

*Work Together Learning (WTL): Experimenting with the Interrelation of Learning,  
Teaching and Working at the School of Architecture and Design  
(SoA+D), KMUTT*

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The Asian Conference on Education 2012

Official Conference Proceedings 2012

Abstracts

It is now widely accepted that theoretical knowledge is not sufficient to develop the full potential of students. At SoA+D, academics address this issue using “Work-Integrated Learning” (WIL). WIL is a pre-training professional course for students. WIL encourages students to practice soft and hard skills in real work situations, while the teacher’s role is to provide support, advice and receive feedback from company’s supervisor. WIL evaluation reports showed that student’s soft skills are a major problem. This research therefore aims to seek a methodology for improving the design student’s soft skills appropriately. From this objective, one of university project-based learning projects was selected to be a real work situation case study. The researchers developed an experiment called “work together learning” (WTL). Researchers gave different assignments to two student groups. Each group worked together with teachers, who played the role of colleagues. In this experimental situation, teachers could directly observe and supervise the students during work. Students were assumed to practice their soft skill under the teacher’s advice. Based on observation, the student’s soft skill development was evident because, in the role of colleague, the teacher can directly perceive and address soft skills problems. The result indicated WTL is a useful form of project-based learning for students, especially in soft skills improvement. We propose that it will be more effective to insert WTL before WIL in order to extensively practice advanced soft and hard skills before students undergo the WIL experience.

**Keywords** Work Integrated Learning (WIL), Cooperative program, Work Together Learning (WTL), Soft skills, Hard skills

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## Introduction

The educational transformation of 21<sup>st</sup> century required an adoption of a new paradigm of education. The article of “what is 21<sup>st</sup> century education” gives definition of the schools in the industrial era, that will be laced with a project-based curriculum for life aimed at engaging students in addressing real-world problems, issues important to humanity, and questions that matter. The learner should learn learning methodology and the learning must be cause of learner changing broadly. At the same time teacher should be a learning facilitator to encourage learner for integrative development. (Marriam, et. al, 2007) This propensity will effect to the changing role of teacher students and school and shape up a new concept of “knowledge” which is not mainly concern on Theoretical Knowledge but also Practical Skills. Knowledge can be learnt whereas skills require practical exposure and can also be in-born. From a philosophical perspective, knowledge is intangible but skills can be made tangible by applying those skills to a context and getting the desired result (Economic Times).

Main purpose that educational field always use for learning and development is to indicate behavioral objective which is to identify learning result that expect to be happen which can identify observational behavior and Clear tangible behavior (Orstein& Hunkins, 2009). Nowadays, university provides theoretical knowledge based on tacit knowledge, the theoretical knowledge is as a primary basis of learning while practical or applied knowledge which related to experience is needed to enhance students ready for professional future work. Practical knowledge based on real life experience and be significant during the final year before graduation.

Elizabeth A. Jones(1996) have done the research for National Center for Education Statistics(NCES) about the “Expected Learning outcomes” which is to study skill and learning level necessary for bachelor to work and to live in society. The essential skill for graduate students is composed of communication skill (listening, verbal communication, reading, writing and IT skill), critical thinking, problem solving skill teamwork based on IT. These skills are quite important especially to liberal arts education. (Julie Bogart, 2011). Architecture study is one part of liberal arts. However Jones proposes the entire bachelor should integrate this particular skill throughout the curriculum.

As architecture study is one of professional education; Stark, et.al (1986) defined the expected outcome for the professional education composes of 11 issues. It is composes of conceptual competence which is the understanding of professional basic theory, technical competence means the ability of professional basic skill operation which is not cover the skill of psychomotor skill but also included the interpersonal skills and special cognitive skill eg. creative skill which is really important to architecture study and communication arts. The contextual competence means the understanding of sociological context, economics and culture which related to the professional operation. The interpersonal communication competence included empathic and service-mind. The integrative competence means the personal ability to integrate ability of

thinking, context, technique and interpersonal communication together for professional judgment. Adaptive competence for futuristic problem solves orientation. The expected outcome of professional perspective composes of 5 issues, the career marketability, professional character/identity, professional ethics, professional morality or code of conduct, scholarly concern for improvement and motivation for continuing learning.

"Experience is also being a teacher ever" because it will help you in proper dealing with everything in the outside world. Rooijen V. Maurits mentioned universities must rethink their traditional organizational, philosophical and operational tenants to align more closely with real world needs". However, presently educational paradigm is changing from the teacher center to learner and knowledge center. To motivate student to have an effective learning; experience of professional practice is very important especially the architectural students which is one kind of professional education. According to concept of learning style, (Claxton, Murrell, 1987; Kolb, 1981) which has been developed from experiential learning theory explains the process of learning from experiential learning theory. It is composed of concrete experience, reflective observation, abstract conceptualization and the active experimentation. Kolb's theory cited by Svicki& Dixon(1998) proposed the direction of learning and teaching direction, teacher manages learning activities in order to enhance 4 dimensions of learning;

- A) Concrete experience means experimentation, observation and primary sources review or reading, studying by simulation, movie, to study from the actual problems.
- B) The learning from observation (reflective observation) composes of keeping learning logs/journal, experience changing conversation, questioning
- C) The activity enhance learning from abstract conceptualization; report assignment Project based learning
- D) Active experimentation; teaching from simulation, case study, laboratory, field study or project assignment.

### **Work Integrated Learning (WIL), Learning through working experience**

Work-integrated learning (WIL), also understood as work experience in industry, cooperative education, and field education (Emslie, 2011). Universities have been encouraged to implement WIL and have demonstrated an eagerness to do so; yet accounts of university educator's work roles have not kept pace and generally omit the delivery of WIL (Coaldrake & Stedman, 1999; Hall, 2002; Orrell, 2004). WIL is the key strategy adopted by universities to produce the work-ready graduates demanded by employers (Emslie, 2011)

Patrick et al. (2009) suggest WIL is an umbrella term for a range of approaches and strategies that integrate theory with the practice of work within a purposefully designed curriculum. This is on the same direction of King Mongkut's University of Technology Thonburi (KMUTT)

policy. One of WIL; cooperative program is a part of professional education for School of Architectural and Design (SoA+D) to develop student to be quality graduate and to be precise at professional aspect. The cooperative program emphasizes on the system of student's professional operation experience. The concept of this program is the collaboration of school and private office to enhance 4<sup>th</sup> year students (a year before graduation) to get involved in the future career. The expected outcome of cooperative program is to encourage students to apply hard skills in the real workplace and to practice their soft skills at the same time. soft skills are self management skills and people skills such as communication skills. In contrast, hard skills can be learnt in school and from the books. (Hard Skills vs. Soft Skills – Difference and Importance, June 30, 2011 Lei Han )

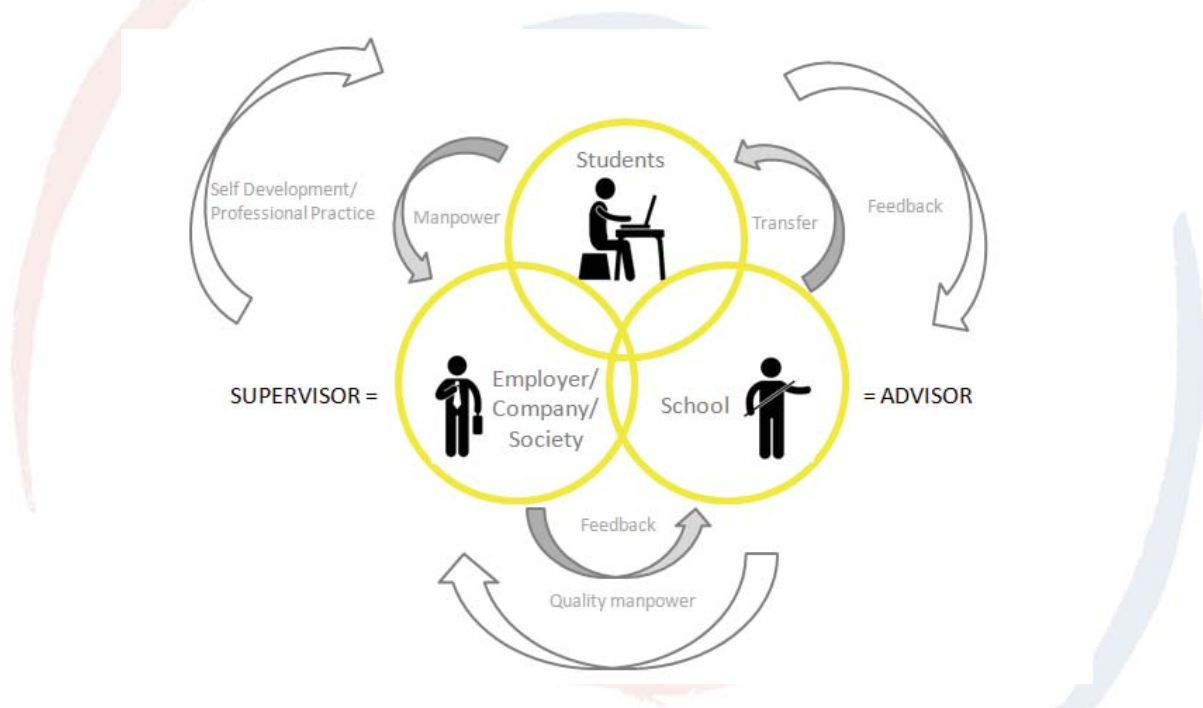


Fig.1: Relationship and benefit of cooperative program stakeholders

This above diagram shows the cycle of benefit and relationship of each cooperative program stakeholders. While students perform as temporary company workers and give manpower to the company they also can experience the professional career and have self development at the same time. The second stakeholder is company which adopts students to work with will get manpower and will perform as a field supervisor to reflect student's performance back to school advisor. The third stakeholder is the school advisor; the duty is activities planning, student counseling, and student evaluation in which customized to the company's jobs At the end of cooperative process Students have to conduct cooperative study report, field supervisors or business owner suggestion and evaluation then advisor responsible for field experience – compile and approve.

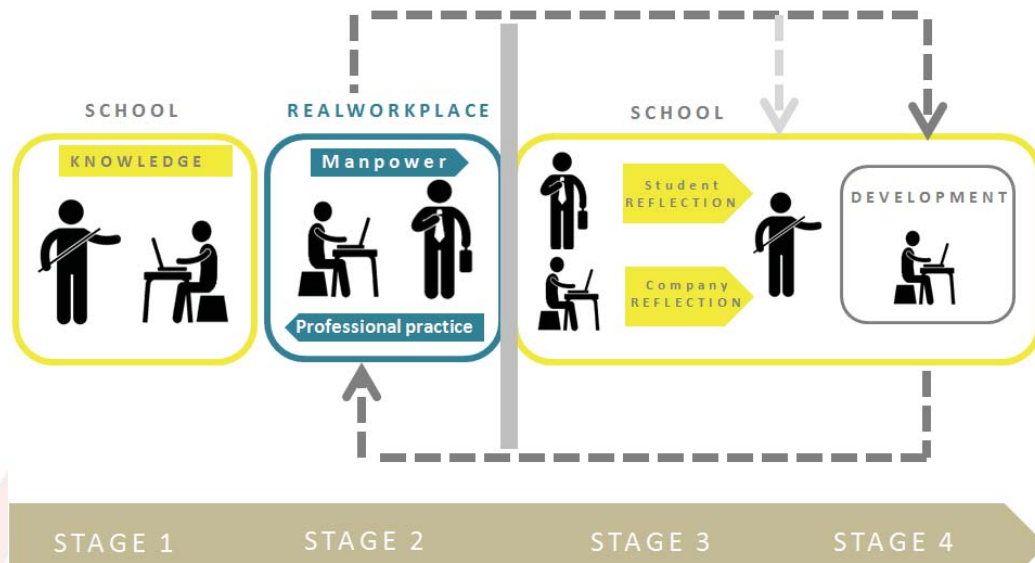


Fig.2: School duty and Cooperative process relation

Fig.3 shows the duty of school from theoretical knowledge provider to practical process with the real company. It shows the limitation of this process that is the school advisor cannot directly observe while students are working in the company.

From the cooperative program evaluation report (2011) exposes the reflection from field supervisor to students in hard and soft skills classification as following; Hard skills: individual's ability to complete technical tasks; program and technical skill improvement, and professional skill improvement such as structure Improve skills for construction knowledge implementation in real profession. At the same time the soft skills which mean interaction with people which students should develop are composed of self management such as time management, childish habit, communication and networking skill improvement, leadership and teamwork improvement. The conclusion is that about 23% is hard skill and about 77% is soft skill needed to be improved.

### Experiment with the Interrelation of Learning, Teaching and Working

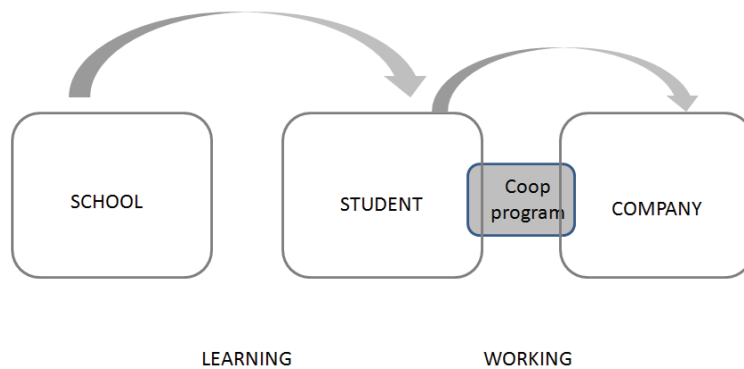


Fig.3: The location of cooperative program

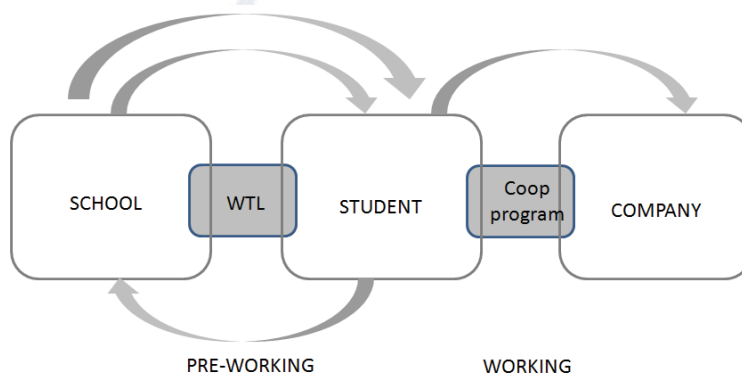


Fig.4: Hypothesized location of additional Work Together Learning model

From the company reflection school should pay attention to improve student's soft skill. This is the background of question "How to develop and improve student's soft skill appropriately". The objective of this study is to experiment the methodology to improve students soft skill appropriately. If students have an opportunity to improve their soft skill, they assumed to gain more benefit of self integrative development of soft and hard skill practicing while attending cooperative program. Normally, soft skill practicing cannot effectively practice in school it usually related to emotional Intelligence or EQ which most soft skills are not taught well in school and have to be learned on the job by trial and error. (Han, 2011).

An university project-based learning was selected to be a real work situation case study "The Museum of Renaissance Conservation and Developing Learning Communities for Sustainable Tourism at Baan Ngangoi and Baan Ponplalol, Tao Ngoi district, Sakhon Nakron province,



Thailand” one of community development project of the university has been chosen to be a trail project to develop student’s soft skill evidently. It is consistent to the article of “what is 21st century education” which mentioned about the role of an interdisciplinary, project-based, and research-driven, connected to the local community effected to thinking skills, multiple intelligences, technology and multimedia, the multiple literacies of the new paradigm of education. Same perspective with Abeysekera (2006) who referred to “service learning” that is student has intentional learning goals and reflects actively on what is being learned throughout the experience. These programs are intended to develop research, critical thinking and interpersonal skills through participation in public service. However service learning may suit some academic programs more than others. For instance, they may be less suited to business-related studies, such as accounting, on the basis that most accounting professionals are employed by firms in the private sector (Certified Practicing Accountants, (CPA), 2002). In case of future architect or engineer need to possess both ‘hard’ and ‘soft’ skills. Soft skills are important because architects interact in organizational settings instead of working by themselves. Soft skills may be grouped under ‘conscientiousness’, ‘initiative’, ‘social skills’, ‘controllability’ and ‘commitment’ (Ofori, Low, 2000).

#### **Methodology: Work Together Learning (WTL)**

The methodology of this participation observation research involved the development of appropriate soft skill can be divided into 3 stages. It is started from the first stage which is “Reviewing” The secondary data of relationship of WIL cooperative program in SoA+D work and knowledge, company feedback, type objective and expected outcome of WIL program are the main interests. Then the second stage is WTL model design. And the last stage of this study is experiment and implementation before make a conclusion and suggestion.

“WTL” (Work Together Learning) is a process adopted for experimenting with this study. The conceptual development of WTL is based on grounded principle of WIL (Work Integrated Learning) but to investigate and to fulfill WIL’s absent dimension. The hypothesis of this experiment is WTL should be an appropriate preprocess before cooperative program. The simulation of the real workplace atmosphere in school project will drive students practice their soft skill automatically. Advisors gave different assignments to two student groups and work parallel. Each group composed of 2-3 instructors and 3-4 students, students worked with advisors. In this experimental situation, advisors played the role of senior/ field supervisor instead of knowledge giver accompanying with students who acted like co-worker. The multidisciplinary teams of 4th year of Interior Architecture, Architecture and Communication design assembled for this experimental study sample, the major processes are as following

**Method 1:** Co-creation: To create a workshop or activity for data collection, Advisors (Field supervisor) gave the objective of data collection to co-worker and brainstorming to sort out the most suitable process.

**Expected outcome:** Students can practice soft skill; communicating, listening, engaging in dialogue, giving feedback, cooperating as a team member, solving problems, and resolving conflict. Leaders at all levels rely heavily on people skills, too: setting an example, team building, facilitating meetings, encouraging innovation, solving problems, making decisions, planning, delegating, observing, instructing, coaching, encouraging and motivating.

**Method 2:** Design and presentation and community: To bring the result from co-creation workshop to design the learning space for community, present and get some feedback from them.

**Expected outcome:** Students can apply professional skill eg. Computer skill, design skill, construction and drawing skill, while practicing soft skill at the same time.

With this methodology, teachers could directly observe and supervise the students during work. Students were assumed to practice their soft skill under the teacher's advice.

## **Result**

From the observation of WTL experimentation can be divided into 3 stages

### **First stage**

**Advisor:** Change the role from knowledge giver to be field supervisor, advisors had to spend much input to reduce to blur the hierarchy and reduce the distance between advisors and students

**Student:** Students still shy to pretend as a co-working with advisor without strong hierarchy. They are still wait for confirmation and decision making from advisor.

### **Second stage**

**Advisor:** Being a motivation driver and facilitator and consultant, to stimulate student's discussion without suggestion, propose question to group of student and being moderator for discussion

**Student:** Self adjustment to be part of teamwork gradually, discussion and brainstorming occurred automatically and smoothly. They have freedom to learn and freedom to share. Students have more self confident to their idea, they argued the advisor's idea reasonably. This stage initiated sense of belonging and responsibility of students to their work/project.

### **Third stage**

**Advisor:** Working students without hierarchy, propose and listen to students appropriately

**Student:** have more leadership skill, work management and communication skill with both team worker and supervisor, Learner as an initiator and whether or not the group members worked effectively and learnt from and with each other.



### Analysis of the results

From this result, it can be analyzed that Work Together Learning (WTL) should be engaged with the actual project or field study. In this case the project is community development/community service type. The outcome is quite satisfied and clearly noted. The students can develop their soft skill as the experimental expectation. WTL is very useful to be a preparation process before cooperative program. When the student participate the cooperative program with the company, they will be able to adapt their ability and their experience both hard skill; the theoretical knowledge that they have been learnt from school and the soft skill that they have been practice with the WTL participation.

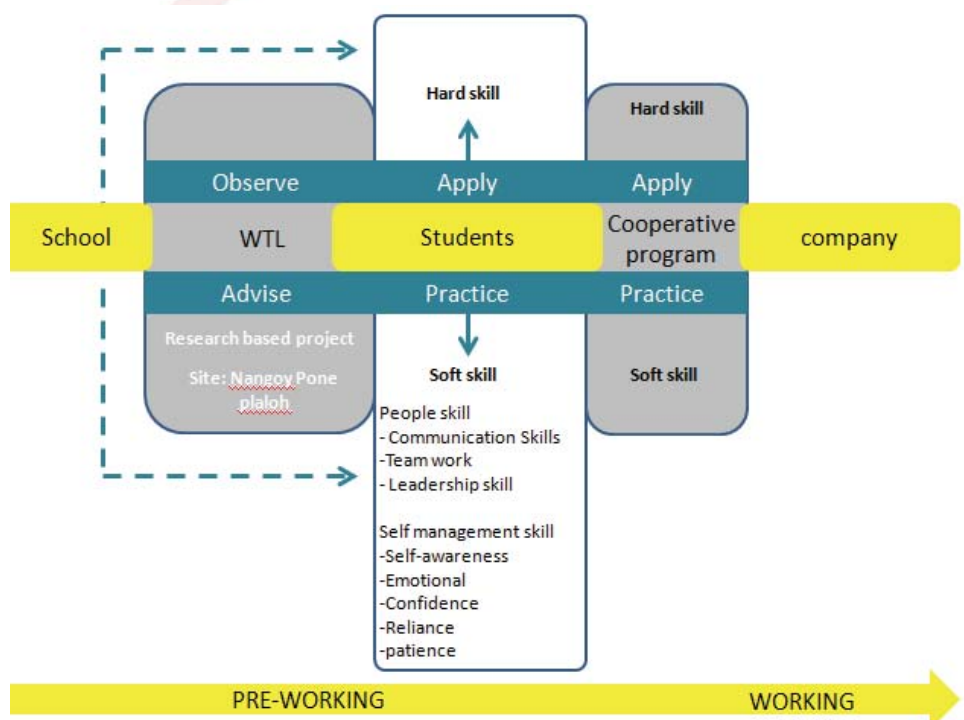


Fig.5: Suggestion of the relationship between WTL and cooperative program

The diagram above shows the process which WTL should be assessed into either subject which operated with the company or the organization outside to enhance cooperative program. The advisor can observe the student's ability closely and give them advice appropriately.

### Limitation of this study

The limitation of this study is the duration of the experiment. Actually, the cooperative program duration is approximately 16 weeks. The WTL experiment is only 5 days. The limited time encouraged two groups of student pay much attention to their task consistency until finish. The

assumption is how long students can concentrate and perform their responsibility to their mission continuously as professional do? Another limitation is the ratio between advisors and students. This experiment, it is about 1:2 so, the advisor can take care of students almost one by one and closely. So what is the suitable amount of students per an advisor. In the real workplace, on the other hand, school cannot predict the amount of the field supervisor in the real workplace. WTL on this study aims to practice and apply for architecture/design students who have to be trained on people skill as same as specific professional hard skill. To bring this WTL to apply with different professional education or study field, WTL process should be adjusted as followed the objective and nature of each type of education. At last the appropriate evaluation of WTL experiment on this study is not be assured this evaluation needs to be elaborate.

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