However, since 2002 the concept of interaction between education and work has been broaden and formalized into Work-Integrated Learning and University West has been commissioned by the government to develop educational designs connected to WIL. As described on HV.se:

"*For the undergraduate education at the university, we have developed pedagogical methods based on WIL which we systematically work with in order to promote the students' chances to integrate knowledge based on research with knowledge based on experience*". It is also pointed out that a parallel process is to be active in research and development projects aiming at developing learning at workplaces and since 2011, one can take a doctoral degree in the research field Work Integrated Learning (WIL). Today WIL is the established profile for the University and

it is regarded as an ideology that permeate the universities activities in its whole.

Work-integrated Learning as a philosophy

For University West, work-integrated learning started via the adoption of the north-American co-op movement and has successively developed to a profile for the university and is now regarded as a pedagogical philosophy [7]. There is an increasing interest for WIL in higher education [8] with an increased number of initiatives from universities to adopt WIL as a strategy. In Thailand, for example, the government and the ministry of education uses WIL as a key-approach and has in 2009 launched "Guidelines for Development of WIL Program" [9]. The aim was to stimulate Universities to implement WIL efficiently and in 2007 roughly 50% of all institutes for higher education had adopted cooperative education [ibid]. Work-integrated learning is taking many different forms across disciplines and countries but the core of the WIL-philosophy is that the combination of theoretical studies and work-experiences in synergy will increase learning and employability [10]. We will now present how WIL is implemented at University West.

Work-integrated Learning in undergraduate studies

As already mentioned, co-op programs in engineering, business administration and informatics is one example of WIL that has been adopted by the University since it was launched 25 years ago. Beyond co-op programs, a wide spectrum of different form of internship has been developed and implemented in for example nursing-programs, political science programs as well as in media and design programs.

In order to describe how WIL is implemented in classrooms the following taxonomy was developed during a project [7]:

i. Using Practice as Inspiration ("Case")

This category encompasses instructional designs such as "Teaching Cases", "Practice-Oriented Simulations and "Role-Plays", i.e. activities that to some extent are related to practice and may be more or less edited versions of actual situations.

ii. Bringing Practice to Class ("Imprint")

This category contains the use of imprints of practice as resources in educational practice. Examples are inviting "Guest Lecturers" and importing artefacts from various professional fields, e.g. "Commercial programming Code" and "Annual Reports" from existing corporations.

iii. Utilising Professional Tools ("Tool")

For the activities in this category, the point is to train students to use de-facto standard tools of a profession in the educational design, such as "Reference manuals or databases" (online or printed), "State of the art software packages", or "Professional Routines and Procedures".

iv. Bringing Class to Practice ("Field")

The activities in this category comprises empirically oriented fieldwork, where students leave campus in order to experience and study real professional settings as part of their education, e.g. "Projects" or "Thesis Work".

In the same study, it was shown that within the department of business administration, Informatics and law, economics, statistics and politics, slightly more than 50% of all detected WIL-activities could be classified as belonging to one of the four categories described above. Nearly 40% of all initiatives could be classified as "field" or "case". The half of all WIL-activities that did not match any of the categories illustrates that WIL activities could take various forms. Taxonomy and descriptions like this could visualize WIL-activities and also be used as examples and inspiration for late adopters of the concept. Today, we estimate that roughly 80% of all course syllabuses have a paragraph describing how WIL is implemented in the course.

Learning-integrated work and some adjacent theories

When WIL in higher education is discussed it usually focuses on how student could be offered experiences from working life. But, in order to understand how learning could be gained by combining theory and practice it is also important to consider how workers could be offered opportunities to learn. Since workplaces plays a crucial role for both initial learning and lifelong learning during a carrier, it is obvious that it would be beneficial to visualize and thereafter formalize this learning in a structured manner. Some bases for workplace curriculum is suggested [11]. As mentioned previously, it is reasonable to argue that the very qualities needed for being an efficient student in higher education are the very same abilities required for effective professional practice [6]. We believe that by studying both how students are being gained by work-place experiences and how to formalize learning among workers, it is possible to define the mutual qualities needed in both settings, and to study efficient pedagogical strategies for optimizing learning and development of these qualities.

One important theory that has becoming increasingly popular is boundary crossing and boundary objects [12]. It is often assumed that WIL serves the purpose of making the transfer from education to the workplace smoother. Well, that might be one purpose with WIL, but WIL is also a concept for how learning could be formalized in workplaces, thus WIL is actually a two-sided interaction. This goes hand in hand with the concept of boundary crossing which refers to ongoing mutual interactions between different settings.

Traditionally universities and faculties may be unfamiliar or unaccustomed with application-driven and trans-

disciplinary research. Such work implies moving between settings with potentially social and cultural differences, which presumes the research is crossing boundaries. Boundary crossing is crucial in many areas where research take place and refers to, for example, when registered nurses or physicians move between different social worlds (cultural and social systems) in order to make information intelligible for patients with different backgrounds and belongings or colleagues at other wards. When health-care staff are bridging between different systems, they can also take help from artifacts (for example patient records) that can work as boundary objects. Boundary objects could be defined as [13]:

> *… objects which both inhabit several intersecting social worlds and satisfy the informational requirements of each of them… [They are] both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual site use. (p.393)*

Through their plasticity of meaning, boundary objects can translate concepts, viewpoints and values across contexts. A boundary object is an artefact that could function as a bridge over the boundary, e.g. a patient record form shared by different professions and departments or a guidelines for WIL shared by different departments and disciplines within a University. Such transfers across boundaries is often regarded as troublesome and desirable to avoid. However, the greatness of the theory of boundary crossing and boundary objects is that it actually embraces these differences. Boundaries are then regarded as opportunities for learning rather than barriers. The idea is simply to find ways of master discontinuity in order to get action and interaction back on track, instead of focusing on changing or avoiding the differences. Such perspectives certainly opens new horizons for higher education. Another interesting concept is the "reflective practitioner" [14], which could be regarded as a person with the capacity to reflectively examine practice and combine previous experience with emotions, action and response in order to increase understanding.

Finally, another valuable theory is the description of communities of practice [15]. A group of people who share a work also shares a socio-cultural environment with traditions and a common history. As a new member in such a community it is common to experience anxiety of not fitting in within these boundaries. Initially a new member may observe and perform simper tasks and by watching and learning in a progressive socialization process would successively get the member into the feeling of belonging to the community. Naturally, by adopting WIL in education, one can assume that the process before the feeling of belonging to the community occurs could be shortened. Interestingly, it is pointed out that an educational institution also is a community of practice [16]. And, even if researchers historically have been eager to perform research about everything accept their own profession and institutional characteristics, this is certainly worth attention. Especially in an era were higher education is transforming rapidly.

Example of a course designed with WIL as a cornerstone

In this example, we would like to illustrate how a course could adopt WIL in other forms than internship/co-op. In 2008, it was decided to consolidate experiences regarding teaching statistics at the university. We aimed at designing state of the art courses in applied statistics both on campus and online. Moreover, the online course was designed in order to attract "non-traditional students", i.e. participants on workplaces [17].

The online course was designed by weighing up the following sources of information and aspects [18]:

- Consolidated experiences from running introductory courses in statistics on campus for 20 years and online for a decade.
- Adopt work-integrated learning
- Guidelines for Assessment and Instruction in Statistics Education Guidelines of teaching statistics (GAISE) developed by the American Statistical Association [19]
- Pedagogical principles for online teaching [20]
- The targeted populations are "non-traditional students", i.e. the course should be possible to follow also for working participants

A more detailed description of the course design is given elsewhere [18,21], but the most important concepts related to WIL are described below.

- Avoiding "naked data", i.e. use real data from media, news, research, etc. as often as possible (Case)
- "Learning by doing" – use SPSS for producing statistics and focus on interpretation (Tools)
- Set up a complete survey project, from identifying themes, constructing questions/answers, collecting data, data management, analyses and presentation (Field). This survey project is intended to mimic a "real" survey project as close as possible.

Some examples of strategies for facilitating participants on workplaces are:

- *Working in modules*: The course is divided in modules, with "checkpoints" where solutions to assignments must be submitted (these deadlines are the only time constrains in the course). This structure is intended to support an event pace during the course. Each module supported by detailed guidelines, including what to read, what

to do, deadlines and an estimate of required time for fulfillment.

- *Adjusted facilitation*: Running the course in half speed, i.e. a duration of ten weeks instead of five (full time studies). No physical meeting, no synchronous activities – participants are free to study whenever they have the possibility. Well thought-through self-instructed learning-by doing assignments in SPSS. Standardized and professional pre-recorded video lectures to view on demand.
- *Participation*: Active discussion boards for lively discussions and prompt replies on e-mails. Teachers frequently visiting the home page, writing comments and responding to questions

In totally four courses, each five weeks long, in applied statistics, designed based on these principles and in cooperation with IBM/SPSS, we collected these courses under the so called SPSS-academy. The cooperation with IBM consists of changing experiences, help with marketing the courses, and, most importantly, that participants beyond university credits also receives a certificate from the University and IBM/SPSS as a proof of that they have achieved practical skills and analyses by using software beyond theoretical knowledge in statistics.

The design was successful regarding attracting participants on workplaces [17]. Interestingly, as soon as the online course was run for the first time, we immediately understood that participants on workplaces were attracted. This was seen in the number of questions we received regarding practical issues from biopharmaceutical industry, quality control, some of them much more advanced than the scope of the course. A spontaneous reaction among the teachers was whether they now should solve consultancy matters within the frame of a course as well. But, in the spirit of boundary crossing, this new setting and challenge was instead viewed as an opportunity. The teachers added a new function at the learning management system called a "WRIB", i.e. work related issues board. This is a discussion board were questions related to work or maybe something discussed in media or elsewhere. With such an approach the course and the teachers acts like "brokers" for experience exchange between different work places. This function also gives the opportunity to collect the discussions from the WRIB and to paste these discussions into courses on campus for regular students. Simultaneously that means that we are using practice as inspiration ("cases" according to the WIL-taxonomy) and that the participants at workplaces actually are co-producers to the course content.

As presented elsewhere [17], nearly 80% of the online students were working, 20% worked part time and 57% full time. Among the full time workers 84% were using statistics in their profession and among the ones who did not use statistics right now 96% wanted to do so in the future. We continuously evaluate the course and beyond keeping track on the proportion of participants who passes the course and statistics over grades, we believe that it is at least equally important to evaluate if participants found the course to be interesting and useful. Such variables are related to potential disseminated of results and further use and learning of the theory in practice. The evaluation of "interesting" and "useful" shows the following results (answering alternatives were: less than expected / as expected / more than expected): Interesting? (4% / 15% / 81 %) and Useful? (4% / 27% / 69%).

Since the start 2008 until today we have had roughly 1300 participants. This implies a rather significant amount of further education for workers, bearing in mind that roughly 80% of all these participants are working. A challenge for the course is now to develop ways of examination that could be done at the workplace for mutual benefits and also for engaging colleagues at the workplaces in the process – a way of dissemination.

Doctorate program

In 2011 the government gave University the right to offer doctorates in the area of WIL 2011. In 2012 two doctorates program; one in education and one in informatics, both with specialization WIL was established at the university. In informatics specialized in WIL, at present, 8 doctoral students are enrolled and all of them are involved in workplace learning. Research is focused on how interaction and communication technology can support learning at workplaces, e.g. in schools, e-governance, or hospitals. In Education specialized in WIL, at present, 9 doctoral students are enrolled and three are on their way in. All of the students are focusing on aspects of WIL such as, how is the concept of WIL manifested and viewed by different stakeholders and how is an implementation process conducted and validated through an organizational perspective. How do inter-professional learning works in an emergency situation?

What is common for both programs is the methodological endeavor to let, and even encourage that research questions emanate from challenges in the surrounding society and do the research in close cooperation with stakeholders in the field. This is a very conscious chose (based on the WIL philosophy) where the ambition is that the results and insights that are developed shall be of great importance for theoretical development but also for the training of, for example, welfare workers, as well as for the development of activities and professions which are already active in such work. Of course, this entail that the senior researchers take a great responsibility for establish and uphold relations with the society and thereby being a gatekeeper.

As described above, research projects are based up on collaboration between the university and surrounding society and all PhD-projects includes the aspects on how work and learning could be integrated. This is simply the idea with the specialization work-integrated learning. With

such a specialization it is also reasonable that the doctorate education in itself is designed in the spirit of WIL. Generally speaking, the aim with a doctorate program is to educate a post-graduate student to become a researcher. Bearing this aim in mind, adopting a work-integrated learning approach means that we continuously give attention to how different activities support the learning aspects in the doctorates students progression. This may be a reasonable ambition in all doctorate programs, but we have tried to formalize this work in a systematical manner. For making our ambition more explicit the following examples of strategies could illustrate how our ambition is set to practice:

Collegial perspective. Doctoral students are not regarded as students – they are regarded as colleagues working together with more senior colleagues. We believe that this perspective will be regarded as an invitation to more close collaboration with senior researchers and that it will open the door to this community of practice much wider, than with a more traditional supervisor-student perspective.

Adopt WIL in courses. This could for instance be manifested by *course content/format* e.g. using real WIL-projects as case, or by *course activities*, e.g. using round-table discussions chaired by one of the seniors. Generally we are trying to adopt activities were the seniors are working with the doctoral students. It could also be expressed in terms of *examination*, e.g collaborative production of an abstracts/papers/poster to be presented at a "course conference" with seniors in the program committee. Another example is that doctoral students are actively taking part i.e. making presentations, peer-reviewing and generally being engaged in discussions, in a series of seminars which runs like a common thread through the whole doctoral program, and constitutes a course. A final example is the approach for courses in scientific methods. It is rather common to see that courses in quantitative and qualitative methods separately. Instead, we have developed a course in scientific method which follows the research process. This means that we start with research question, operationalization, discuss different designs/methods, data gathering, analyses, conclusions. And, in each step we discuss alterative choices and approaches, pros and cons with different method or using mixed methods. Each step is related to practical assignments and we also emphasize the use of software for analysis, e.g. SPSS and Nvivo.

Beyond the specific strategies described above, we also have an important overall strategy for formalizing the process for doctoral students. As mentioned above, generally a doctoral program aims at educating post-graduate into the profession as a researcher (in or outside academia). In accordance to Bologna process and the European Union's strategy for a knowledge economy, universities are urged to include a number of generic transferable skills as learning outcomes in order to meet the demands of the labor market. In Sweden the national learning outcomes for a doctoral program is divided into three categories: "Knowledge and understanding", "Competence and proficiency" and "Judgment and approach". Each category includes a number of descriptors related to the learning outcomes. For instance, under the category "Knowledge and Understanding" it is stated that a doctoral student (ready for the degree) shall "demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular". Under the category: Competence and proficiency one of the descriptors is: "demonstrate the ability in both national and international contexts to present and discuss research and research findings authoritatively in speech and writing and in dialogue with the academic community and society in general".

For being able to monitor doctorate students' progression and to give formative supervision a quality tool have been developed. This quality tool consists of a matrix including 19 rows with learning outcome descriptors. The matrix columns includes courses and all activities included in the doctorate program, (e.g. seminars, conferences, peer-review, gathering data, writing article, etc). The quality tool also includes a description, a mapping, over how and to which extent different courses and activities supports different learning outcomes.

This quality tool, called "goal keeper", is used in a formative manner together with the doctoral student when discussing the progression and future plans. An important change in perspective is that our quality system is not only focusing on the products (thesis and courses), it also includes a process view (activities). We have tried to operationalize how the doctorate program including both courses and activities could foster a doctorate student to become a researcher. The overall aim of the doctorate program is not solely to produce good original research, it is also very much about fostering excellent researchers. More detailed description of the matrix and its role for quality development, both for individual doctoral students and for the education program in itself, will be presented in a forthcoming article.

In summary, regarding our doctoral program it is specialized in work-integrated learning, and moreover, the design of the program is using WIL as a fundament in itself and the learning outcomes are aligned with the knowledge economy.

A research institute focusing on WIL

As already mentioned WIL has a major impact on the research area and our research institute at the University, from the beginning. Since 2008, LINA (Swedish acronym for Learning in and for the new work place) has grown both when it comes to the number of researchers and students but also when it comes to research grants and publications. As the name of the institute indicates, the aim

to be in the frontline when it comes to researching the conditions for WIL. Today, it constitutes around 50 senior researcher and roughly 20 PhD students. The research that is conducting is very wide and inclusive, just to mention some research areas: i.e welfare and integration, the transition between higher education and work life, concept analysis of WIL, digitalization of school, inter-professional learning.

Multidisciplinary is emphasized in the research group, to research different phenomena by different methods, perspectives, subject domain gives new insights to the world of work. Partners are found in service sector, education, health care and right now one of the ongoing projects is “Industrial WIL” aiming at strengthening the cooperation with industry.

The research institute encourages all senior researchers to take a responsibility for fostering cooperation with the surrounding society in doctoral-projects, which both have consequential effects and presume WIL competence and ambitions. To have a close and stable relationship with stakeholders in the community is a conscious strategy meaning that researchers have access to venues for research that would otherwise be difficult to get access to. This is especially important since research within WIL are well suited for scientific methods based on close cooperation, e.g. action research. Close relationship are also important for being able to get indications of the problems and challenges that these stakeholders see in their work and that can be the starting point for research. In this way, the research projects are automatically linked to the surrounding community and the results can most likely contribute to both social and academic development.

The problems and challenges that the research projects often are based on are usually complex in its nature. That means they need to be understood and managed in multidisciplinary environments so that problems can be illuminated in different ways and from different perspectives. The experience is that multidisciplinary projects that are designed to contribute to the scientific community but also to support, manage and understand the specific problems and challenges in society, often appeals research funders, which increases the potential for external funding.

A concrete example of the above projects is linked to IT and learning in schools. Through a series of seminars and workshops with staff from schools a picture of frustration grew up where one said that IT was often seen as a goal in itself rather than a tool for achieving educational goals and that there was a need for digital solutions that more clearly took its starting point the specific educational challenges that teachers face in the classroom. This was seen as attractive by the researchers who also saw that this concerned knowledge domains such as education, design and informatics. After putting together a multidisciplinary research team, contact was made with the Samsung where teachers’ needs and the research teams opportunities were presented and eventually grew a project up, called "Classroom of the future" with the support and commitment from Samsung, the Ministry of Education in Sweden, several municipalities and several IT companies and teaching materials developers.

Future challenges – optimizing the concept with WIL

There are several studies that have focused the relation between WIL and students learning-outcomes [29, 30, 31]. One example is a recent large scale quantitative study it was found that WIL and non-WIL students in four countries (Sweden, Canada, USA and UK) shared several attributes - however - significant differences also emerged [22]. WIL compared to non-WIL students reported stronger math and problem solving self-concepts, yet weaker effort regulation and perceived critical thinking skills. WIL students were more extrinsically motivated than their non-WIL peers in three of the four countries. Female students in WIL reported being the most anxious compared to other students. There are also qualitative studies giving witness to the benefits of WIL. It is for instance shown how cases and the students own experiences could be used to produce the learning material and bring ”reality” into the classroom and thereby prepare the students for a professional career” [23]. Other studies have focus benefits of cooperative and WIL design in education [32, 33, 34] and the results show that WIL-students have career benefits regarding salary in early career and job advancement. Another advantage is increased employment opportunities, which is connected improved interviewing skills and broader field of references regarding work experiences and competences. However, these benefits tend to level out after eight to ten years.

But a prerequisite that unfortunately often is forgotten in WIL-studies I the relationship between the educators, the students and the workplace environment will have a direct effect on the students’ capability for learning. Billett [28] argues that it is essential that for students within WIL-programs to have a close relationship with the workplace experts, nevertheless since the learning environment is influenced by staff employed there as well as the workplace culture and climate. That in the end puts great demands on the WIL-organizer, otherwise the WIL-period will be "weakened".

Moreover, Billet [28] says that the WIL-organizer must ensure the following from the workplace experts:

- a willingness to share knowledge, particularly when it is not easily seen or understood and make it easy to comprehend
- determine and provide access to activities that are required for development plus sequence them in a meaningful way
- provide close guidance that will develop professional practice and guard against inappropriate practice.

Another perspective that we still need to know more about is what and why within the WIL education that actually supports different learning trajectories. We need to know more of the ontological and epistemological aspects on design, focus, tasks and prerequisites' during WIL for further pedagogical development. There are initiatives taken focusing on how the integration between work and learning could be used in order to maximize the pedagogical gain [24]. But, there is certainly a call for more research in this area, i.e. how to integrate work and learning in an optimal way. The "I" in WIL is the crucial part for further development.

From late 90s until now there is an ongoing debate on generic skills and the function and significance of them. The focus on generic skills foster an emphasis on accessibility, transferable skills, competency formation, modularization, student profiling and the development of the reflective practitioners (25). In a study investigating student's relation/thinking about knowledge production and their coming professional role, (26) the author found that it could be a ritual or rational relationship between this nodes. Students within psychology had a clear rational relationship, in their work after finishing their studies they did practically all the same, the only perceived difference was the responsibility. As employed the responsibility for their patients and their own learning were solely added. Students in mechanical engineering hade a more ritual relationship, in the program it was spoken out loud that not all of them had the right conditions for becoming engineers, roughly 35 % of them had. They also "learned" that without the engineers and their exclusive thinking, the society would not cope. Their studies were traditionally designed and they learned hard fact, only in year three they had some courses in project management that is the most likely work task. Students in political science had a rational relationship emphasizing learning generic skills such as finding information, observing, analyzing and synthesizing societal phenomenon. WIL or PBL or other educational designs can ease the transition from higher education to work life.

Consequently, this imply that beyond the desired optimization of how work and learning should be combined as discussed above, it is also a matter of how learning students how these benefits are reached and create an awareness of the way in which synergy is reached.

Future challenges – dissemination and responsiveness

The working methods within the research institute, creates already from the beginning a broad interest from outside the university for the results generated by the research. This means that the results quite quickly reach out to agencies in the community but also to the different courses in education programs at the university. For example, students are often involved in different ways in the projects and the experiences they get and the skills they develop in education contribute to research projects, but also vice versa. This is also a part of the philosophical basis of work integrated learning for University West.

Having a close relationship with various activities and designing projects where researchers, students and stakeholders from the community learn from and with each other, entails an ability to be responsive to changes and needs. But being responsive also assumes that there is an infrastructure that not only allows, but also actively supports such responsive acting. One of the most important resources in such infrastructure is a basic funding that makes it possible to rapidly orchestrate pilot studies, designing and writing project and applications for research. Of course, that presumes that there is flexibility in scheduling work. These aspects has actually demanded controversial and sometimes controversial changes in our routines and budgets.

In the research institute there is no contradiction between working purposefully and long-term to build and implement large project, or to start with smaller pilot studies. On the contrary, small pilot studies often leads to greater efforts. And sometimes it's enough with smaller or shorter project to reach the objectives. But no matter what, there is a need for a supporting infrastructure where researchers can be responsive and "entrepreneurial". Such way of working is based on the existence of sustainable relationships with the community in which the research institute is perceived as an important partner in the development of cooperative organizations. It is not uncommon, that results developed in the research projects show the need and opportunities for further education of employees, where the university can quickly provide different courses that match the needs. In this way, there are strong relationships between the community, research, education and community development, which mean that there is a great interest for the university's work, not only in scientific journals, but also in other kind media.

Discussion and concluding remarks

We have described and exemplified how WIL permeates all activities at the university; education, research and cooperation with surrounding society and how these activities are integrated. A fundamental idea is that combining theory and practice gain learning and foster important skills demanded by the labor market. This goes hand in hand with the huge European reformation in education, i.e. the so called Bologna process, where a focus on students and learning outcomes is essential. Furthermore, fostering skills demanded by the job market aligns well with the EU's commissions strategies for the knowledge economy.

At University West it all started with combining education with paid periods of work, i.e. co-operative education. This small love affair grow into a marriage since the government and commissioned the University to focus on developing educational designs for WIL, in 2002. This marriage has now flourished in 13 years. But, as in all

marriages there are some controversies that must be handled and the relationship needs to be nurtured and developed in order to stay happy.

Firstly, there is a need for more research. One important question to address it how the concept could be optimized. How could optimize learning effects and fostering of skills? What kinds of skills? Another important issue to address is to study the transition between education and work and how our students can become reflective practitioners taking part of developing a community of practice. From a work-place perspective it is of course interesting to see how learning at work could be supported. In short, the key question is to focus on the "I" in WIL – how could we integrate work and learning in an optimal way?

On an organizational level, the marriage between academia and working life is dependent on mutual respect and understanding. The idea is to work together and create knowledge and understating together, instead of just using in-house knowledge (at the university or work-place). A close cooperation with surrounding society also need a certain infrastructure and flexibility. The University must be entrepreneurial in the sense that it must be able to response and act rapidly. For instance this demands flexibility in working schedule and a basic funding for being able to quickly initiate at least a small pilot project is essential.

Another important dimension is that real life projects often are multi-disciplinary, which also demands such a working culture at the university.

There are some critical voices raised against market "economy-driven" education and we certainly agree that it is sound to discuss the universities autonomy versus demands from the market. But, we believe that both academia and society would benefit from a sound mix of basic research and education and more applied approaches, like for instance WIL.

We have implemented WIL in its whole and have an organization and an infrastructure which could respond quickly on demands from surrounding society. We could quickly put together a multi-disciplinary team ready for applied mixed method research. We believe that this is an intellectually stimulating challenge for us and our colleagues at the university. Furthermore, we have the possibility to offer our students the possibility to relate the theoretical content to practice. Therefore, we intend to further nurture and let the marriage between academia and working life continue to prosper.

We know that most institutes of higher education have a number of smaller projects in cooperation with surrounding society, e.g. student thesis and applied research projects. But we hope that this review and description for how a combination of theory and practice permeates our mission and all our activities in its whole, could work as inspiration and counseling for others who want to take one step further beyond smaller love affairs between academia and society and enter a prospering marriage.

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