

Work-Integrated Learning in the Classroom

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ABSTRACT

Work-Integrated learning (WIL) is a globally growing philosophy for higher educational practice. The bottom-line of this pedagogical philosophy is the belief in the potential added value of integrating theoretical academic studies with applications of said theories in various professional fields (education, nursing, engineering, etc.)

In order to capitalise on the proposed WIL-values, institutions of higher education design different WIL-models where students enter into their future areas of profession through for instance sandwich-education, cooperative education, practicums, preceptorships, internships and other educational designs in the spirit of WIL.

In order to achieve the desired integration, however, it is often necessary to overcome certain obstacles in the academic environment, such as lack of resources and ingrained habits and teaching traditions. This paper reports on a study of how classroom practices reflect and are affected by WIL as the University profile, that was undertaken in order to address some of these problems. The results show the contours of a design framework of how WIL as a pedagogical philosophy could be realised in the classroom and the paper proposes a taxonomy of WIL-related activities that could aid in this realisation. It also presents the results of applying that taxonomy on existing University courses and programmes. Finally, it discusses

some aspects regarding the use of the taxonomy for instructional design and what they point to as areas of further research.

KEYWORDS: Work-integrated learning, pedagogical philosophy, authenticity, transfer, instructional design.

WORK-INTEGRATED LEARNING AS A PEDAGOGICAL PHILOSOPHY

In institutions of higher education on all continents, work-integrated learning (WIL) is gaining interest as a pedagogical philosophy of higher education (Kalantzis & Cope; 2001, Wenger, 2004, Cooper et al., 2010). The core of this philosophy, is the idea that the employability of graduates will increase if they are able to integrate theoretical and academic studies with work-experiences in their respective educational fields (Yorke & Knight, 2006).

In, for instance, education, nursing, and engineering, different models for WIL is being implemented (Houshmand & Papadakis 2006). Through concepts such as cooperative education (coo-op centennial celebration, 2006), preceptorships, practicum and sandwich education, students get to integrate theory with practice. However, if one chose to view WIL as a pedagogical philosophy, it seems reasonable to assume that the WIL-philosophy also has affected how classroom practice is organised (Svensson & Östlund, 2007). Furthermore, a central aspect when deploying WIL as an educational strategy is the ability to accomplish interaction and interplay between what is learned at school and what is learned in the workplace (Cranton & Legge; 1978, Orrell, 2004; Bates 2010).

It may be noted that WIL often seems to be concerned primarily with the transfer from the academic setting to the workplace, i.e. that the integration with necessity requires access to or takes place in the workplace. The other direction (from the workplace to the classroom) is therefore somewhat neglected (see Betts et al., 2009 for an exception) but just as interesting

and important, if only for the practical reason that it is not always possible to provide all students with internships and other forms of cooperative and other workplace-based learning opportunities. (This is also the rationale for the title of this article.)

Unfortunately, empirical studies and testimonies from students, faculty and practitioners reveal that the desired integration often is very difficult to achieve (Walsh, 2007). There are several possible factors that could be argued to contribute to these difficulties: a lack of career incentives for teachers to engage in pedagogical WIL-projects (Svensson, 2004), a lack of economic resources, and finally the element of academic traditions and habits that obstructs radical innovations with respect to instructional design (Elmuti et al. 2005; Svensson, 2003). In addition, different conceptions of what constitutes WIL might also lead to difficulties for concerted development action (Kjellén & Tegnberg 2003).

In view of these difficulties, there is a need for tools that can be used to aid the integration of WIL activities into the academic setting (the classroom). With that in mind, an exploratory study was undertaken at the department of Economy and IT at a Scandinavian university college, aimed at illuminating the connection between what goes on in the classroom and what goes on in the workplace which resulted in a tentative taxonomy for WIL-related activities. The purpose of this paper is to present this study, the taxonomy itself and some of its findings from applying it, as well as outlining some directions for further development.

THE RESEARCH DESIGN

The results are based on a two-step data collection process. The study started with a series of semi-structured interviews with eight key informants, chosen for their interest in applying WIL in their teaching and well-known for pedagogical innovations generally. These interviews aimed at understanding the way teachers think regarding WIL as a pedagogical

strategy, and in what ways WIL affected instructional design. As a result of the interviews, a tentative taxonomy for WIL-related activities in the classroom was developed.

In the second phase of the study, this taxonomy was used to structure interviews with the supervisors of each course, given at the department (n=112). The aim of these interviews was to assess the amount of time that ideally was spent by students in WIL-activities on the various courses and programmes, measured as a percentage of total time spent on the course. The department offered three different bachelor programmes: Business administration (with cooperative education as a WIL-design), Information Systems, and Digital Media. For each of these programmes, the distribution of different activities over academic levels was also calculated, based on the data obtained for the courses.

A TAXONOMY FOR WIL-RELATED ACTIVITIES

The information about different classroom activities from the key informants, mentioned above, was subjected to a detailed review, which was used to classify these activities into the four categories, detailed below.

(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”.

SOME FINDINGS

The findings regarding the WIL content on a course basis and divided between the sections of the department are summarised in Table 1 below. The column designed “Theory” is a catch-all for activities that do not fit into any of the four categories in the taxonomy, presented above. All numbers are given as percentages of total time spent on the courses.

	“Theory”	Case	Imprint	Tool	Field
Business Studies	52	8	1	1	38
Informatics	43	19	3	19	18
Law & Politics	48	28	2	2	20
Average	47	18	2	10	23

Table 1. Allocation of course time to different types of content.

The numbers indicate that on average 50% of a student’s time is spent on curricular activities that can be related to WIL as a pedagogical strategy. However, there are marked differences between the disciplines with regard to the type of WIL-content that is offered.

With regard to progression, comparing the courses on basic (A), intermediary (B) and advanced (C) level, the results show a steady increase in WIL over time with an average of 50 % on basic courses and 63% on advanced courses. The following diagram shows the changes for “Field”, where business courses contain a higher proportion at all levels.

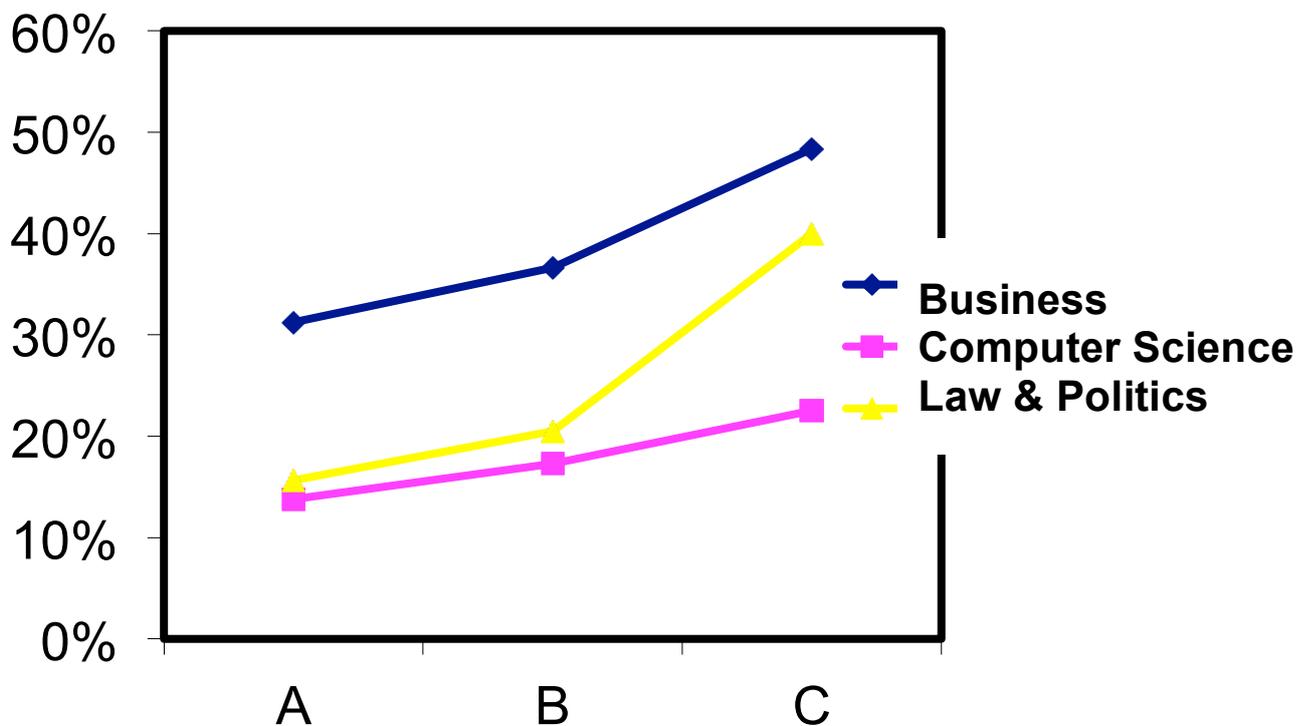


Diagram 1. The proportion of Field activities over different academic levels

Finally, three of the current bachelor programmes at the department were chosen for closer study: Accounting, Digital Media and Systems design. Table 2 below details the time allocation for these programmes. All numbers are percentages of total time spent in the programme.

	“Theory”	Case	Imprint	Tool	Field
Accounting	64	14	1	3	17
Digital media	36	16	8	17	23

Systems design	48	13	4	16	22
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Table 2. Allocation of programme time to different types of content.

As can be seen, the results show that the volume of WIL-activities is significantly lower in the Accounting programme than in the Systems design and Digital media programmes. This might seem somewhat surprising, in view of the earlier findings, since Accounting is one variation of the general Business studies programme, with specialisation only during the last of six semesters. Furthermore, Business Studies is the only one of the three programmes that offers cooperative education.

DISCUSSION AND FURTHER STUDY

Further research will focus on developing the taxonomy towards a framework that could guide instructional WIL-design and provide a solid theoretical foundation for discussions on issues of pedagogical progression in relation to WIL (Kolb & Fry, 1975; Betts et al. 2009).

So far, the work on the proposed taxonomy has suggested (at least) three different areas or purposes for its application: identification, assessment and development. Each of these are described in the following, together with a discussion of possible further avenues of research.

Identification

Presentations and discussions with colleagues around the taxonomy suggests that it may function not just as a simple classification scheme but also to facilitate a dialogue about the meaning and content of WIL. This would then work towards an “alignment” of the different perceptions about WIL, mentioned at the start of this article, and to at least some degree enable collective efforts around the introduction and application of WIL-related pedagogical activities across the curriculum.

Also, its use could assist in various efforts towards identification and declarations of educational content, a task that seems to become more and more in demand.

Assessment

The actual findings of the study, detailed above, may be seen as one way of grading the “WIL-ness” of a course or programme. In this context, there are of course also a number of questions that need further study to be resolved.

One such question, in the light of WIL being an important feature of the university college profile, is whether the proportions of WIL-related activities might be considered low. Since this is the first study of this kind, there is however no established baseline for drawing such a conclusion, nor for conclusions regarding variability over disciplines. This will to some extent be remedied in the near future, since at least one other department of the university college has expressed an interest in applying the taxonomy to their courses and programmes.

With regard to the differences between the three educational programmes, selected for a more detailed treatment, it is at present difficult to conclude whether these results can be related to inherent differences with respect to the nature of the content and objectives of the programmes, or if the co-op model may be indirectly perceived as “taking care of” the professional/practice dimension of the business administration programme. Here more rigorous research is required that compares curricula with and without co-op offerings.

Development

If the previous two suggestions for use can be said to concern the “outside” of the taxonomy (the output from applying it), then this third usage concerns its “inside”, i.e. the efficacy of different educational activities and instructional designs, that are to be found in the different

WIL categories. This would e.g. entail complementing the categories with certain criteria or characteristics that detail their “affordances” (what kind of actions or outcomes they support).

These criteria would need to be connected to important aspects of learning and takes into account certain defining characteristics of the relation between academia (the classroom) and workplace and the translation between them. Two such aspects that comes easily to mind are the concepts and phenomena of *transfer* and *authenticity*, which will be briefly explored in the remainder of this section as examples of the type of considerations that would be involved here.

Even if it is not always acknowledged, moving between the classroom and the workplace entails crossing some kind of boundary. The awareness of boundaries is not exactly new in educational science, as indicated by the longstanding interest in the notion of transfer. The meaning of the concept of transfer in education is primarily transfer of knowledge or skills between different situations or problems, i.e. to be able to apply what originally had been learned in one specific situation or context to other contexts. More precisely, it is something more and different to applying a method or model to other similar problems or examples.

Different conceptualisations of learning and knowledge lead, of course, to different conceptualisations of transfer. Tuomi-Gröhn & Engeström (2003) divide conceptions of transfer into three groups, which they see as reflecting the times when they were formulated and the concepts of learning related to each of them. The most recent conceptualizations, according to them, are those connected to context rather than to the individual or the task.

What is of interest here is that they regard transfer, seen in context, “not [as] a matter of individual moves between school and workplace but of the efforts of school and workplace to create together new practices” (ibid. p. 34). This is a view of transfer that is in line with the

concepts of boundary crossings and boundary objects in that it refers to “ongoing, two-sided actions and interactions between contexts” (Akkerman & Bakker, 2011, p. 136).

”Authenticity” and ”authentic learning” have become something of a requirement in recent years, if not in the practice so at least in the rhetoric of education. In the simplest terms, “authenticity” can be defined as “the quality of having correspondence to the real world” (Petraglia, 1998, p. 165). A closer study reveals, however, that the concept is somewhat fraught with vagueness and often used as an all-encompassing *desideratum*, rather than as a precisely defined characteristic of certain learning environments.

In the literature, the definitions vary with the authors’ background and purpose. Lave & Wenger (1991) talk about “authentic learning” as taking place while participating within real communities, in the context of their view of learning as situated in communities of practice. This seems to preclude authentic learning ever being able to occur in a formalised, classroom setting. In contrast to his perspective, Herrington et al. (2010) promotes “authentic learning” as a set of guidelines for instructional design, where authenticity is discussed in relation to the context, task and assessment of learning activities.

To conclude: authenticity seems to be an important characteristic of artefacts (boundary objects) that are brought into the classroom and probably a necessary requirement for its acceptance as representative of (e.g.) the workplace and consequently its ability to contribute to integration. There is, therefore, a need to e.g. avoid the temptation to equate “authenticity” with, e.g. relevance, skills, isomorphism or accuracy (Petraglia, 1998, pp. 15-16) when we design our educational activities. What is experienced as authentic is, to a large extent, not in the planning by the teacher but in the mind of the student and/or his or her employer.

CONCLUSIONS

As indicated several times in this article, the study that has been presented is exploratory and needs to be complemented by more in-depth examinations of existing pedagogical activities and approaches to instructional design, along the lines that are suggested in the previous section. That said, the taxonomy proposed shows promise to be able function as a tool in that regard, and at this point we suggest three interrelated ways of utilizing the taxonomy.

- (i) *Identification*: The framework provide a concrete terminology that can be used to identify and discuss different learning activities and their relation to WIL
- (ii) *Assessment*: Through longitudinal evaluation of WIL-activities, the quantity (and quality) of the “WIL-ness” of a course or a programme could be assessed and discussed by faculty and researchers. Over time, this could inform the articulation of quantitative and qualitative goals as well as supporting decisions regarding allocation of resources.
- (iii) *Development*: The taxonomy could also be used as a “design space” for further development of WIL practices, where the efficacy of different educational activities and instructional designs that is to found in the different WIL categories are in focus.

Finally, the development of the framework has caused us to critically reflect on the built-in assumptions relating to the *authenticity* of a designed learning activity as well as the nature of the *learning transfer* that could occur when crossing the boundary between the classroom and the workplace (and vice versa).

Acknowledgement

This research was sponsored by the Swedish Ministry of Education and the University West, Sweden.

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