Triple Gain – and Some Challenges

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Coalescence of Industry and Academics in Real Estate Education

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By

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Content

Abstract

The Real Estate Management Education Programme at the Agder University College; School of Management (AUC-SM), now includes a one-semester combined seminar and internship in real estate management, as part of the Bachelor degree programmes in Business Administration and Engineering (”Construction technology”). It is also an area of specialization in the Master of Science program in Business Administration. The internship programme consists of a placement job, two weeks of classroom teaching, and a term paper. The programme has been carried out for the first time in the fall term this year (2006). In the present paper we present a model for organising the communication between the student community, the research community, and the business community, which we prefer to call “The dialogical model”. The main characteristic of this model is a two-way communication between the three communities, as opposed to the common one-way information form (“The monological model”). According to learning theory and our model, we expect the internship programme to enhance learning for the students and work as a vehicle for coalescence between industry and academics in the field of real estate. A survey among the students and the participating firms presented in this paper, has revealed that the students have had a very interesting and instructive time in the real estate industry. Their motivation for further real estate related studies, and for a career in the real estate industry was reinforced, and they discovered the value of theories and tools already acquired in their bachelor studies. The real estate industry saw the programme as a useful way of getting in touch with our students and academics, and they expected this contact to be useful for their market image. They also saw the programme as useful for getting an outsider view of some of their problems, and for building a stronger relationship to the university.

Introduction

This paper presents a scheme for practice-learning in Real Estate management as part of bachelor programmes in business administration and in engineering. First, a brief presentation of the Real Estate educational initiative at the AUC-SM is offered, including a description of the bachelor programme. Secondly, learning theories and theories of reflection, socialization and maturation are reviewed. Finally, we present some preliminary observations and an evaluation of the programme in terms of usefulness – usefulness for the students involved, for the industry involved, and for the overriding objective of business-academic cooperation.

Underlying questions behind the present article are the following:

- What is the overall learning objective of the Practice Learning programme as part of a bachelor-level education in business and engineering in Real Estate management – and to what extent are these objectives met in the present programme
- What are the main elements of the learning impact, and to what extent are they enhanced in the present scheme, considering in particular:
    - Knowledge content: understanding theory, ability to remember theory, ability to apply theory, ability to convert theoretical knowledge into managerial skills
    - Innovative capability: ability to create new knowledge from experience, developing ones creative potential
    - Self development and maturation: socialization, emotional capability, ethical reflection and critical judgement, integrity and courage to act prudently
    - Understanding the Real Estate business context and ability to interact in such a context
- What are the main side-effects of the programme in terms of coalescence of business and academics

Before turning to the core questions relating to the practice-learning programme, we shall first present the Real Estate initiative at the AUC-SM, the various study programmes, and the practice-learning programme as part of that initiative. Following this overview, we shall then discuss overall learning objectives and the main elements of a model of experiential learning. Finally we shall present some preliminary observations of results from the first class of practice-learners.

The Real Estate initiative at AUC

The initiative to build a strategic position in Real Estate education and research is of recent origin at the AUC-SM. A research and educational Real Estate Centre was established in the spring of 2005 as a response to the demand from various parts of the real estate businesses. After several conferences with participants from business and academics, public regulators, professionals, and consultants held in 2004, it was decided to establish an specialization in real estate economics at the graduate level at the M. Sc. Programme in Business Administration. The first graduate level courses were then introduced in the spring term of 2006. This was followed up by a course in real estate law in the fall term of 2006. Several master theses are already being written in the field of real estate economics and management

in spite of the short time the program has been in operation. The first course offering at the undergraduate level, the Practice Learning programme, was started in the fall term of 2006.

The Real Estate Centre has tight and extensive contacts with the business community. The centre's board thus consists of members from banking, constructing, and consulting business together with academic faculty. This has generated new meeting points between academia and business and also for the public sector planners. Lately there has been arranged several seminars etc as a cooperation between business and the centre. Other networks have also been activated as the Practice Learning programme started up. "Kompetansering Sør" is a network of some thirty business firms cooperating on competence development in the Agder region, which has several members from the Real Estate sector among its members. The network's administration and members of the board were particular active in motivating business firms to accept student practitioners from the practice learning programme in fall term 2007. They are also strongly motivated to continue the programme.

There has also been a rapid development lately regarding research activities. The centre has a cooperation agreement with the Agder Research Foundation, and has just been assigned a project of 500.000 Euro to analyse how to minimise the problems of construction defects. This is mainly a problem of organisation and incentives, as the technical origin of the defects are well known. This, together with other smaller projects, is enhancing the national reputation for the centre. The next step would be to engage PhD students, which may be made possible by a local funding foundation who finances local initiatives which enhances academic competence.

The Practice Learning programme - background

The Practice Learning Programme (PLP) is a result of the coming together of two totally independent initiatives. The Real Estate initiative at AUC-SM came at just the right time to match a national initiative to develop prototypes of experiential learning as part of an undergraduate college education.

The Norwegian system of Higher Education has been through a major reform in 2003 ("the Quality Reform of Higher Education"), incorporating the principles of the Bologna declaration, with a new degree structure, and emphasizing student activity and involvement in learning. Students are no more to be passive recipients of knowledge. Rather, they are to make plans for their own learning, sign contracts of agreement as to the content of their learning, receive continuous feedback on progress, and in a number of ways be active in promoting their own learning. Student projects and team work is encouraged. At the same time, Norwegian institutions of higher learning, previously subject to two overriding objectives – provide education and carry out research – have today a broader set of goals, of which "community contact" is a main one. In addition to research and education, universities and colleges are to reach out to relevant parts of the community, including the business community, the public sector and the voluntary (non profit) sector. While there always have been such connections, the active engagement in business–university coalescence is today at a high level attention (although not everybody is doing much about it).

In practical terms, then, the School of Management was approached by a member of the National committee in charge of contacts with business schools and practice-placements of

business students. Two schools were selected, a small institute at the Harstad University College (far to the North) and the School of Management at AUC, presently the third largest school of management and business in the country. After initial contacts and an extended dialogue, the (then) dean of the School drafted a course design consisting basically of two main components – intensive week-long seminars and several weeks of regular work practice. The choice of Real Estate management as a relevant sector, was made after several other options were examined. The most important reasons for the choice of Real Estate were first of all the existence of the newly established Real Estate Centre at the AUC-SM, the existence of a long established network of contacts towards this industry, and the fact that there were professors in this area eager to engage with the business community and willing to test out new modes of student learning – matching an interest in the Real Estate industry itself to engage with the School and contribute to research and education in the field.

Programme Content

The ”Real Estate Management Programme” at the AUC-SM, includes both a one-term combined seminar and internship in real estate management, as part of the Bachelor degree programmes in Business Administration and in Engineering (”Construction technology”) and a field of specialization in the Master of Science program in Business Administration.

The Master of Science program

In the Master of Science program in Business Administration the study of real estate subject matters are organised as a specialization. The core courses are one in real estate economics and one in real estate law, each of 7.5 ECTS credits. The students are also to attend a graduate course in econometrics. The rest of the specialisation consists of electives, among the following alternatives:

- *Finance (2 different courses)*
- *Contact law (2 different courses)*
- *Project management*

The students round off the program by writing a master thesis of 30 ECTS credits. Most of the theses are based on real estate economics problems. One reason for this is that the faculty and business community have been eager to produce such problems for to the students to analyse. The master students have also been followed up by coordinated instruction and tutoring when writing their thesis. Most theses include empirical analysis of the local property marked, which in turn has been of great interest to both the local real estate business and the local planning authorities. Thus two of the faculty members are engaged in working out a new planning strategy for housing and land management for the city of Kristiansand.

The Bachelor program

The one-term combined seminar and internship in real estate management constitutes 30 ECTS credits[1]. Together with electives during the subsequent term, it forms the specialisation

[1] 30 ECTS credits are the normal work load for a student pr term (60 for an academic year).

in real estate management at the bachelor level at AUC. The recommended electives are as follows (for the time being):

- *Business strategy*
- *Contract law*
- *Planning*
- *Economic development and economic policy*

These electives are, however, under reconsideration, and may be replaced by other more real estate relevant subjects.

The students attending the combined seminar and internship are engaged in firms from various parts of the real estate business, and have to participate in the daily work of the firms on equal footing with the other employees. This engagement lasts for the whole semester. Another condition is that the students are to be given work tasks that are professionally challenging for an economist or an engineer. During the term the students are gathered for lectures in two periods of one week each. The subject matters taught in these two periods are:

- *Project management*
- *Relevant subjects in law*
- *Construction technology*
- *Property development and value appraisal*
- *Facility management*
- *Teamwork and leadership*
- *Some management tools*

In the following we shall add a more detailed presentation of the semester content.

Details of the practice-learning course

The protrotype class of fall 2006 has followed the original design of the course. Designed as a full semester course, students had a first week of intensive instruction at the end of August 2006. 60-70 percent of the instruction was contributed by collaborating firms, providing expertise in a series of topical areas not covered in the educational program of the School. Subjects covered by the academic side included team work and leadership issues, formal project planning models, and construction engineering. Practical subjects covered by the practitioner, included property development, value appraisal, relevant legal issues (taught by a lawyer) , practical project implementation, political processes concerning area regulation and land use. After a week of intensive instruction, students started working in their placement jobs. Initially, eleven students were selected to participate in the prototype, but two had to complete other electives in order to get their Bachelor degrees and had to resign form the programme. Two companies accepted two student trainees each, the other worked one in each company. After a first week in job placement each student was asked to answer ten questions about the placement, the social and work environment and practical issues.

The next intensive week of instruction was in Mid-October. Again, more than 60 percent of the teaching was performed by practitioners. Topics covered by academics were project management and leadership issues, and construction engineering and land use regulation. During the week, the students also visited the library to learn more about literature searches and about the relevant standards for academic reference. A designated librarian was very

helpful with explanations and advice, and has also assisted the students later in their search for literature relevant to their individual semester-papers.

Subjects covered by the practitioners were property maintenance and facility management, legal aspects of facility management, cost estimation and life cycle profitability. The students were also invited to visit the command centre of the "Kilden" project – the building of an impressive new concert hall and cultural centre on the ocean front in Kristiansand, where two of the students have work practice (this is a project of enormous complexity, like an opera house with several stages for a variety of musical forms in the same building – and the students were introduced to the planning and control instruments in use). In fact, all the practitioners, who gave lectures during the week, willing shared practical problems, sensitive political issues and otherwise non-disclosed information with the students. The students thus gained a strong feeling of being initiates – or "adepts" – with a share of inside information and a strong feeling of being included as representatives of an industry.

After the second week of intensive instruction, the students went back to work – to complete their work assignments and to write a semester-paper on a chosen topic. During the two weeks preceding the week of instruction, the course coordinator visited every work site, asked questions about the placement and about the learning process, and discussed relevant topics for the semester-paper with the student, the employer/supervisor and other relevant contact persons. It was required that the topic for the semester-paper should be one for interest to the student, to the company, and at the same time eligible for academic credit. By the end of the second week of instruction, all the students had a topic accepted, and they also had had a chance to do a literature search and formulate a research issue or main research question. Some of them already had written a few pagers of their reports.

Two weeks after completing the second week of instruction, all the students were asked to answer a questionnaire, where half of the question were a repetition of the questions asked after the first week of practice, and an additional twelve questions made a critical probe into the learning processes and reflective practices of the students.

Two weeks later, a final questionnaire was sent to the employers/work supervisors, in order to elicit attitudes and opinions regarding the course as such, the maturity and performance of the students, and the perceived learning processes going on. The results of the various questionnaires are disclosed in the latter part of this article.

The semester-papers are due on December 11, 2006, and an oral examination will be administered on December 18 and 19. All papers will be graded. At the oral examination, all the participating students, two professors – the course coordinator and the director of the Real Estate Centre, and the supervisor or other relevant representatives of the host firms, will be present. The purpose of the oral exam is threefold: to control that the students fully understand and stand behind the written papers, to provide a learning experience for all the students – being exposed to a variety of research questions and practical solutions, and to bring the representatives of the participating firms fully into the process of academic accreditation and examination. The two professors will be responsible for the grading, however.

Overall learning objectives

The overall learning objectives of the present programme, as stated in the AUC study catalogue, are as follows:

> "Through a combination of theoretical learning, seminar discussions and experiential learning, students will gain an overview of disciplines and topics relevant to Real Estate development and management, and they will improve their ability to apply such knowledge in practical work situations. Also, they will become familiar with business cultures and improve their skills at cooperation and team work in the work context. Through the writing of a term paper and preparation for a final oral exam they will also gain familiarity with the "reflective practitioner approach".

For obvious reasons, a formally stated learning objective cannot fully capture the intentions behind a course offering, nor can it fully present the philosophy behind. In what follows, we shall first outline what we see as a predominant philosophy behind the modern professional school system of higher education, then consider some of the criticism and alternative ways of thinking about research, teaching and practicing relevant to vocations and professions.

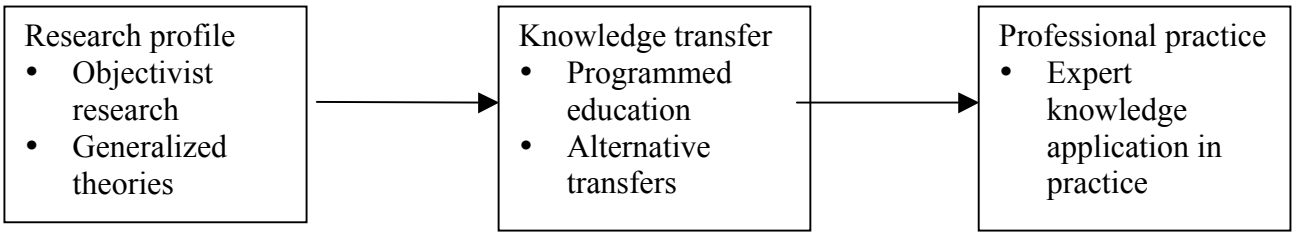
Before examining the professional education issue, we may take notice of the fact that the Real Estate industry, which in all modern societies is an enormous sector, employing a considerable share of the total, national (and frequently international) workforce, has traditionally had a low educational profile. The industry has to a great extent been dominated by non-professionals, in the sense that operators and entrepreneurs, traders and land speculators tend to have had a low educational background, working their way up via trade schools and apprenticeships, and managing more by business instinct than by scientific analysis. Also, the number of people with a higher education, or even a research background, is relatively small, except for specialist functions such as architecture, legal matters, building engineering and large scale business administration. Increasingly, however, development and construction projects, and the technical, political, financial and legal processes involved, have been marked by a growing complexity and new high-level interfaces, widening the doors for graduates from a wider set of disciplines with a solid academic background, perhaps most importantly including professional project management.

The monological model

Thus, we are facing an industry where it is difficult to draw an exact dividing line between avocation and profession, and we have to question the usefulness of Alfred North Whitehead's and other scholars' marked distinction between the kinds of knowledge applied by the two categories of employees. In the words of Wilbert More ((Moore 1970) 1970, p. 56), an avocation is "the antithesis to a profession". It is "based upon customary activities and modified by the trial and error of individual practice". Thus, vocational learning is the learning of existing practice, and vocational knowledge can be expanded only by the trial and error of individual workers – not by the application of scientific methods and theories. A profession, on the other hand, according to More, "involves the application of general principles to specific problems, and it is a feature of modern societies that such general principles are abundant and growing" (Moore 1970)(cited in (Schön 1983), p. 22). In fact, it may – with some justification – be claimed that the raison d'etre of the modern professional school – whether in engineering, medicine, law, social work or business administration – is

that a limited number of theories and analytical tools, can be taught to students through programmed learning methods (mainly lectures), and that the student graduates will be able to apply these theories and analytical tools to a multitude of issues and a diversity of problems later facing them as professional practitioners (It would follow from this also, however, that such knowledge can be used to correct and improve the knowledge and practices of the avocations, bringing them in line with the scientific, technological model, and making the operators of increasingly hi-tech, knowledge-intensive production. This is an aspect that has been granted little attention). An illustration of the rationale behind the professional school model of research and education is presented in figure 1, below.

Figure 1: The monological model



The model is here called monological, in the sense that implicitly the researcher is at the helm, producing knowledge and transferring knowledge to communities of practice, either by way of education or by some other means (writing articles). The teaching is monological in the sense that the professor and his/her grasp of research results is the (only) source of student learning. The student does not produce knowledge, but may at best acquire it 1:1 from the teacher and the books and articles studied. Neither does the practice-field produce knowledge, except for skill improvement, but may acquire it by employing graduate professionals and/or by getting it transferred more directly from the research community. Van de Ven and Johnson describes the model as a "trickle down" view of the "knowledge supply chain", where "knowledge is created and tested by academic researchers, taught to students by instructors, adopted and diffused by consultants, and practiced by practitioners" (Van de Ven and Johnson 2006) p. 805.

Behind the initiatives for practice-learning as part of a professional curriculum, and for academic-business coalescence both in education and research, lies a growing realization that the technical rationality, and positivist philosophy of science upon which the monological model was originally formed, has some serious deficiencies. All three elements of the model have been seriously questioned: Objectivist research is not the only kind of legitimate research, and the positive ideal upon which it was based is not our only alternative; There are other forms of learning and knowledge transfer than theoretical, programmed instruction and the reading of textbooks on the part of students, and the reading of professional journals and research reports on the part of practitioners; and professional practise is to a great extent based on experience, as well as learning and innovation in the workplace – not only on ready-made knowledge supplied by the professional schools via students or direct transfer.

Van de Ven and Johnson have given a very good review of the management literature dealing with this issue (Van de Ven and Johnson 2006). They also refer to special issues in the top management journals, focusing on the "gap" dilemma of scientific theory and practice,

including the Academy of Management Journal (Rynes, Bartunek et al. 2001), Academy of Management Executive (Bailey 2002), British Journal of Management (Hodgkinson 2001), and Administrative Science Quearterly (Hinings and Greenwood 2002).

We shall first refer to some of the roots of the model and some of the criticisms. Then we shall attend to alternative views relating to each box in the figure: Research perspectives, pedagogical approaches, and varieties of practical knowledge.

Deficiencies of the model

The great philosopher of Antiquity, Aristotle, was the first to make a hierarchical distinction between *episteme*, which is the knowledge provided by science, and *techne*, which is the knowledge of the artisan, based on experience and tradition (Habermas 1971; Knudsen 1998; Van de Ven and Johnson 2006). The distinction roughly corresponds to the difference between profession and avocation mentioned above. But Aristotle also made two important qualifications. On the one hand, episteme was useful to inform and improve on *techne*. Thus a scientifically based technology – or "artisanry" – would be possible. On the other hand, the kind of knowledge – or "practical wisdom" (prudence) – necessary for leadership and statesmanship, *phronesis*, was of a completely different kind, groomed both in personal temperament and experience, ethics and science. Aristotle, the mentor and coach of Alexander the Great, even went as far as stating that not even a great statesman would be able to educate his son to be an equally great statesman. Thus, dramatically, Aristotle dismissed the teachings of his own master, Plato, whose vision for the philosopher king greatly exaggerated the role of philosophy and episteme in leadership. Whereas episteme was an analytical science, and as such objective, universal, and teachable, *phronesis* was a result of experience, ethics, and science, and at the same time deeply personal, relational and contextual. And, as Aristotle realized, it is not easy to teach personal temperament and character.

Thus, we may take caution from the philosopher. On the one hand, the scientific approach may provide useful knowledge both for the avocations and professions. On the other hand, the practical wisdom to lead and act requires something other and more than science, and this "other" is difficult to learn. We shall later see that even within the areas where scientific knowledge is applicable, the complexity of the world and the contingencies for implementation may render such knowledge impractical.

The distinction between *episteme* and *phronesis* is roughly on par with the modern distinction between "management" and "leadership". Where management can be reduces to analysis and generalized rules for analysis, planning, systems-making, control and reward, leadership is about the creation of meaning, culture and values. You can teach market analysis, and the principles learnt will most likely be useful in practice. It is more difficult to teach leadership, and success in practice depends on your personality, context – on the "chemistry" between people and your "antennas" for sensing what needs to be done and said.

Enlightened optimism

The writings of Aristotle, and Aristotelian philosophy, were not known in Europe until the twelfth century. With the reading of Aristotle, and with the Renaissance and the Age of Enlightenment, a philosophical basis for empirical scientific research and experimentation

was provided, and it was soon discovered that such knowledge might be useful for industry. Strong promoters, such as the British philosophers Thomas Hobbes and – in particular – Francis Bacon, were dedicated to the promotion of science for the purpose of technological improvement, and thereby the improvement of the human condition.

By the judgement of history, the tandem of science and technology has proven to be near unbeatable for economic and technological progress – although such "epistemic" knowledge has also proven to be a two-edged sword: Not all technological knowledge and not all industrial applications have been for the betterment of humankind. There seems to be a growing resistance to technological expertise in a number of areas of the society. Expertise has been met by counter expertise. School knowledge has been met by alternative knowledge – as in medicine. And the great plans and designs by experts and professional policymakers have been met by a diversity of entrepreneurs, locale innovators and market operators – not schooled in the professional education system.

Hobbes and Bacon foresaw an era of technological progress. Science would provide grounding for technical, empirical research and experimentation, which would help us develop new technologies, and new technologies, would help us improve our material condition. The vision of the French philosopher Auguste Comte, on the other hand, was much more ambitious. The core of his positivist philosophy is the conviction that empirical science was the only source of true knowledge about the world, and that other forms of insights, in the shape of beliefs and common understanding, were on par with superstition and mysticism and of no scientific value – and implicitly, no real practical value (in terms of progress). Therefore, only by extending the realm of true, empirical science to all spheres of human society and building a "technology" of political and moral concerns, would the society rid itself of superstition and ignorance. The tools were to be analytical – logics, mathematics, statistics. And the goal was to have true knowledge of the world through scientific, empirical observation, conducted according to the rules of solid research methodology. Even the normative question of how men <u>ought</u> to act could be resolved scientifically, by first achieving agreement on some ultimate end or higher purpose, and then reducing every step on the way to sentences of causality and instrumental action.

Even if we refrain from the last step, that of deciding what <u>ought</u> to be done on a scientific basis, Comte's optimism on behalf of all sciences or knowledge areas, and paired with this, his rejection of all other sources of knowledge, has put it's mark on all later, higher education and research – for good and bad. For good, it has stimulated a rigorous discourse about epistemology and methodology and helped us distinguish between better and worse scientific works. For worse, it has stimulated the growth of a wide schism between the academic world and the world of practise – in areas where there needn't be such a schism, and it has contributed both to academic arrogance, naiveté and uselessness. Van de Ven and Johnson (Van de Ven and Johnson 2006) summarily proclaim that "Any notions that science and scientific knowledge are objective, impartial, or value free have been buried along with positivism" (p. 831). If questioned, most researchers would probably agree. Nevertheless, the technological-rational model of objectivist research and professional education still lives on (Schön 1983). In the words of Gracie Field's lyrics from 1932: "He's dead, but he won't lie down". The model lives on for a number of reasons – tradition, hegemony, and pride – but also for lack of attractive, viable alternatives.

Again and again it has be proven that the complexity of the world of practice, the uncertainty and instability involved, the uniqueness of individuals and contexts, and the diversity of

values, meanings, and intentions make monological claims to superior knowledge suspicious (Schön 1983). This is obvious on the *phronesis* side of the Aristotelian knowledge divide, but it is also a fact of life in the understanding of how highly complex systems work on the *episteme* side.

Lines of demarcation

One way to save the "professionalism" of professional schools has been to question the legitimacy of including such professions as social work and nursing in the university curriculum – and also to question whether the profession itself (i.e. nursing) has gained anything from becoming "academized". Nathan Glazer (Glazer 1974) argued that the prototypes of professional education were "the learned professions" such as medicine and law, business administration and engineering, while the "minor" professions included social work, librarianship, education, divinity, and urban planning (nursing not even mentioned). These were considered by Glazer to be essentially non-rigorous disciplines and only "saved" as academic subjects through the assistance of disciplines of a higher academic standing, such as economics and political science. The main problem of the "minor" disciplines was seen as the shifting nature of the objectives of the profession, the unstableness of their institutional footing, and therefore the difficulty in developing a solid scientific base. The assumption was that in order for a profession to develop a systematic knowledge base, it needs to be highly specialized and bounded, and have standardized procedures that lend themselves to scientific investigation.

This is in line with Aristotle's thinking, that entities of a higher standing in the universe are the ones marked by stability and predictability, such as cosmic bodies and objects of nature – wherefore human beings, whimsical by nature and difficult to predict, could not belong to the higher entities. For Aristotle the logical conclusion was that in order to deal effectively with such entities, notably to lead people, one needed *phronesis* – not *episteme*. The logical extension of Glazer's argument would be to throw out all "behavioral sciences" from the class of professional schools – not only "the minor professions".

Norwegian-American economist, Thorstein Veblen, went in fact a step further. 90 years ago, while at the University of Chicago, he argued in *Higher Learning in America* (Veblen 1962) in favour of a clear line of demarcation between research universities on the one hand and institutions of lower rank dedicated to professional education on the other. The task of the university was to educate people for "a life of science and scholarship", whereas the obligation of the lower institutions was to make people fit for workday life. Problems and challenges arising in the world of practice could be handed over to the universities for scientific examination. The results could be handed back to the professions and to the professional schools, but representatives of practice and of the professional schools were to have no position in the university, because that would give them a false position, a false boost to reputation which would give technology a prestige undeserved.

Of course, later developments led to the exact opposite – but only at a cost. Universities and other scientific institutions of higher learning, not only in America, but all over the world, came to rely more and more on professional education for recruitment of students and production of graduates. Increasingly, the main task of the universities would be to entrust students with analytical tools and theories relevant to professional jobs. In doing so, however, they largely had to relinquish the practical and experiential learning of workplaces and of the

"lower" institutions of learning. And at the same time as the distance between the academic communities of professional education and communities of practice widened, less and less emphasis was upon fundamental, classical university issues of a philosophical, moral or aesthetic nature.

During the Second World-War in the USA (with war time advances in operations research in general, and with the breakthrough of the Manhattan project in particular), during the post-war rebuilding of Europe, and lately in institutions of higher learning around the world, professional schools providing professional education received legitimacy and came to undergo unprecedented growth. The monological model has of course been questioned and criticized all along, but until recently it has been rather immune to the criticisms.

We have suggested that it has lived on for a number of reasons – in spite of scepticism and critiques – because of tradition, hegemony, and pride – but also for lack of viable alternatives. We shall continue the discussion of learning objectives by first looking at an alternative, dialogical model of thinking about professional education, research and practice. Then we shall consider alternative perspectives of research, education and practice.

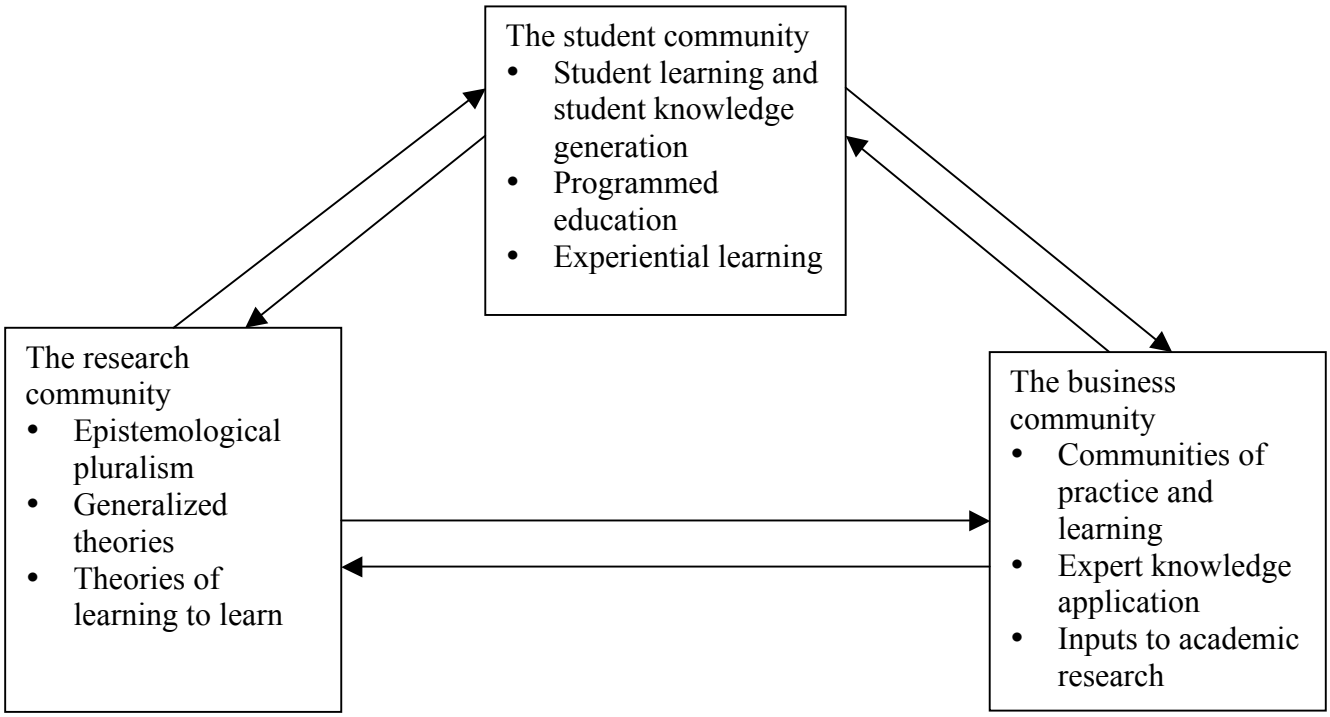
A dialogical model

We have called the traditional model of professional education a monological one, reflecting a basic assumption that professional practice is to apply a limited set of analytical tools and theories, acquired through professional education, to a diversity of problems and issues facing the working professional. Our review has revealed a number of criticisms, severely questioning the foundations of the model. The positivist epistemology of the model is rejected by most researchers. The one-sided view of education in the model is questioned by educators and education philosophers. And the gap between research, education, and practice implied in the model is heavily criticized by policy-makers and by the business community itself.

While it is impossible to examine all possible alternatives relating to the three boxes in the model, we shall examine a few propositions seen as relevant to the present paper, and we shall link them all to an alternative model of thinking about professional education and knowledge generation, here called a dialogical model – seen in figure 2.

The model is dialogical in all directions. All three parties to the model – researchers/ professors, students, and the business community are producing knowledge, and they are all importing and exporting knowledge to the other parties. They are also all motivated by the drive to learn and share – but also subject to the fallacies of the human condition: the guarding of self interest, petty competitiveness and jealousy, the opportunism of a free ride. Let us now first take a "dialogical" view of the research community.

Figure 2: The dialogical model



A dialogical research community

In the monological model, the great issue is one of transfer of knowledge: How can the academic community improve on its ability to transfer knowledge to the practice field – via student learning, consultant influence or by other means? A secondary issue is one of knowledge areas: How can the academic community improve on its ability to connect with the business community in the area of *phronesis* type of knowledge – as opposed to *epistemic* knowledge? Andrew Van de Ven and Paul Johnson (Van de Ven and Johnson 2006) seek to redefine the problematic, focusing instead on a shared production of knowledge through an "engaged scholarship" model of research. Rejecting, as we have done, the monological transfer model, they propose a model of partnership in research, for the purpose of enhancing the relevance of research and increasing the production of research knowledge in relevant fields.

The model of engaged scholarship seek to establish stronger connections between the research community and the business community through active, long-time collaboration in research, exploiting the diversity of perspectives, experiences and active insights in the two camps through active "arbitrage", and being open to a wide pluralism of theories, models, and methods. The core of the argument is that the problem of the theory-practice gap is defined as a knowledge production problem: "Instead of viewing organizations as data collection sites and funding sources, an engaged scholar views them as a learning workplace (idea factory) where practitioners and scholars coproduce knowledge on important questions and issues by testing alternative ideas and different views on a common problem" (Van de Ven and Johnson 2006) p. 809.

A significant aspect of engaged scholarship, then, is the diversity issue (Azevedo 2002), which calls for active communication, team-building, arbitrage and conflict resolution. Another significant factor is that through the collaboration of diverse groups, there is a greater chance for focusing on big questions and significant issues – issues that are too complex to be confronted by any one researcher, or even by any one discipline (Azevedo 1997; Caswill and Shove 2000; Pettigrew 2001). This is also a strong motivating force: "A good indicator of a big question is its self-evident capability to motivate the attention and enthusiasm of scholars and practitioners alike"(Van de Ven and Johnson 2006) p. 810.

While a focus on the big questions may take the researchers in many different directions, choosing among a great number of approaches and methodologies, and sometimes taking the research effort in directions that entirely absolves the organization from its role as a "data collection cite", in most cases we foresee a focus on the collaborating company as a site for case studies and grounded theory-building, with varying degrees of participation in the research process.

A dialogical community of practice

Donald Schön, with his *The Reflective Practitioner – How Professionals Think in Action* (1983) opened up for a new tide of thinking around the practices of the professional. First, Schön observes the kind of "knowing-in-action" that goes on in everyday life, as we respond instantly and spontaneously with intuitive performance to everyday challenges. Here we use our tacit knowledge (Polanyi 1967), acquired to a great extent through subconscious and incidental learning. Often we find it hard to explain exactly why we behave and act the way we do in a certain situation – or even how we are able to accomplish a certain performance level. The result is intelligent action – but without the explicit application of an already existing and formally learnt theoretical knowledge component. And even when we do make conscious use of research-based theories and analytical tools, are we still relying on our tacit knowledge for judging the context and optimizing performance.

On the other hand, we may also take a next step beyond simply "knowing-in-action" and reflect upon what we are doing, what knowledge and skills we are applying and why, what criteria we use to make judgements, what procedures are followed in our intelligent action – and we even undertake such reflection while we are still in the midst of action. This is our "reflection upon knowing-in-action". Such "reflecting-in-action" goes on all the time, in sports games and jazz music, in children's play and adult professional work. You "get a feel" for what you are doing, and you try to improve on it.

Still one step further, Schön introduces the concept "reflecting-in-practice", which relates to the kind of reflection that is done by professionals at work. As the professional at work encounters a great variety of cases and problematic situations he or she also develops a repertoire for dealing with each variety – a "repertoire of expectations, images, and techniques. He learns what to look for and how to respond to what he finds" (p. 60). Repeated confrontations with similar challenges means that the level of surprise goes down, and one's "knowing-in-practice" becomes more and more marked by automatic responses based on tacit knowledge. On the other hand, where the variety of experience is narrow and routine, the professional risks becoming narrow-minded, over-specialized, or "over-learnt" in his or her field of specialization. There is less stimuli for reflection upon their "knowing-in-practice", while the need for doing so is perhaps even greater.

A professional's "reflection-in-practice" can take place instantly or over long periods of time. It may involve a reflection upon one's tacit norms and forms of judgement, on strategies chosen and theories applied, on the feeling for a situation or the framing of a problem or on the role one has chosen for oneself. Such reflection can be stimulated by conversations with colleagues and outsiders, by participation in seminars and review sessions. For some practitioners, such reflection is a rare event – for others, it is a regular undertaking.

In the act of reflecting-in-practice, the professional "becomes a researcher in the practice context. He is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case. His inquiry is not limited to a deliberation about means which depends on a prior agreement about ends. He does no keep means and ends separate, but defines them interactively as he frames a problematic situation. He does not separate thinking from doing, ratiocinating his way to a decision which he must later convert to action. Because his experimenting is a kind of action, implementation is built into his inquiry. Thus, reflection-in-action can proceed, even in situations of uncertainty or uniqueness, because it is not bound by the dichotomies of Technical Rationality" (p. 68-69).

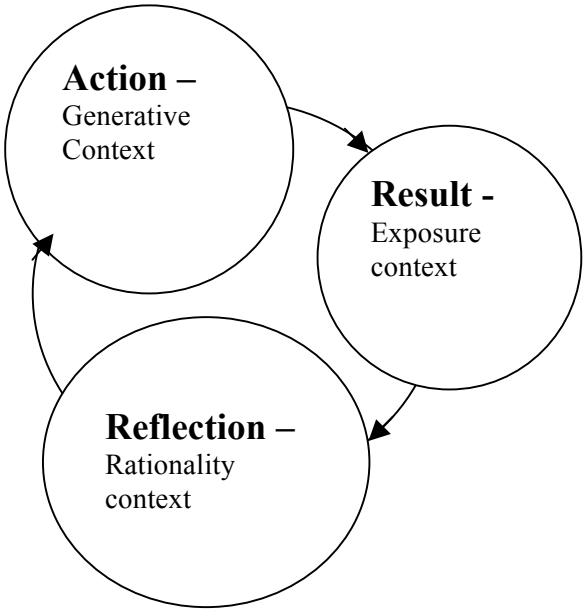
While Donald Schön' s *Reflective Practitioner* does not give a recipe for efficient reflection, and is definitely not "teachable" as a method for improvement of practice, it has become a main reference point in the rejection of the monological model of professional education, and a main stimulant in the search for alternatives – not so much by challenging the academic researcher as by adding legitimacy to the practitioner's own role in the creation of knowledge and improvement of practical professional skills. From here, we shall take another two steps in the direction of practitioner emancipation – focusing upon the professional as a "theory-builder in practice" and on the improvement of contexts for learning and knowledge creation.

A contextual model

In the area of experiential learning, a number of perspectives and models have been suggested, including such components as action, perception, observation of results, feedback decision-making, and reflection. A model by Kolb (Kolb 1976; 1984) includes the immediate or concrete experiences which forms the basis of observations and reflections. The reflections are further assimilated and distilled into abstract concepts, which again can be actively tested and serve as guides in creating new experiences. Other perspectives and models of thinking can be less formal, and focus instead on the incidental and largely sub-conscious learning that takes place in ordinary workday life (Marsick and Watkins 1990).

Studying the organization as an arena and context of experiential learning, we shall use a somewhat simplified model (Knudsen, 1998) including only three components: In order to learn from an experience, a person must act (or at least witness some action), a result of that action must emerge and be observed, and some reflection on whether to repeat the action or try something else must take place. Thus, the three elements are action, result, and reflection, as shown in figure 3 below.

Figure 3: A contextual model of experiential learning



Source: Knudsen, H.: Teorybygging i praksis (Theorybuilding in practice). Kristiansand: Norwegian Academic Press, 1998, p. 196.

While formal school systems, and pedagogical theory and research, traditionally have focused on the symbolic level of learning, such as learning the alphabet, number systems, mathematics, logics, and subsequently built upon such symbol-learning to cover material that can be presented and studied using such symbols (philosophy, history, languages), experiential learning, on the other hand, comes through the senses – through the *aisthesis* component in Aristotle's hierarchy of knowledge. And while scholars traditionally have tended to regard experiential learning as a lower form of learning, there is today no doubt that experiential learning for many purposes is a more effective form (Senge 1990). What you learn through experience tend to be better understood, be easier to remember, and more efficient in use – than what you learn in a more intellectual way.

If, then, we assume that learning in the workplace to a great extent is experiential and roughly includes the kinds of operations mentioned in figure 3, a salient question becomes: How can an organization develop contexts such that the experiential learning process will be stimulated and improved?

In figure 3 it is suggested that each of the three basic components belong in a context, or in an environment of partly overlapping contexts (Knudsen, 1998, p. 196). Action takes place in a "generative context". Results emerge and are observed in an "exposure context", and reflection takes place in a "rationality context". It is suggested that the quality of the three contexts to a great extent determines the quality of the overall learning environment. To the extent that the generative context is a context of diversity and variety of experience, and of intimate communication, we expect it to stimulate creativity, learning and innovation. To the extent that the exposure context is marked by a diversity of up-front, demanding customers, we expect the product or innovation to be tested in a robust manner. And to the extent that the

rationality context is marked by the ability to systematically map out relationships between efforts and results, implement effective feedback systems, and cut across cognitive dissonance and defensive routines, we may expect rational responses in the experiential learning cycle.

A dialogical community of students

Referring again to figure 2, a dialogical model of professional learning implies that students continue to receive a formal or "programmed" education, but in their relationship to the university, more emphasis is upon the students' own engagement and action in learning, and relative to the business community, the doors are opened for sharing in the experiential learning of the workplace.

Donald A. Bligh wrote "What's the Use of Lectures" (2000 (1971)) and exposed the main weaknesses, but also the strengths, of classroom teaching. Postman and Weingartner (1971) argued that students have "built-in crap detectors" and learn more from what the professor does than from what he says. Astin (1977) suggested that students learn more from mingling in the campus student community than from lectures. The histories of old universities also tell us that originally, universities were primarily a college – a meeting place, and a place for living together, where people of different backgrounds and nationalities could exchange viewpoints. Even at Oxford University today, tutorials is a preferred, predominant instrument for learning.

In spite of questions and criticisms we shall assume that lectures, and the lecturing approach to professional education, still can be meaningful for teaching a large number of subjects, particularly for having a large number of students cover the same material. The origins of lecturing date back to a time when books were scarce, and the main task of the "reader" was to read loud and clear from chosen texts, and for students to write down the main points. Gradually, the exegetic part became more important, as students could read the books on their own, but looked to the lecturer for explanation and advice.

Within business schools, the main alternatives to lecturing are the case method, with case discussion in class, seminars, tutorials, group discussions, the writing of term papers and assignments - individually or in groups. In addition comes the writing of theses and dissertations. All of these approaches lend them selves to coalescence with the practice field. Practitioners may be invited to give guest lectures, or to lead tutorials and seminar discussions. Students may work on empirical projects for their term papers, interviewing managers and analyzing company files. And theses and dissertations routinely involve empirical work, which at least presupposes some level of contact with the world of practice.

In the future we foresee a much more rigorous planning of practitioner involvement in the educational programs, not the least in such a practical field as Real Estate management. Topic by topic, learning element by element, we foresee that course outlines deliberately and explicitly will make clear where and how the practice field is being brought into the class-room.

In the present study, however, our emphasis is upon students going away from school, to spend an extended period of time in a community of practice, for the purpose of learning from experience. We shall therefore briefly review some of the contingencies of such "practice learning".

Student learning from practice

A model proposed by Barnett (1997) seeks to outline what ideally may be expected from a person graduating after three years of college studies. The model focuses on three areas of competence: critical reason, critical self-reflection, and critical action. Critical reason relates to an area of competence, where the graduate has acquired basic knowledge and skills, even to a level where he or she is able to reflect critically upon the quality of that knowledge. Critical self-reflection presupposes self-development within a tradition, and includes the ability to monitor and adjust ones own behaviour according to the norms of the environment. Finally, critical action means to understand the impact of ones actions upon the world and be able to take part in an ongoing reconstruction of the world through some kind of "meta-competence" (reflective practice) and problem-solving skills. To this, we would like to add a creative component and a personal developmental one. Just as important as the ability to retain critical distance to the knowledge of a subject area, is the ability to build upon that knowledge to make innovative combinations with other elements of knowledge and to make creative leaps of invention. And, in addition to ones ability to think critically of knowledge, practices and ones own personal projects, comes the character trait of being brave enough to stand up for one's principles and speak out against unjust or unethical practices. Just as important as being a "critical being" (Barnett 1997), is to be a creative and responsible being, as well as having the necessary skills and personality traits for empathy, cooperation, and team work.

In a case study of the effects of work practice Ford, Johnston & al (2005) followed closely the learning profile of three social work students. Based on several, in dept interviews and close observation over time, several important learning benefits and contingencies emerged. Students experienced a "nascent professional identity", with growing confidence and understanding of how things worked. Their formal knowledge was enhanced and they acquired practical skills. They underscored the contribution of an effective practice teacher, and they expressed a sense of "incompleteness" about the course before the placement, and a growing "sense of direction" as they went through the placement. The ability to make connections between theoretical studies and practice was especially enhanced during the writing of "evidence sheets", "placement projects" and theses, which indicates that the making of such connections does not always come automatic, but can be stimulated by demanding some form of explicit "reflection" as part of the programme. In addition, however, certain classes at the university were more stimulating than others in encouraging students to see the practical implications of theory, and also some of the placement supervisors were extremely good, and others not so good, at making the connection visible and understandable to the practice students. Few instances were reported of students actually were challenged to think critically, or where they engaged in such thinking and acting on their own.

The authors note that many of the social work students were placed in contexts of severe budget limitations in a "restricted, under-resourced system, with ethics and values incongruent with the available resources". And they observe that "This is not an ideal environment for the development of advanced professionals. It could easily lead to resignation, cynicism and burn-out, rather than the characteristics which Barnett suggests should distinguish professionals" (2005, p. 406). The latter observation is open for discussion, however. If the future professional is to learn about the real world of social work, the experience of an "under-resourced system" must be part of the learning. It this leads to resignation and unwillingness to seek such a career, it is probably better to learn the hard way as a student,

and perhaps choose another major at the university, than to complete the study and later get stuck in a system not of your liking. Also, the experience of working in an low-budget environment ideally may stimulate divergent and creative thinking about low-cost solutions to problems – which is not an all bad experience.

Improving on the learning cycle

In the void of positivist rejection and criticism of "unpractical" professionals, Donald Schön's *Reflective Practitioner*, and to some extent Peter Senge's *Fifth Discipline*, significantly stimulated thinking of alternatives. To many, the *Reflective Practitioner* appeared to be an attainable ideal of a professional, and answer to questions and criticisms, filling the void. As time has passed since its publication in 1983, however, there is less certainty of the benefits to be derived and the "cult of followers" (Ixer 1999) may be dwindling. The main problem is that, while there is a substantial philosophical and pedagogical backing of the urge to reflect – counting such names as Plato, Kant, Wittgenstein, Pierce, Dewey and Popper ((Ixer 1999), neither Schön nor any other scholar have explained to us how to teach "reflection" to students as a skill. For that same reason, we cannot assess students' ability to learn reflection, or teachers' ability to educate them in reflective arts. While other models of reflection and meta-cognition have been introduced more recently (Eraut 1994 ; Bengtsson 1995; Eraut 1995), we believe that the focused learning of reflection as a discipline is still far ahead.

What probably is more fruitful at the present stage, then, it to reflect over what kind of instruments to use to stimulate student reflection upon their experiential learning, and to build such stimulants into our practice learning programs. Much of what students learn in a practice placement is subconscious, resulting in tacit knowledge (Polanyi 1967). In order to make this type of knowledge a subject of conscious improvement, and of discussion, change, and critical and creative reflection, it somehow needs to become conscious and explicit. This entails a meta-cognitive operation (Eraut 1994), whether <u>in</u> (during) action or as an afterthought <u>of</u> action. We also assume that a stimulant to reflect on action (after the action) will also stimulate the learner to reflect in (during) action. We therefore see the development of a set of tools and stimulants over time, both in collaboration with the host organizations and with educators in our own discipline and parallel disciplines facing the same challenges, as vital to long range success with practice learning in professional education.

Of instruments and tools encountered so far, we can mention a few:

- questions/questionnaires to placement students, early in the placement and later, concerning the work environment, the job, experiential learning, theory application, social interaction and so forth (see Appendix 1 and 2 for examples)
- the writing of a semester paper or other project paper – preferably over a topic of interest to the host organization, to the student and to the academic community
- visiting the students and their supervisors, and discussing their learning progress and ideas for semester paper or other project
- use "evidence sheets" or other formal frameworks for making the student think explicitly on what he/she is doing in concrete work operations (Ford, Johnston et al. 2005)
- "theorising practice" seminars, with discussions and sharing of experiences

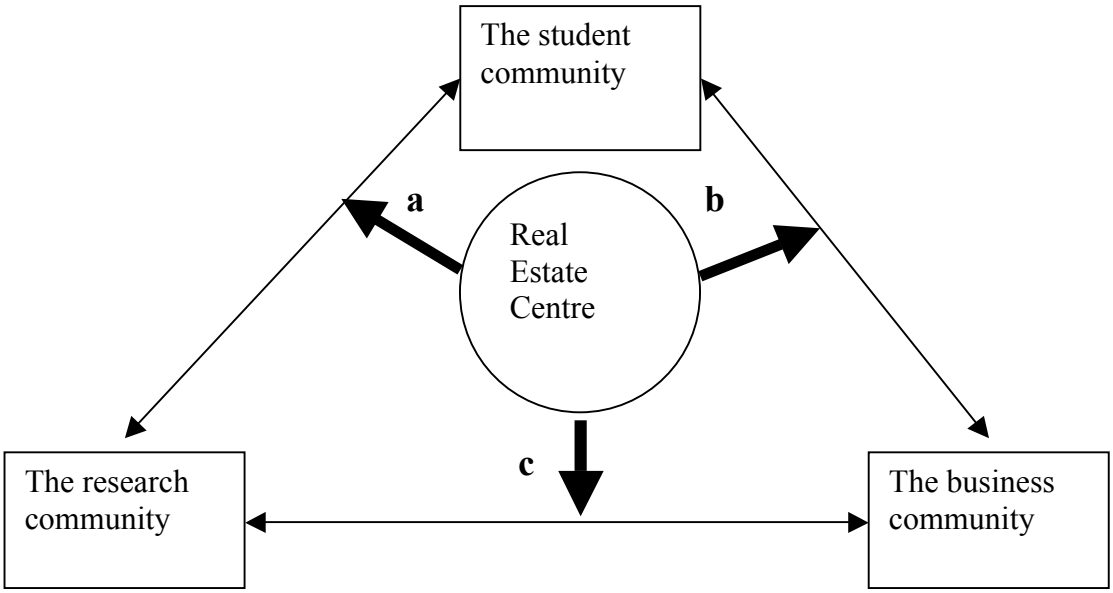
While we do not yet have a "methodology" for developing reflective and meta-cognitive skills, there are some very strong indicators that the use of such consciousness-raising tools,

over time help the students develop lifelong learning skills, or learning-to-learn skills that point beyond their immediate experiential context. The original goal of professional education, as that of providing the student with at set of theories and analytical tools, to be applied to a variety of contexts and problems in a professional career, is then given a new content. Instead of theories and analytical tools only, we can add practical work experience, critical and creative thinking, and the skills of learning to learn to the tool kit. We believe the student then is much better equipped for professional work – and perhaps also more modest in his/her beliefs in what professional knowledge can do for you.

Initiating coalescence

Before presenting our observations from the prototype class of fall semester 2006 in Real Estate management, we shall try to summarize how the dialogical model can be used in practice. Figure 4 below is a modified version of figure 2, indicating points of intervention in future dealings with the academic research community, with students and with the practice community. In the middle of the figure we have now introduced the Real Estate Centre.

Figure 4: Points of intervention



The essence of figure 4 is that a Centre, or some other initiating party, may sometimes gain more by focusing on the connecting links between the main operators in the "educational food chain", and that the reinforcement of any one connecting link, in turn may contribute to the expansion of the whole system, as a wheel of learning and coalescence. Specifically, in the "a" link in figure 4, we foresee increased emphasis on student activity in the learning process, and more responsibility for their own learning. In order for such activity and responsibility to be meaningful, we believe close contact with the business community (as in Real Estate) is both necessary and very stimulating. This may include guest lectures, cases (with a

practitioner present), term papers, master theses and much more. Link "b" implies a much stronger, and more focused practice learning element, where students spend time in the business world, learning from practice, and learning together with practitioners, benefiting from strong learning contexts as outlined in figure 3. Finally, link "c" indicates a direct cooperation between academic researchers and "theory-builders" in communities of practice, for the production of new knowledge. As "industry" more and more comes to mean "knowledge industry", such coalescence more and more becomes a must. The relationship is no longer one of purchasing research results from academic institutions, but one of cooperation in the production of knowledge.

The main strength of figure 4, however, is an overall dynamic of contact and learning. Working with the prototype class of practice learning in Real Estate during fall 2006, clearly has demonstrated how the sharing of responsibility for students has stimulated a shared interest in research collaboration and professional development at a more general level.

Student evaluation – initial and after 12 weeks

The students have been questioned twice during their practice learning period about how the programme has worked, first after one week in working practice, and then after 12 weeks. The questionnaires are presented as appendix 2 at the end of this paper. All the students have responded to the surveys both times. The questions have been sorted into five categories, and are summarised as follows:

1) General comments (questions 1, 2, and 23)
All the students were well received by the firms, but three of the students pointed out that the firms did not seem sufficiently prepared when their practice period started, and one student complained that his contact person did not have enough time to attend to him. One had a problem of being given irrelevant work tasks, but that stopped after he complained.

2) Working tasks (questions 3, 4, and 9)
All students were given interesting and varied working tasks, but one of the students expressed a wish for even more challenging work. The students perceived the main priorities of their firms to be a focus on quality, costs and deadlines.

3) Relations to colleagues and superiors (questions 5 and 6)
All students reported of an excellent relationship to their colleagues and superiors, and most of them also stressed that the relationships were of a particular good nature.

4) The work place or firm (questions 7, 8, and 22)
All students found the job placements and their host firms to be attractive places to be, even excellent! So they would all prefer to continue working for the same firm and branch of industry after finishing their study. One points out that his desire to continue working in this industry is solely due to a particular nice experience during his stay, and one explicitly expresses thanks for being given the opportunity to attend this programme(!).

5) The effects on learning (questions 10 - 21)
All students claims to have learned more or better compared to spending the same amount of time in a classroom. Two of them claim an increased motivation to study relevant theoretical subject matters after the practice learning period. All except one express a greater

appreciation of previously learnt theories and analytical tools (acquired during the first two years of their studies). After the practice period they can better see the usefulness of the theoretical background attained by their earlier studies. Two of the students did not see the usefulness of the two weeks of theory learning during the period, while the others find them useful. Approximately half of the students discuss ideas connected to the work with friends, family and colleagues. They all reflect upon their working tasks, some of them also off work. Most of the students say that they get good and relevant feedback on their work performance, but a couple of them find that too little time is spent on this activity and would like their contact person to spend more time with them. All except three of the students dislike working on the term paper, and do not see any other point in this activity than for grading their work. The three students find, however, the term paper useful. Just one student reports of being able to generate creative ideas relevant for the job, or being creative in other relevant aspects.

The first ten questions were posed to the students both after one week in their placement job and after about 11 weeks. It turns out that the answers have not changed much during the period, except for at the beginning more students pointed out that the firms seemed unprepared for running this programme. Considering the short time used to prepare the firms, and the fact that this was the first time the programme has been carried through, this did not come as a surprise. The surprise has in fact been how successful the programme has turned out to be. The students have been enthusiastic about it all the time, and the overall response has been overwhelmingly positive. A representative statement from two of the students (working together) is: "We are both going to continue studying property development and facility management and will seek a job in this branch of industry, solely due to this pilot project (the practice learning programme; authors' remark)". Our students are also actively promoting the programme for the next year's students, so we probably will have to find more host firms for next year's class.

In accordance with the theories presented earlier in this paper, we see that all the students express that they in one way or other perform some "reflection" upon their job tasks. This is an important basis for practice learning and has been successful element of the programme as related to "The reflective practitioner" approach. What is not as encouraging is that none of the students, except one, report of personal creativity in generating new ideas relevant for the job and the firm. On the one hand, it may be too much to expect after such a short stay in the job. On the other hand, it may also indicate that the students do not fully appreciate their own positive contribution to the firms. Also, it is very encouraging that the students to such a degree value the interaction between theory and practice. This is probably a main reason why so many of the students have been increasingly motivated for further studies in this field (as they have expressed both in the survey and in informal conversations).

Employer final evaluation

The employers were questioned at the end of the program about various features of the scheme, and so far five out of seven have answered. The questions were divided into two categories:

1) About the student

They all report that the students have been functioning very well, both socially and professionally, and they have been easy to follow up. Two of the firms have, however, spent "extended" time on student follow-up. It is, however, very interesting to note that most of the

firms report about students actively and creatively finding solutions to job related problems on their own, while the students themselves by and large do not feel that they have contributed much in this way (as noted above). The reason must be a discrepancy in the perception of what is regarded as real problem solving activities.

2) About the firm

All the firms have been in ordinary operation during the practice period, and all of them found the student's stay useful in a practical way. The expectations regarding the term papers are positive for all the firms, except one who does not know what to expect. The recruiting value of this program seems to be mixed among the firms. All the firms find this initiative from the university and the Centre for Real Estate as a fruitful way to cooperate.

Conclusions

The practice learning initiative at AUC-SM during fall term 2006 has proved successful in almost every expected way. The theories presented in this paper offer some of the reasons why such a scheme may enhance student learning and work as a vehicle for coalescence between the industry and academics in the field of real estate. The nine students enrolled in the program have been enthusiastic about this method of learning, and their reports underline the success of the programme: A very interesting and instructive time in the real estate industry, increased motivation for further real estate studies, motivation for a career in the real estate industry, and a discovery of the value of previous academic learning, as for example accounting, economics, marketing, management, scientific methodology and (for the engineering students) various engineering subjects. The real estate industry sees the programme as a useful way of getting in touch with students and academic researchers. And they expect this contact to be useful in many ways: improving the firm's image, getting certain problems or challenges assessed by outsiders, and building relationships to the university. In this way we may conclude that the programme so far has satisfied all our prior expectations, and has proved its right to be continued at AUC.

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Appendix I: Questions to students after 12 weeks

(The 10 first questions were also posed after one week of practice)

PART I:

1. Do you have any particular positive experiences from the practice learning period?
2. Do you have any particular negative experiences from the practice learning period?
3. Do you feel that the work tasks have been sufficiently challenging?
4. Do you feel that the work tasks have been interesting?
5. How would you describe the relation to your nearest superior?
6. How would you describe the relation to your nearest colleagues?
7. Do you have any opinion on the main characteristics of the company's culture?
8. How is the general mood among the employees?
9. What is the management's main concern or priority – try to rank the following:
    a. Costs
    b. Quality
    c. Dead-lines/speed
    d. Well-being and working conditions
    e. External environment
    f. Technically interesting solutions
    g. Creativity
    h. Other:_____
10. How would you characterise this form of learning compared with ordinary classroom learning?

PART II

11. Have you learned basic skills and working methods relevant for the subject matter? Yes or no – please explain!
12. How do you feel that this kind of education has worked for you? Please explain!
13. Is it possible for you to give examples of theoretical knowledge learned at the university being more meaningful because you see its practical relevance? Yes or no – please give some examples!
14. Have you had any thoughts of creative or critical sort during the practice learning period, for example related to some of the following (which one):
    a. Working processes which could have been more efficient
    b. Possible cost saving measures
    c. Possible time saving measures
    d. Possible new products or improved product quality
    e. Business practices you find blameworthy or unethical
    f. Unfair personnel management/possibilities for improved personnel management
    g. Bad customer service/possibilities for better customer service
    h. Bad treatment of other stakeholders
    i. Other
15. If you have had such ideas, did you ever discuss them with your colleagues or superior during the practice learning period? Yes or no – please explain!
16. Did you discuss them with family, friends or others? Yes or no – please explain!

17. Have you been given work tasks where you have had to find solutions to the problems by yourself, where you also got to see how this solution worked out in practice, or how it was received by customers in the market – or by the management? Please give examples!
18. How has the feedback on your working performance been?
    a. Do you feel you have been given frank and honest feedback? Yes or no – please explain!
    b. Have the work tasks and expectations for your work been precisely described? Yes or no – please explain!
    c. Has the feedback come soon enough? Yes or no – please explain!
    d. Have possible mistakes been explained well enough? Yes or no – please explain!
    e. Have firm specific systems been sufficiently explained? Yes or no – please explain!
19. According to the literature on practice learning it is important to reflect and think over ones daily work. How and to what degree have you reflected upon the way you have solved your work tasks?
    a. While you have been working? Yes or no – please explain!
    b. During working breaks? Yes or no – please explain!
    c. During conversations among colleagues? Yes or no – please explain!
    d. By yourself in your spare time? Yes or no – please explain!
20. Is there a well functioning connection between the learning that takes place during the theory weeks and the learning at your work place? Please explain.
21. You have not finished your term paper yet, but from what you have done so far and what you expect: What do you learn from working on the term paper and what is it's significance for the practice learning? Please explain.
22. Did your stay in the firm make you wish to continue in:
    a. The same firm? Yes or no – please explain!
    b. The same branch of industry? Yes or no – please explain!
23. Do you have any suggestions for changes in the curriculum – things that would make it better? Yes or no – please explain!

Appendix II: Questions to the firms after 12 weeks

About the student(s):

1) Has the student(s) "settled in" during the stay at your firm?

2) Does the student(s) have the right kind of knowledge to perform the tasks he is supposed to undertake?

3) Has the student(s) adapted to the social culture of your firm during his stay?

4) Has the student(s) contributed to creative solutions of problems connected to work tasks?

5) Has it been demanding to follow up the student(s)?

About the firm:

6) Has the firm been in ordinary operation during the student's stay?

7) Has the firm benefited from the student's stay?

8) To what degree does the firm expect the student's term paper to be useful?

9) Does the firm regard the practice learning programme as useful for recruiting personnel?

10) Has the practice learning programme generated ideas for further cooperation with HiA/The Real Estate Centre?