

Evaluation on the Effectiveness of Teaching Beliefs and Instructional Design on University Students' Learning

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ABSTRACT: *Takming University of Science and Technology is a university of science and technology emphasizes teaching. I have served as an associate professor for 24 years, and my focus has been on teaching and school affairs and supplemented by personal research. I have been dedicated to teaching, research, service and counselling, ensured balanced development in all aspects and contributed my knowledge to the school and students. In the past 5 years, I won the Outstanding Teaching Award in 2011, 2013 and the Excellent Teaching Award in 2014 academic years and recognized as number one in the school's evaluation of outstanding teachers in teaching. Based on the outcome of my efforts in teaching and research, I am putting forward my study on evaluating students' learning effect in terms of my personal beliefs and teaching design. I hope this research can make a contribution in teaching practice. My main teaching topic focuses on tourism and leisure because of the department I currently belong to, and my minor teaching topic is vehicle technology application, which is taken from the work I did in my previous department. As a teacher, my role in teaching is to enable students to be proficient in their specialties and be able to apply their knowledge. I hope I can break students' stereotype of general curriculums. Therefore, I emphasize students' understanding of and inspiration from the curriculums in addition to the theory and practice taught by me. Moreover, I also encourage students to put forward their own ideas and ask questions related to curriculum learning, and enable students to better understand the knowledge taught in classrooms through interactive communication and dialogue. Kahoot is one of the most innovative interactive teaching assessment software in recent years. After comparing and trying three types of similar interactive teaching software, I find Kahoot to be the most vivid e-learning interactive teaching software and can best meet students' learning needs. With Kahoot, interactive teaching can enhance students' learning interests, attention and learning outcomes. My teaching belief is based on the motto of Takming University of Science and Technology, sincere belief and diligent study. As a teacher, I have been devoted to teaching earnestly and enthusiastically. My teaching beliefs and instructional design can be elaborated in the following five sections. (1) Create learning atmosphere in classroom and provide guidance to students thinking and innovation. (2) Develop international perspective and competitiveness. (3) Learning attitude and professional knowledge. (4) Develop the ability to think independently and solve problems. (5) Teach with enthusiasm and no child is left behind. My teaching beliefs and instructional design have positive results on students' learning. Based on my teaching beliefs and instructional design, I have combined teaching effectiveness and applied effective teaching methods, which enable students to have very good leaning outcomes. They have outstanding performance in competition, license acquirement and paper publication. The evaluation on teaching outcome is divided into two parts: evaluation on students' achievements and teacher's individual achievements. Students have shown good achievements in terms of competition results, national license acquirement, practical projects and internship, publication of conference papers and journal articles as well as postgraduate study.*

Keywords: *teaching beliefs, instructional design, students' learning effectiveness*

I. INTRODUCTION

Takming University of Science and Technology is a university of science and technology emphasizes teaching. I have been involved in the vocational education in Takming for several years, continued to improve myself in teaching, research, service and counselling, assisted the Department of Marketing Management in achieving the first criterion in the Ministry of Education's evaluation and been granted with Teaching Excellence Projects by the Ministry of Education. I have served as an associate professor for 24 years, and my focus has been on teaching and school affairs and supplemented by personal research. I have been dedicated to teaching, research, service and counselling, ensured balanced development in all aspects and contributed my knowledge to the school and students. In the past 5 years, I won the Outstanding Teaching Award in 2011, 2013 and the Excellent Teaching Award in 2014 academic years and recognized as number one in the school's evaluation of outstanding teachers in teaching. I am now participating in the 2015 academic years' evaluation of outstanding teachers in teaching and excellent teachers in teaching. I have received Outstanding Teaching Award or Excellent Teaching Award for 8 times in total during my term of office as an associate processor, and have been praised and recognized in the fields of teaching, research and service by colleagues and students.

My main focus was teaching, supplemented by research, during my term of office as an associate professor. I have put a lot of efforts in guiding students to participate in competition, license tests, projects, seminars and journal publication, encouraged students to participate in competition, license tests and projects and enhanced students' professional practical competence on a teaching basis emphasizing both theory and practice. The results of recent years have been recognized through students' awarded works and obtainment of licenses. A total of 20 awards have been accumulated from students' participation in national professional competition led following my lead. I have published 8 books about license obtainment practices and guided students to obtain 90 professional licenses issued by the Examination Yuan. In terms of conference and journal publication, I have supervised graduate students in writing theses and published 11 articles in internal journals and 1 article in domestic journal while publishing 51 conference papers at home and abroad as a result of my supervision to graduate and undergraduate students on practical projects. I have also assisted students in their out-of-campus internship and taken students to field trips. In addition, I have led graduate students in our department to participate in international academic symposiums abroad in order to broaden their international perspective. Moreover, I took the lead to recruit and supervise the first Indian graduate student in the University and promoted international academic exchange in addition to implementing the Deep Cultivation Project and Industry-Academia Cooperation Projects of the Ministry of Education in order to promote practical teaching and enhance students' ability in applying their knowledge. Thanks to my earnest and responsible teaching attitude as well as vivid and pragmatic teaching materials, I was awarded the most popular teacher of the campus in the 2004 academic year. My enriched and innovative teaching materials, mastery of knowledge in my field and emphasis on both theory and practice made my average score in instructional assessment 4.639 in the past five years, which is one of the highest among all teachers in the university.

In addition to the supervision of undergraduate students' projects and graduate students' theses, I have continued to improve my personal research competence. I have been the principal investigator for 14 industry-academia cooperation projects and 12 research projects of the Ministry of Science and Technology with 28 journal publications (25 in international journals and 3 in domestic journals) during my term of office as an associate professor wherein 26 journal articles were published in the latest 7 years (25 in international journals and 1 in domestic journal). Moreover, a total of 74 conference papers were published, wherein 21 were in international conferences and 53 were in domestic conferences. Among which, 36 conference papers were published in the past 7 years, of which 16 were international and 20 were domestic. I also own a ROC patent in invention category. The certificate number is No. 096957.

Based on the outcome of my efforts in teaching and research, I am putting forward my study on evaluating students' learning effect in terms of my personal beliefs and teaching design. I hope this research can make a contribution in teaching practice.

II. LITERATURE REVIEW

1. Definition and meaning of teaching beliefs

Teaching belief is defined as an inner thought held by a teacher towards curriculum, teaching, students, teachers, roles, school environment, evaluation, etc. in the course of teaching. This inner thought usually represents a unique way in which a teacher's thought on teaching scenarios are affected by personal experiences of the teacher and will affect the teacher's evaluation, perception, plan and decision on how teaching activities will be carried out (Gung-Jyh Wang, 2000; Ya-Hui Wu, 2000; Su-Ling Yang, 2011)

Therefore, teaching beliefs can be defined as a mode of firm inner thought. Kai-Ping Wang (2006) clearly pointed out that teaching beliefs are consistent psychological tendencies, attitudes or cognition possessed by teachers; Ya-Lan Chiu (2006) believed that teaching beliefs refer to teachers' attitudes and viewpoints of their roles and educational matters. The attitudes and viewpoints will directly affect the teachers' teaching activities; and Mei-Mei Cheng (2000) emphasized that teaching beliefs are a unique personal inner thought when teachers are faced with all sorts of relevant factors which actually will affect their evaluation and plan for teaching or even decision-making. Of course, in addition to being viewed as firm personal inner thought, some scholars particularly emphasized the impact of teaching beliefs on the course of teaching. The study carried out by Cheng-Pin Lin (2004) made it clear that teaching beliefs are part of teachers' educational belief system which guide teachers to uphold consistent viewpoints related to teaching in the course of teaching. Yi-Sheng Su (2004) also believed that teaching beliefs are a type of inner thought which expresses acceptable or positive attitudes or psychological inclinations through their beliefs in knowledge, role of teachers, teacher-student relationship and student difference during the teachers' course of teaching.

Teaching beliefs are a firm inner thought. Therefore, when applied to teaching, they will show a unique established pattern on various factors that might affect teaching during the course of teaching, such as curriculums, materials, teachers themselves, students and environment, and they will guide teaching activities or behaviors (Su-ling Yang, 2011) In addition, teaching beliefs can further be seen as a powerful vehicle, which makes teacher's teaching preparation more effective and can make us understand teachers' practice and teaching

behaviors in classrooms (Hart, 2004). Teachers have an unsuspecting viewpoint towards various teaching affairs, including beliefs in educational objectives, teaching methods, course development, teacher-student relationship, class management and students' learning activities. The aforementioned beliefs will affect teachers' thinking, judgement and decision on teaching-related affairs, which means that teaching beliefs will deeply affect teachers teaching behavior (Su-ling Yang, 2011).

To sum, teaching beliefs are core faith that guides teachers' teaching. They cover the viewpoints of teachers towards teaching, learning, knowledge, role of teachers and creation of classroom environment. They are an expression of attitudes that combine rational logical judgement and sentiment. If teachers have essential knowledge on curriculums and teaching based on their personal professional background, establish good teacher-student relationship through the course of teaching and make good use of the teachers' personality traits, the teachers can effectively enhance their teaching efficacy.

2. Definition and meaning of curriculum and teaching decision-making

Curriculum decision-making refers to a course of decision-making involved by personnel at school education level, who jointly participate in planning or selecting intentional and meaningful learning projects, including goals, content and evaluation in accordance with overall consideration, including responsibility, purpose, value, belief, expectation and benefit, and deliberate, judge, communicate and negotiate several possible options. Therefore, curriculum decision-making refers to the decisions made by all levels, usually school education level, on purpose or means of education, curriculum objectives, interpretation of course content, selection of materials and preparation of syllabus. The aforementioned decisions are affected by beliefs, interests, professional knowledge and ability and policy and determine the action and intention of teaching. Su-ling Yang(2011) believed that curriculum decision-making is the best option or most appropriate judgement made by a teacher based on his/her educational philosophy and value through the course of deliberation, judgement, communication and negotiation when faced with curricular activities, problems or plans. Of course, curriculum decision-making can also be the course in which educators make the most appropriate choice for various problems in the development of curriculum from a number of possible plans after deep discussion and careful thinking process. In short, curriculum decision-making is decisions made for curriculums. It can also be seen as a selection and judgement mechanism related to curriculum choice (Ching-Tien Tsai, 2007).

As for teaching decision-making, it refers to the conscious choices made by a teacher in the course of teaching out of two or more possible action plans after the process of deliberation and judgement. Therefore, teaching decision-making is conscious choices made by a teacher in the course of teaching after deliberation and judgement. Of course, if teachers can use their own professional knowledge to make various decisions that bring about better performance of students from all sorts of possible teaching programs, techniques or strategies when facing complex and changing teaching situation before, during and after teaching, it can be deemed as a demonstration of teaching decision-making (Su-ling Yang, 2011). Therefore, Yen-Lun Lo (2004) proposed that teaching decision-making is the meaningful decisions teachers made in the course of teaching by applying professional teaching knowledge and teaching experiences to evaluate teaching programs, techniques or strategies based on information faced in perceptual situation in order to adapt teaching scenarios and help respond to students' leaning needs and achieve teaching objectives.

The connotation of curriculum decision-making can be numerous. Generally, it is believed that curriculum objectives, content, students' learning experiences, learning activities, selection of materials, teaching patterns, teaching strategies or methods, teaching materials or resources, teaching space or environment, teaching evaluation, teaching time and grouping modes can sort of depict it. Hsiao-Lan Chen and Liang-Ping Jian (2002) also proposed in their study that to break the power relations of "authorization by the superiors" in the hierarchy of education, curriculum decision-making emphasizes autonomy and can be realized by curriculum objectives, content, materials, implementation and assessment methods. As for teaching decision-making, Stiggins (2001) emphasized that the mode of teaching should be based on students' learning activities, achievement assessment and teacher-student interaction. The scope of teaching decision-making include source of materials, teaching content, teaching procedure, teaching equipment, learning activities, student assessment and management strategies.

3. Definition and meaning of teaching effectiveness

Teaching effectiveness means that teachers focus on effective teaching, clarify all factors that affect teaching in the course of teaching, and use effective methods to enable students to have good performances regardless of learning or behavior, leading to achievement of educational goals (Chin-Tsai Lin, 2001). Therefore, teaching effectiveness is the expected results arising from teachers' engagement in teaching(Gordon, 2003, Shahidand Thompson, 2001). Teaching activities shall meet the effectiveness of teaching and affect students' cognition, perception and behavior. Therefore, it includes teachers' personality, teaching behavior and teaching beliefs (Lung-Min Li, 2002). Teaching effectiveness also refers to the performance of a teacher when engaged

in teaching. Teaching effectiveness means that teachers can carry out teaching in accordance with teaching plans when engaged in teaching in order to achieve educational objectives and bring about students' excellent performance in learning or behavior. Teaching effectiveness also means that teachers can create good learning atmosphere, plan efficient learning environment and enhance students' learning outcome through effective teaching methods.

When conducting the study related to curriculum leadership and teaching effectiveness, Jia-Wen Yeh, (2007) pointed out that teaching effectiveness means that teachers use appropriate teaching strategies, establish good interaction between teachers and students, create pleasant classroom climate based on the teachers' teaching beliefs in order to enhance students' learning outcome and achieve educational objectives. In short, effective teaching behavior exhibited by teachers in the course of teaching in order to achieve teaching objectives and enhance students' learning outcomes are deemed as included in the scope of teaching effectiveness .

According to McBer (2000), teaching skills, professional characteristics and classroom climate are the three main factors that affect teaching effectiveness. Yeung & Watkins (2000) believed that teaching effectiveness includes: teaching involvement, students' learning requirement, teacher-student communication and relationship, academic knowledge and teaching techniques, curriculum plan and preparation, classroom order and rules, effective teaching behavior, teachers' teaching commitment and sense of self-trust.

In her study on evaluation of teaching effectiveness, Li-Ya Feng (2001) divided teaching effectiveness into two categories: presentation of subject knowledge and classroom management ability; Su-ling Yang (2011) discussed that teaching effectiveness can be divided into five aspects: teaching preparation and plan, professional knowledge and ability of teaching and teaching skills, classroom management, teaching outcome and evaluation and students' achievement.

If taking teaching effectiveness as an object of research, Chin-Tsai Lin (2002) believed that it can be explored in six aspects: teacher's belief in self-effectiveness, organization and use of materials, teaching skills, use of learning time, establishment of teacher-student relationship, and creation of classroom climate. Reynolds, Muijs & Treharne (2003) argued that teachers' teaching effectiveness includes three main factors: professional characteristics, creation of good learning atmosphere in classrooms, and good teaching skills.

Pai-Liang Hsieh (2006) stressed that teaching effectiveness should include eight aspects: a teacher's personal sense of teaching effectiveness, general sense of teaching effectiveness, collective teaching effectiveness, subject knowledge and teaching skills, curriculum preparation, organization and presentation of materials, classroom management, teacher-student interaction and students' academic performance. Yang-Chih Hu (2007) investigated factors that might affect teaching effectiveness in the course of teaching in three stages: preparation stage, including curriculum preparation and teaching preparation; implementation stage, comprising teaching methods, organization and presentation of materials, classroom management; and assessment stage, consisting of instructional assessment, teaching evaluation and evaluation reflection. Based on the compilation of research materials related to teaching effectiveness, we can conclude that there is a direct causal relationship between teachers' teaching effectiveness and students' achievement (Ding & Sherman, 2006). We can draw from the aforementioned literature that teaching effectiveness means that with effective teaching methods, teachers can enable students to achieve learning outcomes in the course of teaching.

III. TEACHING TOPICS

My main teaching topic focuses on tourism and leisure because of the department I currently belong to, and my minor teaching topic is vehicle technology application, which is taken from the work I did in my previous department. The students I am teaching include both undergraduates and graduates. I teach incentive travel, technology and application, introduction to leisure business, hotel management, tour leader and tour guide practice in undergraduate division, and lead seminar, supervise graduate research projects, and teach hospitality management, leisure industry analysis and recreation theory in graduate division. The curriculums of undergraduate division consist of foundation of tourism and leisure profession. In addition, I lead students to participate in competition, license exams and domestic conferences to enhance their practical professional experiences, and encourage students to take part in off-campus internship. Such preparation prepares students for employment after graduation. The theme courses in graduate school train students to investigate new subjects in-depth, collect literature, apply research methods and analyze and discuss problems, and encourage students to think independently and make independent judgement. Moreover, I guide students to participate in domestic and international conferences which enhance their international perspective and competitiveness. Research results are published in domestic and international conferences and international journals and complied in their master's or doctoral theses.

I master the knowledge in the subjects I teach and emphasize both theory and practice. Moreover, I have nearly a hundred professional licenses related to teaching from home and abroad, and published 8 books related to tour leader and tour guide license and practice. In my term of office as an associate professor, I have

been the Principal Investigator for 14 industry-academia cooperation projects and 12 research projects of the Ministry of Science and Technology with 28 journal publications (25 in international journals and 3 in domestic journals) during my term of office as an associate professor wherein 26 journal articles were published in the latest 7 years (25 in international journals and 1 in domestic journal). Moreover, a total of 74 conference papers were published, wherein 21 were in international conferences and 53 were in domestic conferences. Among which, 36 conference papers were published in the past 7 years, of which 16 were international and 20 were domestic. I also have a ROC patent in invention category. The teaching topics complement students' schoolwork and academic research i.e., my professional knowledge of teaching is applied to students' schoolwork and academic research, and the results of students' schoolwork and academic research are fed back to the application of teaching topics. The average score of my instructional assessment in the past 5 years is 4.639. The content of my teaching topic is informative and innovative. I master the knowledge of the subjects I am teaching, my teaching style is vivid and I apply e-learning to my teaching. Students have shown great learning outcomes and had outstanding performance in competition, acquirement of national licenses, and publication of conference papers and journal articles. These made me among the teachers who had the highest score from institutional assessment in the school.

One of my teaching topic focuses on tourism and leisure area. The teaching outcome is fully fed back to the knowledge of the discipline. The tourism industry has been booming in Taiwan in recent years, and the government has identified tourism and leisure industry as one of the six emerging industries. The number of foreign tourists visiting Taiwan has continued to hit new high and reached about 10.43 million visitor counts in 2015, leading to an increase in the demand for international tourist hotels. According to the provisions of the Regulations for Administration of Tourist Hotel Enterprises, tourist hotels can be divided into international tourist hotels and general tourist hotels. Based on the latest statistics of the Tourism Bureau in June, 2016, there are 75 international tourist hotels and 44 general tourist hotels, making them 199 tourist hotels in total with 27,726 rooms. In response to the increased demands of visitors, new tourist hotels continue to increase, leading to flourishing development of the tourist hotel industry. Tourist hotels provide tourists with several functions, including accommodation, catering services, exhibitions, social activities, entertainment and shopping, which make tourist hotels a very important part of the tourism industry. In response to the trend of globalization and internal standards, the Tourism Bureau has implemented a two-stage hotel star rating evaluation system. The first stage focuses on evaluation on "building facility," and the second stage emphasizes "service quality" evaluation. Through start rating evaluation, it is expected that the overall service quality of the hotel industry will be enhanced, and it will allow domestic and overseas consumers to choose hotels based on their traveling budget and requirement. The teaching topic in the tourism and leisure area covers introduction to leisure business, hotel management, incentive travel, hospitality management, leisure industry analysis, tour leader and tour guide practice and seminar. The curriculums demonstrate continuity of teaching development. The teaching results not only are fully fed back to the subject knowledge but integrate practical experiences into the subject knowledge, e.g., practical graduation projects, internship in travel agencies and hotel industry, extracurricular competition, acquirement of national tour leader and tour guide licenses. The conclusions from teaching and research are applicable to teaching and research and can demonstrate specific teaching outcomes, such as submission of papers to domestic and international conferences and submission of papers to international journals. Such learning and research results of students are specific demonstration of teaching outcome. The results are very good. Another teaching topic focuses on technology application, which is taken from the tribology laboratory I established for the department I previously worked for. I continue to teach and supervise graduate students' research in the application of tribology. Under the efforts of the research team, we have had fruitful results in recent years. In addition to joint publication with students, I also continue to exhibit achievement in teaching development on the subjects I am teaching, and make specific and important contributions, which are fed back to the teaching topic and students' learning. For example, publication of 8 books related to national license acquirement and practice, acquirement of nearly over 80 teaching-related professional licenses at home and abroad, supervision of 5 teaching research practice projects, publication of 26 journal articles (25 in international journals and 1 in a domestic journal) and publication of 36 conference papers (16 in international conferences and 20 in domestic conferences) in the past seven years demonstrate continued teaching development and important specific contribution. They are also a specific demonstration of high quality teaching.

IV. INSTRUCTIONAL DESIGN AND LEARNING ASSESSMENT

Instructional design

As a teacher, my role in teaching is to enable students to be proficient in their specialties and be able to apply their knowledge. I hope I can break students' stereotype of general curriculums. Therefore, I emphasize students' understanding of and inspiration from the curriculums in addition to the theory and practice taught by me. Moreover, I also encourage students to put forward their own ideas and ask questions related to curriculum

learning, and enable students to better understand the knowledge taught in classrooms through interactive communication and dialogue. In addition, I urge students to debate and think independently through discussion with students and teachers in class as well as learn and understand different ideas so that they can expand their breadth and depth when analyzing social phenomena related to the courses. Furthermore, I apply case study or interactive teaching style to enhance students' self-confidence in expression and deepen their learning interests. More importantly, I guide students to use appropriate methods to establish their self-confidence in professional competence and problem solving when dealing with employment and further study in the future.

Currently, my students include undergraduates and graduates. I teach incentive travel, technology and application, introduction to leisure business, hotel management, tour leader and tour guide practice in undergraduate division, and lead seminar, supervise graduate research projects, and teach hospitality management, leisure industry analysis and recreation theory in graduate division. I am devoted to cultivating students' professional capacity and practical ability in this field. As for the instructional design and standards of learning assessment, I have followed the school's teaching plan to improve students' competitiveness and contribution in workplaces with the philosophy of "sincere belief and diligent study," and prepare students to become enterprises' favorite professional talent with optimistic and up-and-coming attitude, international vision and work ethics. In terms of teaching attitude, I apply different teaching modes to different students, ensure that no child is left behind and demonstrate my enthusiasm in teaching. I applaud students with outstanding performance, while encouraging and assisting slow learners. With regard to teaching methods, I emphasize both theory and practice and highlight problem discussion and interaction. The above approaches enable students to understand the content of my teaching and achieve teaching objectives.

My instructional design is based on the courses I teach in the school in recent years. Teaching norms are established in accordance with the provisions of the Curriculum Planning Committee and the Teaching Quality Assurance Committee. Selection of teaching materials and arrangement of teaching materials are done before teaching. During teaching, I focus on conveying content of courses and triggering students' learning interests and interaction in order to enhance teaching outcome. After teaching, I prepare learning assessment for students while carrying out teaching reflection and teaching improvement for myself. The curriculums in graduate school equip students with the ability to investigate new topics, conduct literature review, apply research methods, analyze and discuss problems, and further publish their research in international conferences and international journals and complete their dissertation, while the design of curriculums in undergraduate division lay a good base for fundamental theory and practical courses, and encourage students to participate in off-campus internship, competition, license acquirement and domestic and international conferences, as shown in Figure 1.

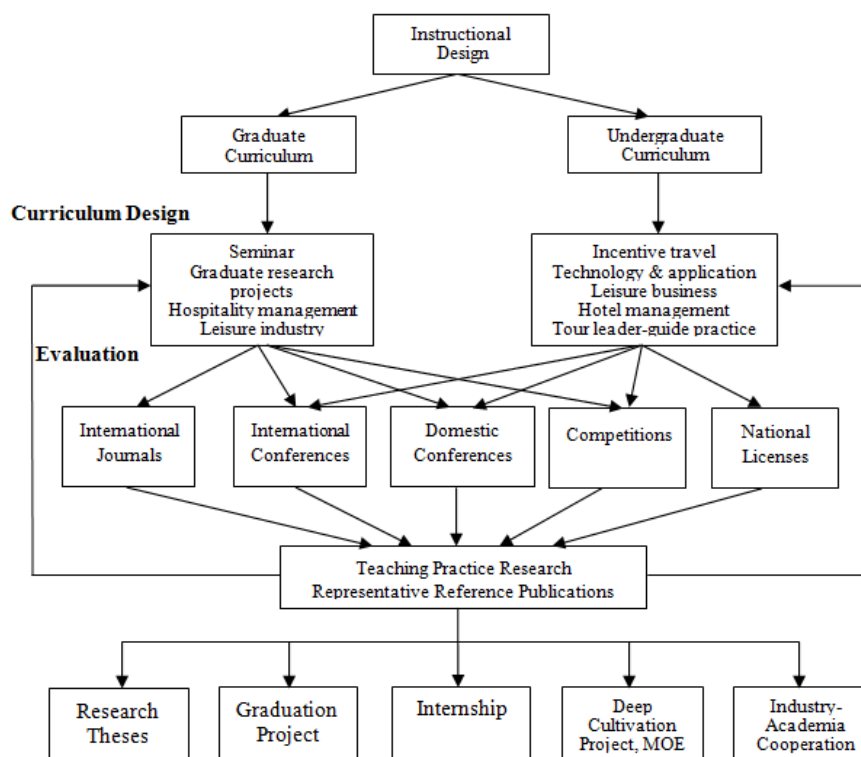


Figure 1: Flowchart of continuous teaching development outcomes of instructional design and learning evaluation

Instructional design with vivid e-learning

In this year's workshop, the school invited experts and scholars to the school to introduce Kahoot, interactive software. Its vivid and e-learning feature can be combined with fun games to explore teaching outcomes. I applied what I learned from the workshop in class and used using Kahoot's vivid and e-learning feature in teaching and designing student assessment to make learning more interesting and create a learning environment that infuses fun into teaching. It has been very helpful in students' learning and learning outcome.

Kahoot is one of the most innovative interactive teaching assessment software in recent years. After comparing and trying three types of similar interactive teaching software, I find Kahoot to be the most vivid e-learning interactive teaching software and can best meet students' learning needs. With internet or Wi-Fi, Kahoot can work on computers or smart phones. It is a freeware and no other addition equipment is required. It can be easily used in classrooms any time. Every student nowadays has a smartphone. With Kahoot, interactive teaching can enhance students' learning interests, attention and learning outcomes.

I immediately found it interesting when I first used it. You can make you own quizzes and add colorful and vivid video images and exciting background music, making the quiz as fun as a video game. I couldn't wait to use it in the classroom and share it with students. It is currently used in introduction of leisure business. After finishing teaching one module, I designed 10 quizzes to test students' understanding of the module. After students finished each quiz, the system will provide immediately feedback, including score, ranking and number of people who got the right answer. With heart-beating music, the students cannot help but stand up in the end of the quizzes. I remember that when I first used Kahoot in the classroom, some students did not remember the content in class so they had to look through handouts for answers. However, they only had a short time to answer the quizzes which left them no time to look for answers. Only students who concentrated in class would know what the answers were after reading the questions. After students answered the questions, the system provided immediate feedback, telling the whole class how many students got the answer right and the ranking of students who did well on the quizzes in the shortest time. The teacher can clarify the concept of the questions which students got wrong. Kahoot's interactive teaching system can rank the questions in terms of the correctness of the answers and save the answers of the students, providing teachers with score ranking and allowing the teacher to score students in learning assessment objectively.

After using Kahoot in introduction to leisure business, I found that students were very much looking forward to the end-of-class quizzes which made them concentrate more in class. However, I also found a problem that several students who cared a lot about winning were upset because they did not get higher rank since they did not act quick enough even they knew the answer. Afterwards, through communication, I told the students that the purpose of the quizzes is to understand how much they understand about the knowledge taught in class. The emphasis should not be ranking. I also change the way I score, which is no longer totally based on the ranking of the system but also the number of right answers.

Kahoot makes the classroom lively and students very into learning and acquiring knowledge. Through game and competition, students would voluntarily review the questions in the fun environment. Thanks to the online competition, I saw students fully concentrate on thinking without their usual fear and hate of learning. Instead, they showed their enthusiasm and interest. In the end of teaching contest, I can know the level of each student through an Excel sheet and can adjust the course based on it. This process can enrich the class, substitute random roll call and quiz and make the classroom climate livelier, leading to higher level of student involvement. With exciting music, it made students feel like they were in a quiz show. Sound effect and the excitement made learning very interesting. The innovation and change to the way of teaching open up many different ways of learning. I saw students' feedback and felt their enthusiasm in learning. Most importantly, learning can be very fun.

From the Kahoot teaching case, I found that students have shown significant learning outcome through new and vivid e-learning instructional design, teaching approach and tool. Special thanks are to the teaching workshop held by the school, which broadened my horizon and enable me to apply Kahoot interactive teaching assessment software in quizzes, tests and mid-terms. Students were asked to provide their experiences and recommendation by SWOT analysis after using the software. Vivid learning course and excellent learning outcome have successfully created a learning environment that "infuses fun into teaching." Students' reactions were generally positive.

Teaching beliefs and instructional design

My teaching belief is based on the motto of Takming University of Science and Technology, sincere belief and diligent study. We foster high quality and professional vocational talent with the "holistic" educational belief. For teaching objectives, I follow the school's teaching plan and spare no effort in enhancing students' competitiveness and contribution in workplaces, and preparing students to become enterprises' favorite professional talent with optimistic and up-and-coming attitude, international vision and work ethics. In terms of teaching attitude, I apply different teaching modes to different students, ensure that no child is left behind and

demonstrate my enthusiasm in teaching. I applaud students with outstanding performance, while encouraging and assisting slow learners. With regard to teaching methods, I emphasize both theory and practice and highlight problem discussion and interaction. The classes are informative and innovative, and are integrated with e-teaching. The application of multimedia and Kahoot software to instruction design makes teaching vivid and lively, which enhances students learning interest and attention in class. The above approaches enable students to understand the content of my teaching and achieve teaching objectives.

Teachers' mission is to cultivate learners' interest in learning and research and make them equip with the professional knowledge they should have. The purpose of teaching is not just convey classroom knowledge but, more importantly, provide students ways and means to explore knowledge, guide students to the correct learning/research direction so that students can keep growing and progressing during their course of learning and exploration, and continue to broaden their horizon and absorb new knowledge in the course of happy learning in order to achieve learning objectives and outcomes.

As a teacher, I have been devoted to teaching earnestly and enthusiastically. My teaching beliefs and instructional design can be elaborated in the following five sections.

1. Create learning atmosphere in classroom and provide guidance to students thinking and innovation

Good teaching methods are necessary to bring students to a higher level. My style of teaching is "to infuse fun into teaching and emphasize practice." Through vivid teaching style and environment, I guide students to spontaneously and actively participate in classroom discussion and prepare for tests and contests. I ask students to think and discuss the course-related local and international issues in the past week in each class, for example, tips by tourists, guesthouse, Hong Kong tour guide, gambling industry in Penghu and Matsu, Taoyuan Lenten Festival and outlet. These issues are combined with practical case analysis to train students to think and judge independently in order to achieve the basic purpose of education. In addition, with multimedia video and Kahoot immediate test and learning software, a free and easy but vivid environment is created for students to learn and grow fully. Students can acquire skills for thinking, analysis and judgement, and apply such skills to analyze and judge various problems they might encounter during the course of learning, learn to find out all sorts of effective methods and give suggestions. Finally the teaching methods are adjusted based on the level of the class to achieve the learning purpose for all students in the class in the most efficient way.

In addition, I often tell students and emphasize that I hope students can be creative in the course of learning so that the training in class can help enhance student's ability to think independently, improve their analytical skills and perfectly combine the course and discussion, enabling them to apply the knowledge they learn in class.

2. Develop international perspective and competitiveness

Taiwanese students' international competitiveness nowadays is still inadequate. Therefore, teachers need to enhance students' international perspective and competitiveness, enabling students to be seen in the job market and have survival opportunities and competitiveness. International competitiveness includes two abilities. One is foreign language skill, which is the most basic ability in international exchange and is the drive of international competitiveness. Currently, the General Education Center is actively strengthening students' English ability. The other is cultural literacy and professional competence, which test one's vision and depth in conducting himself/herself. However, basic knowledge is only enough for entry-level and mid-level positions. For higher positions, one must have sufficient professional training and acquire adequate professional knowledge. When enhancing students' international competitiveness, I use case studies of European and American enterprises, such as IKEA, Walmart, Netwest and TD Canada Trust in teaching and supplement them with my practical experiences from living and conducting research in Europe and America to enable students to fully understand the culture and business management of Europe and America. In addition, the curriculums are also designed in a way that can enhance students' international perspective. E-learning and multimedia videos are applied to increase students' international vision and competitiveness. On the other hand, graduate students are asked to submit papers to and participate in international academic symposiums, take part in academic conferences abroad, submit papers to international academic journals to broaden their international vision and improve their ability to conduct academic research. I was the first teacher recruiting foreign graduate student and supervised the foreign student (Indian) in English. This is one step further to bring the school closer to internationalization and give students opportunities to exchange with and learn from the foreign student. Currently, there are foreign students from Germany, Japan and Vietnam, which is very helpful in increasing international vision and competitiveness.

3. Learning attitude and professional knowledge

I teach students learning attitude and professional knowledge during their course of schooling so that students can pay more attention to their individual character and learning attitude while acquiring professional

knowledge. This will allow students to better know when to act, when not to act and how to act. Takming has established a character learning center, which makes Takming one of the most distinctive schools in the nation.

A student's character and learning attitude are much important than his/her professional competence. Self-cultivation is like a personal brand. Good character and learning attitude coupled with excellent professional competence will make student become high-quality talent in the industry. Therefore, it is important to inspire students through example and percept in class, help them to establish good learning attitude, and teach them how to effectively concentrate on preparing and strengthening professional knowledge. I guide undergraduates to take national license exams held by the Examination Yuan based on the undergraduate curriculums. According to the results over the years, it is easy for students with earnest learning attitude to pass the national license exams because they are familiar with the knowledge in their professional field. On the contrary, students who were busy with extracurricular activities or part-time jobs and did not focus on schoolwork usually failed the license exams by slight score gap. It is a pity. It is the same in competition and publication. No pain, no gain. With earnest learning attitude and the teacher's help in professional knowledge, students will have good performance. Under my guidance, students have shown excellent performance in terms of license acquirement, competition and paper publication.

4. Develop the ability to think independently and solve problems

I encourage students to equip themselves with the ability to think independently and make independent judgement. For learning an abstract theory or idea, students know nothing about such theory or idea in the beginning, and thus teachers shall teach them basic learning skills and train them to think about how to develop such theory or concept and encourage students to think about the whole process of reasoning of the theory or concept, and understand and explore every step of logical thinking, and finally putting them together. This process enables students to build their competence in solving problems through independent thinking and allow them to look for solutions when encountering problems

5. Teach with enthusiasm and no child is left behind

Generally, there are rooms for improvement for students attending private schools in terms of learning attitude and management. Students with better quality can acquire professional knowledge step by step after given highlight by teachers. However, teachers must make more efforts and spend more time on slow learners. Everything has to be taught step by step and repetitively so that the slow learners can understand the professional knowledge they should understand. Quick learners usually have better learning outcome and it is easier for them to get attention and applauses. On the other hand, it is less common for slow learners to receive attention and applause. I treat all students the same but apply different teaching approach to different students. I care them the same, but spend more time on students with learning difficulties. I encourage them to participate more in learning, and most importantly, teach them some learning skills, such as systemic learning, organization and summary, expression of own opinions, outlines and notes. With practical and correct learning skills, assistance in applying such skills in real life and regular encouragement and praises, students will have actual and specific incentive to learn and will show specific learning outcome. In addition to more time on after-school tutoring and assistance of teaching assistant from the center of teaching resources, according to the actual statistics, With the help of active after-school tutoring by teacher and teaching assistants, students who did not do well on midterms would do better on the finals. Generally speaking, nowadays, many students spend a lot of time on part-time jobs, rendering them little time on schoolwork. Therefore, as part of my instructional design, I summarize the key points of courses, turn them into systemic notes, and make them available to students. For example, when I teach tour leader and tour guide practice, I also published 8 reference books related to practice for acquiring tour leader and tour guide licenses in addition to teach the professional knowledge that tour leaders and tour guides should have. These books are provided to students free of charge when they need to prepare for the national license exams held by the Examination Yuan. After class, I also arrange time for voluntary afterschool tutoring. Students can ask questions and discuss homework with me any time on the communication app, Line, or have face-to-face talk with me in my office. The students I have taught in recent years have acquired a total of 90 national tour leader or tour guide licenses issued by the Examination Yuan, showing that, with the attitude of leaving no child behind and enthusiasm for teaching, students would be enlightened, apply what they learned in class to the acquirement of national licenses and contribute their knowledge to the country and society.

Learning Assessment

The methods and standards of learning assessments are provided to students in the first class of every semester in accordance with the provisions of the school. The final grade of the semester is composed of three parts. The first part is attendance and interaction in class, which accounts for 1/3 of the final grad. The second part is midterm exam or midterm project, which makes up another 1/3 of the final grade. The third part is final

presentation, which constitute the last 1/3 of the final grade. In the course of learning assessment, teachers can give students guidance and positive encouragement based on test results, discussion and interaction, collection and arrangement of reference materials, construction of research methods, presentation, analysis and discussion. When students have good learning outcomes, they will continue to grow and make progress. Teachers can also compile key points of a course in handouts and make them available to students for review after class by printing them out or uploaded them on school website so that students can download them any time. Following teachers' instructional design and arrangement, students can absorb the materials step by step. When they find the class interesting and are willing to make effort, they will have higher participation in class and better learning performance.

In the course of learning, teachers should uphold a professional, earnest, enthusiastic and careful attitude. For undergraduates, we can grasp their learning outcomes through learning assessments such as academic performance, homework, competition and acquirement of licenses. For graduates, we can assess their learning outcome through academic achievement, research presentation and paper publication. Students have shown great performance on schoolwork, competition, acquirement of licenses and publication of conference paper and journal articles in recent years, which indicate that, with the current instructional design and learning assessment, students have made progress in learning performance and outcome. In the past five years, the average score I got from students for my instructional design and learning assessment is 4.639 (out of 5) as shown in Table 1, making me among the teachers with the highest score. This indicates that students have been satisfied with my instructional design, learning assessment and their learning outcomes.

Table 1: Specific outcomes of teaching evaluation in the past five years

Academic year	2011	2012	2013	2014	2015
Annual average	4.740	4.642	4.653	4.554	4.605
Average over five years	4.639				

Note: The average score of teaching evaluation of the author is much higher than the school average, 4.15.

V. EVALUATION OF OUTCOMES

Teaching beliefs and instructional design have positive results on students' learning. Teaching beliefs are beliefs related to education goals, teaching method, curriculum development, teacher-student relations, class management, learning activities, etc. Teaching beliefs are core faith that guides teachers' teaching. They cover the viewpoints of teachers towards teaching, learning, knowledge, role of teachers and creation of classroom environment. They are an expression of attitudes that combine rational logical judgement and sentiment. If teachers have essential knowledge on curriculums and teaching based on their personal professional background, establish good teacher-student relationship through the course of teaching and make good use of the teachers' personality traits, the teachers can effectively enhance their teaching efficacy.

Instructional design includes curriculum decision-making and teaching decision-making. Curriculum decision-making refers to the decisions made by all levels, usually school education level, on purpose or means of education, curriculum objectives, interpretation of course content, selection of materials and preparation of syllabus. Curriculum decision-making is the best option or most appropriate judgement made by a teacher based on his/her educational philosophy and value through the course of deliberation, judgement, communication and negotiation when faced with curricular activities, problems or plans. The connotation of curriculum decision-making includes curriculum objectives, teaching materials, syllabuses and teachers' interpretation on subject content. The connotation of teaching decision-making include material selection, material preparation, teaching content, teaching progress, teaching time, teaching objective, students' ability, students' interests, students' needs, teacher-student interaction and instructional assessment.

Teaching effectiveness means that teachers focus on effective teaching, clarify all factors that affect teaching in the course of teaching, and use effective methods to enable students to have good performances regardless of learning or behavior, leading to achievement of educational goals. There is a direct causal relationship between teachers' teaching effectiveness and students' achievement. Teaching effectiveness means that with effective teaching methods, teachers can enable students to achieve learning outcomes in the course of teaching.

Based on my teaching beliefs and instructional design, I have combined teaching effectiveness and applied effective teaching methods, which enable students to have very good leaning outcomes. They have outstanding performance in competition, license acquirement and paper publication. The evaluation on teaching outcome is divided into two parts: evaluation on students' achievements and teacher's individual achievements.

Evaluation on students' achievements

1. Guided students to participate in 28 competitions and received awards in 22 competitions. The winning rate was 78.6%.

Top 5 awards in national competitions are as follows:

- (1).Second place in the 2016 National College Financial Manage Project Competition.
- (2).Second place in the 2016 National Campus Medical Planning Project Contest.
- (3).Third place in the 2015 Taiwan Travel Itinerary Design Competition.
- (4).Fourth place in the 2012 Elite Cup Taiwan Tourism Itinerary Design Competition.
- (5).Fifth place in the 2016 National College Financial Manage Project Competition.

2. Guided students to take national license exams. 90 national licenses have been granted in the past 5 years. The pass rate was 30%.

For example, 42 national tour leader or tour guide licenses have been granted to the students I guided this year and last year. More than 50% students received the licenses as long as they studied hard under my guidance. Some gifted students even achieved 100% pass rate.

3. Continuous teaching development outcomes. The results of journal paper publication by the students I have supervised are as follows:

11 journal papers have been jointly published with the students I supervised in the past 5 years. (10 in international journals, 1 in domestic journal. Among which, 4 are SCI journals and the IFs are 1.692, 3.150, 1.956 and 2.139 respectively. One is EI journal.)

Three articles in International Journal of Business and Management Invention

Two articles in International Journal of Electrochemical Science (SCI Impact Factor: 1.692 & 1.956)

Applied Surface Science (SCI Impact Factor: 3.150)

Surface & Coatings Technology (SCI Impact Factor: 2.139)

Journal of Marketing Development and Competitiveness

Research in Business and Management

Journal of Business Research

Journal of Chung Cheng Institute of Technology (EI)

4. Continuous teaching development outcomes. The results of conference paper publication by the students I have supervised are as follows:

21 conference papers have been jointly published with the students I supervised in the past 5 years. (5 in international conferences, 16 in domestic conferences) The 5 papers published in international conferences are as follows:

International Conference on Innovation and Management

30th ISTS Conference

Two papers in the 12th Annual Hawaii International Conference on Business

International Conference on the Development and Practice of Enterprise Resource Management

5. Five graduate students (Shih-Chun Wei, Hsiu-Mei Chiang, Chieh-Pu Hung, Harold Lalrinawm and Ching-Wei Chang) have completed their mater theses under my supervision, and four other graduates students are still working on their theses.

6. Supervised a total of 10 groups of students to complete their practical projects and guided 15 students during their off-campus internship. I guided students in their off-campus internship and took them to field trips in order to enhance their practical professional skills.

7. I led the graduate students in our department to participate in international symposiums abroad to enhance their international vision. I took the first Indian graduate students in my program for the promotion of international academic exchange.

8. Implemented the Deep Cultivation Project and Practical Competence Enhancement Project of the Ministry of Education to promote practical teaching and enhance students' ability in applying their knowledge. Students have won more than 60 awards a year in big and small competitions. The teaching outcomes are extraordinary.

9. Awarded the most popular teacher thanks to my earnest and responsible teaching attitude as well as vivid and pragmatic teaching materials. Two of my students in the master's program were admitted to the PhD programs in National Taiwan University and National Taiwan University of Science and technology. The students' learning outcomes are excellent.

10. Five of my students were admitted in master's program abroad, fifteen continued their post-graduate study in my department and six chose working holidays abroad. I wrote them recommendation letters or provided teaching learning information.

Evaluation on teaching achievements

1. Awarded the Outstanding Teaching Award in 2013, and recognized as number one in the school's evaluation of outstanding teachers in teaching.
2. Awarded the Outstanding Teaching Award in 2011, and recognized as number one in the school's evaluation of outstanding teachers in teaching.
3. Awarded the Excellent Teaching Award in 2014.

4. Awarded 8 certificates of excellent curriculum, 3 certificates of outstanding teaching and excellent teacher for the recognition of my teaching.
5. My innovative teaching emphasizes both theory and practice, rendering my average score in instructional assessment 4.639 in the past five years, which is one of the highest among all teachers in the school.
6. Published a total of 26 journal articles in the past 7 years (25 in international journals and 1 in domestic journal).
7. Published a total of 36 conference papers in the past 7 years (16 in international conferences and 20 in domestic conferences).
8. Published eight books related to acquirement of national licenses. They were provided to students free of charge for the preparation of license exams. 90 national licenses have been acquired.
9. Acquired 73 professional teaching license (10 from abroad and 63 from home), which strengthen the teaching outcomes.
10. Have 60 certificates from academic professional teaching workshops, which have enhanced teaching quality and teaching effectiveness.
11. Took charge of 11 industry-academia cooperation projects with a total funding of NT\$4,030,567.
12. Led students to participate in international and domestic conferences to enhance teaching effectiveness.
13. Guided students in submitting papers to international journals and conferences at home and abroad.
14. Supervised students' theses, practical projects, off-campus internship and field trips.
15. Organized the 2016 International Conference on Grey System Theory and Kansei Engineering Conference, enhancing the school's and students' research on teaching.
16. Organized license workshops for teachers and students, and acquired the business and customer relationship management license.
17. Served as the Head of Department of the Department of Marketing Management, which is the biggest and best department in the school.
18. Serving as the Director of Center of Continuing Education currently for the promotion of teaching development, and planning and design of diverse curriculums.

VI. CONCLUSIONS AND RECOMMENDATIONS

I have served as an associate professor for 24 years, and fulfilled my teaching duties in accordance with teaching beliefs and instructional design. I have been dedicated to students and continued to enrich my professional competence in teaching and research. Students have shown good achievements in terms of competition results, national license acquirement, practical projects and internship, publication of conference papers and journal articles as well as postgraduate study. The following conclusions and recommendations are drawn from the teaching beliefs and instructional design that I applied to my teaching and their effects on undergraduates' learning outcomes.

Conclusions

1. My teaching topics are consistent with the teaching goals of the department. They focus on tourism and leisure management, which is the core of the department I am in, and are supplemented by technology application, the theme of the department I previously worked with. My teaching topics combine the needs of the society and aim to train elites for the country and society as well as prepare students to become enterprises' favorite professional talent with optimistic and up-and-coming attitude, international vision as well as professional skills and moral.
2. Instructional design includes curriculum decision-making and teaching decision-making. My instructional design is based on the courses I teach in the school. Teaching norms are established in accordance with the provisions of the Curriculum Planning Committee and the Teaching Quality Assurance Committee. Selection of teaching materials and arrangement of teaching materials are done before teaching. During teaching, I focus on conveying content of courses and triggering students' learning interests and interaction in order to enhance teaching outcome. The students' overall performance is excellent, which indicates that the instructional design meets the school's requirements and students' needs.
3. When applied correctly, teaching beliefs and instructional design can have very positive effect on undergraduates' learning outcomes. This can be proved by the outstanding performance of students, such as competition, license acquirement and paper publication. Students love the instructional design with vivid e-learning, and thus they are more focused on learning. Such instructional design has been able to enhance students' learning outcomes.
4. Teaching beliefs and instructional design were realized by (1) creating learning atmosphere in classroom and providing guidance to students' thinking and innovation, (2) developing international perspective and competitiveness, (3) fostering learning attitude and enhancing professional knowledge, (4) developing students' ability to think independently and solve problems, and (5) teaching with enthusiasm and making

sure that no child is left behind. The outcomes of students' learning have been excellent, and students have been very satisfied during their evaluation of their learning outcomes, and thus they have given high score in teaching evaluation, which is recognition of the teacher's teaching beliefs and instructional design.

5. The evaluation on teaching outcome is divided into two parts: evaluation on students' achievements and teacher's individual achievements. I guided students to participate in 28 competitions and received awards in 22 competitions. The winning rate was 78.6%. I also guided students to take national license exams. The pass rate was 30% with 90 national licenses granted in the past 5 years. 11 journal papers and 21 conference paper have been jointly published with the students I supervised in the past 5 years. Five graduate students have completed their mater's theses under my supervision, and four other graduates students are still working on their theses. My innovative teaching emphasizes both theory and practice, rendering my average score in instructional assessment 4.639 in the past five years, which is one of the highest among all teachers in the school. I have published a total of 62 papers in the past 7 years. Among which 26 are published in international and local journals and 36 are published in conferences at home or abroad.
6. I have demonstrated continued teaching development and important specific contribution, for example, I was awarded the Outstanding Teaching Award in 2013 and 2011, and recognized as number one in the school's evaluation of outstanding teachers in teaching in both years, and awarded the Excellent Teaching Award in 2014. These are clear demonstration of continued teaching development. Students' excellent performance in competitions, license acquirement and paper publication are important specific contribution of a teacher.

Recommendations

1. The society and scientific environment are in constant progress. Hence, teachers should adjust their teaching beliefs and instructional design in order to meet students' various demands in the course of learning and achieve the expected outcomes.
2. In the course of teaching, the interaction between teachers and students is very important. Teachers should continue to enrich their professional knowledge, emphasize examples and precepts in order to cultivate high quality students with good skills and morals.

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