Exploration into Interdisciplinary Co-teaching: An Empirical Study

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Abstract

Interdisciplinary co-teaching between a teacher and an expert with on-the-job experience in higher education has been a frequently suggested service delivery model when seeking attempts to bridge the gap between theory and practice. To support such a teaching model and equip students with professional skills in a classroom environment, this study attempts to investigate the efficacy of teaching collaboratively between a trade expert and an English teacher. Results showed that the majority of students thought they made a great progress and became more confident after the instruction. They held positive attitudes toward the co-teaching, learning not only professional skills suited to the workplace but also coming to view things from different perspectives. The co-teacher also felt that the mutual interaction during the discussion process led to increased creativity and growth as a teacher. Implication of the study and suggestion for improvement are provided.

Key words: interdisciplinary co-teaching, presentation skills, reflective journal, workplace knowledge

1. Introduction

Over the past few decades, one of the goals of higher education has been to build new disciplines and forge new professional fields. A plausible explanation would seem to be that disciplines play a pivotal role of shaping views of how knowledge is created and advanced. Since disciplines are powerfully constraining ways of knowing, problems with the disciplinary structure of colleges and universities have gradually been found. Therefore, an increasing number of faculty members in the universities have started to pursue interdisciplinary work with the intent of deconstructing disciplinary knowledge and crossing boundaries.

They attempt to seek a more comprehensive perspective on and method of solving problems, so interdisciplinary research and teaching focusing on integration over discrete disciplinary studies has emerged (Klein, 1990; Lattuca, 2001; Nikitina, 2006).It is clear that strong interdisciplinary programs can be built in circumstances in which strong disciplinary programs already exist (Klein, 1990). Such interdisciplinary co-teaching focuses on the integration of college faculty members within particular fields to share areas of interest, methods, and perspectives.

Its theoretical background is similar to that of team teaching – a model used in many inclusive classrooms. Co-teaching or team teaching involves an equitable inquiry into teaching and learning processes in which all members of a classroom community participate – including students, teachers, student teachers, researchers, and supervisors (Roth, Robin, & Zimmermann, 2001). Co-teaching between a formal teacher and a professional expert has been widely employed in the area of special education for quite a long time. Reports containing accounts of positive co-teaching experiences and guidelines appear in the literature of special education (Murawski, 2006), but less evidence of its effectiveness regarding learning outcomes is available (Reinbiller, 1996). Supporters contend that better collaboration and service coordination in mainstream settings will enable many students to achieve greater academic and social success (Walther-Thomas, Bryant, & Land, 1996).

In Taiwan, a native speaker of English and a local English teacher teaching the same class collaboratively has been implemented in elementary schools for many years (Luo, 2014). It is assumed that such kind of collaborative teaching can provide students varied learning resources, or input, so as to promote their learning enthusiasm and motivation, and consequently, enhancing their leaning outcomes. Similarly, by interacting with native speakers of English, students will reach the goal of communication globally with fewer obstacles. Some teacher trainers or supervisors who have observed the classes indicated that such classes yield mixed results (Honigsfeld & Dove, 2008). The problem lies in the fact that the majority of true beginners, relying heavily on the local English teacher, cannot understand what the foreign teachers have said, let alone communicate with them in the target language. Nonetheless, for students with better language abilities, there are opportunities for them to interact with the foreign teachers naturally, leading to less anxiety and greater success in speaking and listening (Luo, 2007). According to Buckley (2000), co-teaching or team teaching involves a group of instructors working purposefully, regularly, and cooperatively to help a group of students learn. Since the late 1980s there have been increasing moves towards the development and provision of programs in English for Academic Purposes (EAP). Problems involved with delivering such EAP programs have emerged, because there are substantial differences between the different fields in terms of academic discourse and linguistic variation in the academic texts (Hyland, 2002). Some educators argue that language teachers lack the abilities and knowledge to teach field-related courses (Cheng, 2015; Dubin, Eskey, & Grabe, 1986; Flowerdew & Peacock, 2001). To compensate for such deficiencies, team teaching between language teachers and subject-specific professional experts has become a promising solution.

As suggested above, co-teaching, providing students with concurrent instruction in content concepts, language and critical thinking, has several advantages. But, to date, few studies have been conducted on co-teaching by a teacher and an expert who has had prolonged and intense on-the-job experience but may not have a professional or academic qualification. To bridge the gap between theory and practice and enhance student's acceptability in the workplace, such co-teaching has nonetheless been widely adopted in colleges over the past few years. It is expected that the expert with a complete pragmatic expertise can provide students with workplace knowledge and skills to prepare them to meet the potential challenges of the workplace. This study attempts to investigate the efficacy of such co-teaching and the perceptions of the participants. It is hoped the results gained will serve as a positive reinforcement to, and encourage, co-teaching between a discipline specialist and a normal teacher.

2. Method

2.1 Participants

Sixty-two senior students from a university in Taiwan, taking a MICE course (Meeting, Incentives, Conference, and Exhibition), served as subjects in this study. Their English ability ranged from pre-intermediate to advanced levels. They were divided into groups, each with five members and were required to give oral presentations twice in the semester. Stewart and Perry (2005) suggest that an ideal co-taught course should be co-planned, co-taught, and evaluated by a pair or a group of teachers. In this study three teachers co-planned the course, two co-taught the class, and five collaboratively evaluated student's final performance. The first author Cheng, having been co-teaching EAP with field-specific teachers for 10 years, was responsible for two-thirds of the teaching; the other one-third was provided by Manager Hong who had run a trading firm for 35 years with a lot of on-the-job experience. She had attended world-wide trade shows several times a year and had plenty of practical experience in the field of MICE. In addition to the two teachers, the second author Kuo, an English teacher good at slides design, helped organize the program, observe the teaching, and review students' final performances. The other two native speakers of English-- an English teacher and a businessman involved in the international steel trade-- were also invited to evaluate students' final presentations in an attempt to create a quasi-authentic context.

2.2 Procedures

Before school started, Manager Hong and the two authors collaboratively designed the course and classroom activities. During the semester, Cheng was responsible for explaining all the techniques for organizing MICE, starting from planning and structuring, and continuing up to delivering presentations. The planning phase included deciding the topic, formalizing the purpose, and determining the audience, together with designing appropriate slides (Laws, 2006; Zyzo, Marks, & DePasquale, 2009). The structuring stage emphasized the structure of the presentation: greeting and introduction, stating the purpose, giving a brief outline, presenting main content, summarizing, concluding, and finally inviting questions.

Manager Hong, responsible for six two-hour teaching sessions, focused on the presenting phase, reinforcing appropriate language use, voice, body language, and the proper use of visual support. She helped with more technical field-related or culture-related issues, shared her working experience, and accordingly pointed out the requirements of the workplace. She tried to develop students' awareness of market trends and challenges. In order to explore if participants had made progress or not, they were required to design a booth and introduce orally a unique product of a company of their choice with or without visual aids, based on their current understanding about MICE presentation in the third week of the semester. At the eighteenth week of the semester, they were required to deliver this previous presentation again, incorporating into it all the related skills covered by the course. To enhance oral comprehensibility, providing revised slides was a must. All the participants, including the two authors, Manager Hong, and two native speakers of English, served as the audience. The final presentations, accompanied with slides, were evaluated on the spot and videotaped for future analysis or reference. A grading rubric (Appendix I) was utilized to assess student's performance; comments or suggestions were given immediately after each presentation. Finally, the students were required to write reflections on what they had obtained from this class and their perception of their presentations (Appendix II). The English teacher also wrote reflective journals in the course of teaching session.

3. Results

The main goal of this study was to examine if co-teaching by a trade expert and a teacher contributed to students' learning outcomes, evidence for which can be drawn from video captured during students' presentations, students' reflective journals and the English teacher's reflections.

3.1 Video captured during students' presentations

At the point of students' first presentations, most of them did not know how to give an oral presentation in English. They employed the methods they had used to design the Chinese slides to design the slides in English. All of them put all the sentences they wanted to say or the whole scripts on the slides. The fonts were far too small to read; the topics or key ideas were not clearly stated. Almost all of them felt very nervous and challenged by the requirement to deliver formal professional presentations in English in their first time on the stage. A careful review of the videotapes revealed the following findings reflecting their nervousness. Two-thirds of the students directly read the slides and looked away from the audience. Three of them rubbed their hands nervously; five played with the mouse or the pointer.

More than half of them did not smile and spoke in a monotone, mumbled or talked too softly. Four of them swung back and forth; six put their hands behind their back and rubbing them. Even though they felt uneasy and tense, they confessed it was a relief to be given their first opportunity to deliver presentations in English. In the final presentation, they incorporated what they had learned from this class. This was obviously seen in their visual aids -- the PowerPoint slides not only met the criteria of KISS (Keep It Simple and Short) but also provided sufficient information to hold the audience's attention. Certain techniques, such as inserted pictures or background music, hyperlinks, animation, etc. were utilized in the slide show. Eight of them were declared to be best presenters, because they employed all the presentation techniques learned from the class, expressed their ideas clearly and answered the questions confidently. Even though five reviewers were sitting in front of them, all of them seemed more confident and relaxed than at the time of their first presentations. With regard to interaction, when asked for more detailed information they had presented, most of them could give an appropriate answer right away. If they did not know the right answer, they answered "Sorry I don't know, but I'll check and come back to you".

Compared with their first presentations, they responded in a more self-assured and sophisticated manner. Overall, they made great progress in their final performances and their nervousness diminished proportionally. Though most students performed better in the final presentations, seven of them did not meet the required standard -- they failed to deal with their shortcomings. For example, three of them did not understand the placing of stressed syllables and pronounced words incorrectly, resulting in incomprehensibility of their presentations. Three of them forgot to introduce themselves at the beginning of their presentations; two of them failed to explain each slide. Five of them did not pause at the appropriate place; i.e., they failed to chunk the sense groups. Seven of them forgot to face the audience but read directly from the slides. It was possible that they did not have a good command of English or they had not rehearsed before their presentations. To be sure, they could be expected to make greater improvements by practicing and practicing.

3.2 Students' perceptions of the co-taught class

The majority of the students said in this class what impressed them the most was that their final performance was graded by five reviewers -- two native speakers, one slide expert and the two teachers. They valued the chance to get comments from different reviewers, especially those who had had on-the-job experience and the native speakers. Ninety-five percent of the participants said they had learned how to design clear and concise PowerPoint slides and how to give oral presentations in English appropriately. Some of them said that in terms of slide design, they needed to take care with the layout, the color, the choice of words, the sequence and the speed of showing. They remembered the rule of "seven plus or minus two", which means one slide accommodates at most seven points and each bullet point contains no more than seven words.

Full sentences were seldom presented in a slide. Clearly-stated bullet points, animation and other inserted pictures or photos substantially enhanced the comprehensibility of the spoken message. One student wrote: "When I made the presentation, I used the PowerPoint slides as the outline. I tried my best to make them not only best support the message but also fit the audience and the physical location." Some students reflected that a good presentation should take the language, the audience and the way it is presented into consideration -- being natural, concise and sincere. They confessed that they had rehearsed several times to overcome stage fright in an attempt to speak naturally in a public situation. With reference to what they thought of the co-taught class, they stated that they valued the great opportunity to learn practical knowledge and exchange ideas with the trade expert.

They stated they surely had learned much more than they had anticipated. The teaching of the English teacher was somewhat theory-oriented; the expert, more workplace-driven. If both the English teacher and the expert teacher repeated the same points, even though each from a different approach, they realized these should be the key points. That's why the co-taught class could lead to better results. In the future, they would consider using a greater diversity of approaches to presenting the same topic themselves, they said. The only shortcoming they revealed was that the professional expert only taught six times in the semester; most of the teaching was done by the English teacher. If she could co-teach with the English teacher every class hour, it might lead to better results, they suggested.

3.3 English teacher's reflection

Co-teaching has been heralded as a way to reduce the isolation of teachers, diversify flexible evaluation and assessment, and stimulate curricular change (Buckley, 2000). In this study, the students' performances were reviewed by a team packed with experienced professionals. This provided an opportunity for both the teachers and the students to consider the future development of their potential careers as well as to broaden their global prospects. After co-teaching with Manager Hong, I realized the importance of curriculum design and the need for the development of a more positive co-teaching relationship. Before teaching, we faced the first problem -- setting aside large amounts of time for adequate planning. Due to time and space constraints, we met only three times to discuss teaching issues.

Since the professional expert had had hands-on experience but had not had teaching experience, it took us about twice as long for planning the syllabus, modifying the plans and lobbying for instructional materials. Having been teaching English for many years in school, I tended to be less sensitive to market trends and the challenges of the workplace. On the other hand, the professional expert was more alert to the constant changes of the market. While co-teaching we always came back together and discussed "what happened," "what went wrong," and "what could be improved in the next class." I felt great that I had someone to bounce ideas off of and vice-versa. Through discussion, I understood that I saw from a teacher's perspective, but my partner had a different point of view, seeing the same issues. The discussion process led to increased creativity and growth as a teacher. This co-teaching experience has taught me that co-teachers should have adequate planning time and a positive working relationship as this is necessary if they are to share responsibility and philosophy. It is of great benefit to have mutual respect, a similar style and equal commitment.Honestly speaking, we tried our best to provide students with concurrent instruction in content concepts, language and critical thinking. One thing I concluded is that I need to look at things from different perspectives in the future as well as upgrade my professional skills and renew world knowledge pertaining to the workplace.

4. Conclusion

Co-teaching holds the potential to effectively combine the talents and skills of both teachers and the expert, thus maximizing their ability to teach successfully. Responses from students confirmed that the majority enjoyed having two teachers in the room, though only for six weeks, and their engagement and performances benefited from the situation. They learned to use appropriate language in real-life communication situations and understand the necessity of workplace skills. Since their performances were evaluated and commented on by reviewers from different walks of life, through conversing with subject-specific professionals, they learned to look at things from different viewpoints, which contributed to lowering their learning anxiety and nervousness. What's more, they learned to be independent and if necessary, work collaboratively and responsibly – keys to success in the workplace. In other words, students were coached to meet the requirements of real-life work situations and at the same time, develop their professional skills to accomplish a designated task. Hopefully, this will equip them with greater ability to cope with difficulties and troublesome issues in their future careers.

5. Suggestion and Implication

It is customary for teachers to be self-conscious and reluctant to allow a peer to watch them teach, especially when the other teacher is an expert in a different field. One of the benefits of this co-teaching relationship is the opportunity for professional growth that comes from giving and getting feedback from a well-respected peer. However, whether co-teaching works excellently in front of the students or not will determine substantially the success or failure of the co-taught class. More communication, negotiation and cooperation is what is needed. After undertaking this project we found that we, both English teachers and trade expert, needed more time to get together to discuss the course content. In the course of the semester, we were not able to find much more time for mutual planning, so parts of the course did not meet the most pressing needs of students. We are completely convinced that "we get what we pay for." The key to successful co-teaching is communicate, communicate, and communicate. Although co-teaching means different things to different teachers, future studies can place emphasis on careful analyses of what co-teachers are doing and how this relates to student success.

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Appendix I

Evaluation Sheet

Speaker: _____   Evaluator:_____

A Excellent   B Above Average   C Satisfactory   D Needs Improvement

Presentations	A	B	C	D
Greeted the audience				
Stated the purpose				
Explained the sequence				
Emphasized important points				
Involved the audience				
Explained the visuals well				
Sustained eye contact				
Used good body language				
Had adequate volume				
Spoke confidently				
Spoke comprehensibly and clearly				
Organized logically				
Edited well				
Provided sufficient content				
Stayed within time limit				

Grade: _____

Additional Comments: _____

_____

_____

Appendix II

Reflections written by the students

S1: From this class, I learned that the key to a successful oral presentation is to keep things simple. I tried to stick to three points. I gave an overview of the points, presented them to the audience and summarized them at the end.

S2: My presentation was designed to sell a product -- Honeywell. When I planned the presentation, I thought about the audience. Are they professionals or nonprofessionals? Purchasers or sellers? Providers or users? Internal or external? My purpose and the audience mix determined the tone and focus of my presentation. The reviewers gave me positive reinforcement. I know it was a great success.

S3: I got very, very nervous when I spoke in public. I handled my nervousness by just trying to look as if, instead of talking to so many people, I was walking in and talking to a single person. I don't like to speak behind lecterns. I tried very hard for people to enjoy my presentations by showing enthusiasm on the subject and by being sincere.

S4: In my presentation, I knew visual aids could make information more memorable. However, I was central to the presentation. The visual aid needs me, my interpretation, my explanation, my conviction and my justification. I thought they cannot replace the spoken information, so it is also not enough to just read textfrom a visual aid. It was a great release for me to think that way. I felt a lot more relaxed.

S5: This course is a big challenge for me. It's the first time that I must give a presentation all in English. I felt very nervous when I stood on the stage, so I couldn't say the words I planned to say completely in my presentation. It's a little pity. However, I have learned a lot from this course exactly.

S6: By this presentation, it trains our courage and it's a challenge for us! Maybe in the future, I also need to prepare the presentation for some specific subject! It's just a beginning that we can practice our professional abilities!

S7: I was so nervous that I spoke a little too fast and lost quite a few important points. Worse than that, there was something wrong with the computer during the presentation, so I wasted some time fixing it and got more nervous. If there is another opportunity, maybe I can do it better.

S8: It's very nervous for me to make a presentation in English. I knew it's difficult to do it, but it's a rewarding experience.

S9: I haven't taken a presentation class before. I felt very nervous and worried. But I was happy I made it. It's an unforgettable experience.

S10: It's so nervous for me to present my introduction in front of the judges. It's an interesting experience for me to present, especially in English. I think it's important to present what I am familiar with.

S11: Presenting on the stage is so challenged. I don't speak English very fluently. With the help of the teachers, I was forced to give my first oral presentation in English. Such experience is so unforgettable. I am sure some day in the future I will be able to use the presentation skills in my career.

S12: I felt very nervous. I spent hours memorizing the script; however, I forgot what I had planned to say when I stood on the stage.

S13: In this class, I learned how to design English slides to show what I would say visually. I was also trained to organize the ideas logically and perform confidently on the stage. I had learned a lot from this class, especially the skills of designing slides and presenting them orally. This would become the most valuable and unforgettable things I had ever had in my university days.

S14: I felt very nervous in my first presentation. As soon as I stood on the stage, I forgot everything I wanted to say. But I was sure this was a good experience. After presenting on the stage the second time, I felt less nervous and realized that my preparation was insufficient and there was room for improvement. I assure you that I would do better next time.

S15: After practicing for one semester, I found that presenting in English was not so frightening as what I had imagined. Preparation is the key to success. After instruction, I understood clearly how to design slides and give oral presentation in English. To do it better, I need more practice.

S16: It was a great experience to give oral presentations in English. At the beginning I felt very nervous, so I did not perform very well on stage. I realized it was not easy to present in English. Before I gave the presentation the second time, I spent several days preparing for it and rehearsing several times. I did a lot better in the final presentation and felt less nervous on the stage even though five reviewers were sitting in front of me.