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# Applying Strategies for Dealing with Lack of Subject Knowledge: Can Language Teachers Be Effective ESP Teachers?

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#### Abstract

Teaching texts about another field of study has long been regarded as one of the difficulties with which ESP teachers are confronted. Teachers may utilize different strategies to cope with situations when they face a subject area about which they have little or no knowledge. The present study investigated the strategies implemented by five Iranian ESP teachers in academic contexts. After observing the selected teachers' classes, we identified five instances of situations in which they utilized strategies to compensate for their lack of knowledge. The strategies included avoidance, risk-taking and admitting ignorance. In the stimulated recall interviews, most of the teachers stated that they used such strategies to maintain face and respect. However, the questionnaire results revealed that the students do not expect their ESP teachers to know everything about their subject area and admitting ignorance in some specific contexts is not regarded as a flaw in their teachers.

**Keywords**: ESP teachers, subject knowledge, strategies, stimulated recall, student views

## 1. Introduction

One of the distinctive features of ESP is that it deals with domains of knowledge with which Applying strategies for dealing with lack of subject knowledge: Can language teachers be effective ESP teachers? TAVAKOLI, Mansoor, NASRI, Najmeh, REZAZADEH, Mohsen the teachers may not be familiar. Teachers may face a problem when they have to teach content in an area of study about which they have little or no prior knowledge. The solution proposed by Johns and Dudley-Evans (1980) is team-teaching, in which the ESP teacher collaborates with a subject specialist. However, not all teachers have the opportunity to have a subject specialist who agrees to cooperate. Accordingly, teachers will be confronted with situations which Wu and Badger (2009) referred to as the dilemma of subject knowledge. Although this is a prevailing problem in ESP classes, it is surprising to see the paucity of research on this area.

The present study attempted to investigate the strategies implemented by five Iranian ESP teachers when they were confronted with what Wu and Badger (2009) call in-class subject knowledge dilemma (ISKD). Additionally, we tried to examine student viewpoints regarding their teachers' subject area knowledge and strategy use.

# 2. Background

# 2.1 Subject area knowledge as one of the ESP teachers' problems

One of the demands posed by ESP is that teachers may find themselves dealing with contents from which they are alienated. The content may be very specific and require a high degree of knowledge from the teachers. The problem may be aggravated when the students' knowledge of the special subject is more than their teacher's. There is no cure-all for this problem. However, one suggestion proposed by many ESP practitioners such as Robinson (1991) is that ESP teachers try to develop their professional competence, which may involve training in a specific discipline. Another recommendation is offered by Strevens (1988, pp.42-43), who advocates that ESP teachers "...become familiar with the ESP course materials", "...become familiar with the language of the subject", and "Allow students to put them right!" Hutchinson and Waters (1987) believe that ESP teacher's difficulty in comprehending ESP subject matter arises from: i. The tradition in education of segregating the Humanities and the Sciences, so that English teachers usually receive little education in the Sciences, ii. ESP teachers' reluctance in teaching the new areas, iii. The paucity of effort to train ESP teachers. Selinker (1979) believes that teachers are stuck in situations such as having to teach subject matter materials which they themselves have trouble understanding. According to Selinker, understanding a scientific text requires an ESP teacher to know the concepts and presuppositions involved in the text. He further comments that when the teacher is deprived of such knowledge, he may resort to features of grammar and vocabulary. However, in some cases, such linguistic knowledge misleads the teacher. This claim was proved by what White (1981) and Zuck and Zuck (1984) found in their study. They reported that reading the same specialist texts, language teachers had different interpretations of subject specialists since they mostly focused on linguistic and low-level issues. In a study by Arnold (1986), a number of ESP classes were tape recorded and the results were played to subject specialists to judge them. The results revealed that some interpretations and explanations were scientifically inaccurate and usually based on layman's notions of the terms.

# 2.2 ESP teacher's degree of knowledge about the students' specialism

There exist conflicting views on how much knowledge the ESP teacher should have about their students' discipline. Some believe that a good ESP teacher should have a good amount of knowledge of the students' subject area. Adam Smith (1983), for instance, believes that many of the best ESP teachers have enough knowledge about their students' subject areas. Contrary to this view is the viewpoint of Hutchinson and Waters (1987) who believed that ESP teachers are not expected to become a teacher of the subject matter, but rather they should have a positive attitude towards the content, knowledge of the basic principles of the subject matter, and an awareness of their actual knowledge. As Scott-Barret (1989) commented, although knowledge of the students' discipline is of great help, it is not a prerequisite for successful teaching.

The above suggestions all require several degrees of preparation and knowledge on the part of the ESP teacher. However, they do not require the teacher to be an expert in the field. As a result, there will be some situations in which the teacher's knowledge does not suffice and he may have to resort to some strategies for dealing with the situation. To the best of our knowledge, the only piece of research investigating ESP teachers' strategies for coping with in-class subject knowledge dilemma (ISKD) is by Wu and Badgers (2009). Investigating the strategies of three Chinese ESP teachers, they found that the teachers utilize risk-taking and avoidance strategies in such situations. In the stimulated recall, the teachers stated that they used such strategies to avoid losing face and none of them admitted his/her ignorance about the content due to the same reason. However, missing in their study was the students' viewpoints regarding their teachers' knowledge. In the discussion about the ESP teacher's degree of knowledge on the subject matter, Robinson (1991) aptly mentioned that the issue partly depends on the students' views about the teacher's role. He commented that if the teacher is considered to be an authority, the students do not favor those teachers who admit to ignorance. It should be mentioned that because the literature on this issue was so scant, we could not expand our discussion any further. Below, the present study will be reported.

Based on the aforementioned problem, the purpose of this study was to investigate the fact that whether language teachers can be successful in teaching the content area for which they lack the necessary relevant knowledge. We aimed to investigate not only language teachers' strategies (as ESP teachers) when confronted with in-class subject knowledge dilemma (ISKD) situations, but also the students' viewpoints about these strategies. Therefore, the following

research questions were addressed in this study:

- 1. What strategies do Iranian language teachers implement in order to cope with in-class subject knowledge dilemmas (ISKD)?
- 2. What are teachers' reasons for choosing the strategies?
- 3. What are the students' viewpoints about their language teacher's knowledge of their specialism?

#### 3. Method

# 3.1 Participants

Five male and female ESP teachers of the University of Isfahan in Iran voluntarily took part in the study. They were all PhD students of TEFL who had been teaching ESP for a few years. None of our participant teachers had received ESP pre-service training. Table 1 offers some information about the teachers.

 Table 1

 Information about participant teachers

Teacher	Years of teaching experience	Years of teaching ESP	Education
Zahra	5	2	MA in TEFL
Fatima	9	2	MA in TEFL
Ali	4	1	MA in TEFL
Mina	4	3	MA in TEFL
Mohammad	6	3	MA in TEFL

<sup>\*</sup> Names are pseudonyms

The participant teachers were teaching ESP to 186 students majoring in psychology and engineering. However, our participants were limited to 150 students who were willing to answer the questionnaire. They were all BA students with the age range of 19-23.

## 3.2 Procedure

All the teachers and students had been asked to give their consent for being observed. According to Mackey and Gass (2005), observations offer possibilities for collecting in-depth data about a phenomenon while heeding many contextual variables. Since we needed to obtain at least one ISKD situation from each of the five teachers, we observed 8 sessions until we reached this aim. Eight 90-minutes sessions were audio-recorded while the observer took notes. The facial expressions as well as gestures and postures were noted when deemed necessary. The teachers were informed about the general purpose of the study. However, in order to avoid any possible changes in the behavior of the teachers, we did not give away the specific focus of the study prior to the observations. The records were later analyzed and any Applying strategies for dealing with lack of subject knowledge:

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case of ISKD event was transcribed with precision. We followed Wu and Badger (2009) in categorizing the teachers' strategies in the ISKD situations: admitting lack of knowledge, avoiding the problem, and taking a risk. The teachers' specific tactics for implementing these strategies were labeled based on our own perceptions. We also made use of member checking by "taking the preliminary analysis and interpretations to the participant and asking him/her if they were plausible" (Kang, 2005, p. 282).

Stimulated recall was used to "promote participants to recall thoughts they had while performing a task or participating in an event" (Gass and Mackey, 2000, p.17). We conducted stimulated recall interviews the day after each observation; since, Gass and Mackey(2000) suggested that the data should be collected as soon as possible after the task in order to reduce recall interference. The participants were informed about the purpose of the stimulated recall and they were trained to carry out the procedure. We played the recordings of the ISKD cases and asked the teachers to introspect and describe their behavior and feelings at that moment. The interviews were recorded and later transcribed. In order to see into the students' perspectives about their ESP teachers' knowledge we gave our participants a questionnaire after each observed session. In the form of four items, the questionnaire asked for the students' expectations of their ESP teacher, their awareness of the strategies implemented by their teachers, their viewpoints about the teachers' admitting his/her lack of knowledge, and their ESP teachers' amount of knowledge on the subject. The questionnaire was piloted before the study to assure that it was free from any problem.

#### 4. Results

4.1 In-class subject knowledge dilemma (ISKD)

In the following transcripts, T stands for the teacher, SS refers to the students in general and S1, S2, S3 represent particular students.

**ISKD1** Strategy: risk taking Tactic: looking for contextual clues

Zahra was teaching a text about stress and she came to the following sentence:

T: "These types of situations are called challenges, good stress, or acute stress." Now, you know what challenge means. Yes?

SS: yes, a difficult situation.

T: Yes, and what is acute stress?

SS: (no reply)

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T: What is the meaning of acute?

S1: sharp

S2: serious

S3: Tiz (the Persian translation)

T: Umm, yes, but, umm, here it doesn't have this meaning because it says it is good stress or acute stress. So, here in this context acute means good, I mean acute stress means good stress. Look at the next paragraph. Um, we have bad stress in the next paragraph and good stress here. So, acute stress is good stress.

Here, the teacher herself asked about the meaning of the word acute. The students seemed to know the basic meaning of the word acute, so, maybe they would not ask a question about it. However, the teacher wanted to explain more by telling the students more than what they know. Therefore, she asked the question and when her students could not give an appropriate answer, she had to explain it herself. This is when she confronted a challenge. As it was evident, her pauses and reference to the next paragraph indicate that she is looking for the answer herself. In the stimulated recall Zahra commented:

I usually read the text before coming to the class, but I don't read it quite carefully, I just look for new words and expressions and check them if there are any. For this lesson, since I had not found any new word, I mean since the word *acute* was not a new word, I didn't check *acute stress*, since I thought it is *serious stress*. However, in the text I realized it should have a different meaning as the passage talked about good stress. Honestly, I didn't know what *acute stress* here meant exactly, but I had asked the question myself and I had to provide an answer (laughing). If I hadn't asked the question, maybe the students wouldn't expect more explanation. Um, so I looked at the context. As the paragraph was about good stress and since these words were written one after another with the coordinate "or", I thought it should be synonymous with *good stress*.

Although Zahra convinced her students and the meaning she provided was completely pertinent to the context, we checked the word acute and found that one of the meanings is temporary and not chronic (Collins English dictionary, 2006). Therefore, Zahra was wrong! Acute stress does not mean good stress. It is a kind of stress which doesn't last long. Being informed about the correct meaning, Zahra felt somehow guilty for misleading the students.

Uh, I should tell them that *acute* here means not chronic, um but, um, how can I do it? Shall I say I was wrong last time? Uh, it doesn't have a good impression on the students. Maybe I refer to it after some time or ask some of the students to say the

**ISKD2** Strategy: admitting lack of knowledge Tactic: I don't know

The second case in which the teacher confronted a lack of subject knowledge dilemma occurred when Fatima was teaching a text about the history of technology. Below you can see the transcript of what happened in the class:

T: "This technological trend began in the Fertile Crescent, and spread outward over time." What is the meaning of trend?

SS: method

T: Very good, yes, it means that this method began in the Fertile Crescent, um it is the name of a place, see, it is written in capital letters. I don't know, the name is not important.

S1: Sorry, Fertile Crescent is a place in the Middle East, from Israel to Persian Gulf. (He said it in Persian)

T: Really? Thank you Mr. Soltani. Ok, as your friend said it is a place near Persian Gulf. So, this technological method began there and then was used in other places as well.

Here, contrary to the previous excerpt, the teacher admitted her lack of knowledge about the new phrase "Fertile Crescent". Although this could increase the possibility of the teacher losing her face, she honestly acknowledged that she lacked further information about it. We further asked her to comment on what she did. When we asked why she did not choose a strategy before confessing lack of knowledge she replied:

I think here the phrase was really technical, it required a geographical knowledge and since I was teaching to the students of engineering I thought they would not care about where this area exactly was. The focus here was on other expressions and words. Maybe I would not say I don't know if they were students of geography. Uh, anyway, I rushed, I could ask the students and get the answer pretending that I knew it myself. (laughing)

It is evident from what Fatima declared in the stimulated recall that her use of the phrase "I don't know" was not because she did not care about maintaining face. As she admitted, she said I don't know because the word was not something the students needed or would care about. She only admitted her lack of knowledge since the phrase was a specific name and was

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not considered as knowledge of the language or subject matter, i.e. engineering.

**ISKD3** Strategy: avoidance Tactic: postponing it until the next time

In this situation, while teaching, Ali, the teacher, ran into the following part:

T: "......and the conquest of space no longer strikes us as Wellsian or Jules Vernian." Conquest means taking the control of something and um, ok, I think this is enough for today (looking at his watch). Let's go to the word studies part and read the rest of the text next time. Isn't it better?

SS: Yes

S1: Xaste nabashid (a Persian expression which you tell somebody when he or she is tired. In classrooms the students use it in a tricky way to mean that's enough, let's finish the class.)

T: No, we have 10 more minutes. (smiling)

It seemed that Ali was confronted with a problem and tried to get out of it by changing the topic. Otherwise, in spite of jumping to a new part, he would continue the passage which would not take more than 10 minutes. He admitted our conjecture:

I knew who Jules Vern was but I had no idea about Wells. I didn't let my students know, so (smiling) I tried to move to another part and prepare myself for the next time.

Although knowing who Wells was would not degrade Ali, since it had nothing to do with his linguistic knowledge, he preferred to know everything about the passage he was teaching:

I am their teacher and should know everything in the book, otherwise, they could read the book at home and find the new words and expressions themselves.

Here again, we can see that the teacher tried to maintain face by avoiding the problem. He believed that the teacher should be the source of knowledge; otherwise, students would not have a good impression.

**ISKD4** Strategy: admitting one's mistake Tactic: repairing and correcting oneself

In the fourth situation, we saw a new strategy implemented by Mina, the ESP teacher. Mina

was explaining a passage about intelligent phones to the students of engineering.

T: "..... some of it is rocket science, but a lot of it is extremely simple."

S1: What does rocket science mean?

T: The science used for building rockets. You know what rockets mean don't you?

SS: yes, Mooshak (the Persian translation)

S2: Excuse me, does it mean that they use rocket science for building a cell phone? (surprised)

T: Um, well, it says it uses rocket science, no, actually it is not reasonable this way. By rocket science the author means um, very complicated science.

S2: Ok, yes (the puzzled expression is removed from his face and he writes something down, most probably the meaning of rocket science)

In this episode, the teacher was challenged by the direct question of one of her meticulous students. It seems she had no way to avoid it.

At first I didn't consider the point, I mean, um, they are engineering students and most of them are very careful and smart. I should be ready for their questions all the time. Honestly, when he asked the question I realized he was right. I couldn't deny it and it was kind of important, the student needed a convincing answer. So, I corrected myself.

When we asked her whether this behavior would ruin her face she commented:

Oh, no. I don't think so. I am a human being and viable to mistakes. If I hadn't corrected my mistake, it could be regarded as a flaw, but I corrected it myself. So, you see no problem for me.

**ISKD5** Strategy: admitting lack of knowledge Tactic: saying I don't know

The last episode involved the discussion between Mohammad, the teacher, and one of his students who posed a question:

T: It is said that the newer plants were larger, safer, and more expensive.

S1: Sorry.

T: Yes, Ahmad.

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S1: The newer plants were bad you mean?

T: Here it is said that the older ones were better.

S1: But how? The technology improves and always newer things are better.

T: Um, you're right, but maybe there are exceptions. Um, I don't know about the difference between old and new plants. Maybe you can ask an expert. In this passage the older ones were better. I don't know, maybe there is a problem with the text or maybe ...um, anyway, you'd better ask an expert. I cannot judge it.

S1: (nodding)

In contrast to the prior episodes, the teacher directly admitted his lack of knowledge about the subject matter and the student did not seem dissatisfied. Looking at the students' face we realized that he was almost content by the teacher's reply. Mohammad's reflection on this episode is worth mentioning:

I had enough knowledge about all the expressions and words in the passage I assume, but, uh, you know, he was right! It is usually the case that more modern technology is advantageous and I couldn't deny his comment. I really had no more knowledge than the students about that. So, um, why shouldn't I admit my ignorance?

When we asked him whether he was worried about losing face or not having the authority in the classroom by saying "I don't know" he replied:

Not at all, if it was about linguistic knowledge, yes, it would ruin me, but it was quite technical and only an expert could answer the question. How could I say something while I had no knowledge about it. I'm not an engineer and my students know it. I think they don't expect me to know as much as an engineer.

## 4.2 Students' perspectives

Another aim of this study was to tackle students' viewpoints regarding the ESP teacher's knowledge. After each observed session, we asked the students to answer a questionnaire in the absence of their teacher. The first question asked the students about what they expect from their ESP teacher. In other words, we asked them whether they expect their teachers to have a complete knowledge about the subject matter or they merely require him/her to teach the basics of English language which they will need in future.

 Table 2

 Students' perspectives on their ESP teachers' knowledge

1.Students' expectations	Teaching the basics of	Teaching the technical	Others	
from an ESP teachers'	English language	words & expressions		
knowledge	70%	16%	10%	
2. Rating the ESP teacher's	Very good	Good	Not bad	insufficient
knowledge about the subject				
	28%	52%	18%	0%
3. Students' awareness of		Yes		No
the strategy use by the ESP		72%		25%
Teacher				
4. Students' views about	It degrades the teacher and	It is not unpleasant if it	No	Others
admitting lack of knowledge	should be avoided	doesn't happen a lot	problem	4%
by the ESP teacher	17%	69%	even if	
-			frequent	
			6%	

As the results in table 2 indicate, 70% of the students believed that the ESP teacher should be an expert in the language rather than the subject matter and they expect to learn the general linguistic rules and expressions rather than the specific subject-based knowledge. 16% of the student, however, had higher expectations. They believed that the ESP teacher should be competent in that specific field. In the informal interview with some of them we perceived that they consider teacher as the source of knowledge. One of them commented:

If the teacher doesn't know about the subject matter, he should just teach general English and not ESP!

When we asked whether this enough knowledge includes knowledge of all the expressions and words in the subject matter, we came to a positive answer.

Besides, the questionnaire let the students express their ideas independently by leaving a choice to refer to their own view if it was different from the choices provided. Therefore, about 10% of the students had other ideas. For instance, they believed the ESP teacher should know the English language but he should also be competent in the subject matter to some extent.

The questionnaire also asked the students to evaluate their teacher's knowledge about their major. 80% of the respondents rated it as "very good" or "good" while 18% considered it as "not bad". It was interesting that none of the students regarded their teachers' knowledge as insufficient or "bad" although they answered the questionnaire after the session in which the teacher implemented some strategies to compensate for his/her inadequate subject knowledge.

To find out whether the students were aware of the utilized strategies, we asked them the third question. This question aimed at knowing whether the students were aware of the instances when the knowledge of the teacher was not enough in some cases but he/she used strategies to

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compensate for it. It was interesting to see that about 72% of the students gave a negative reply, i.e. they were not aware of such instances. However, 25% referred to the teacher's admitting lack of his/her knowledge or correcting his/her mistake. After analyzing the questionnaire we realized that this minority was related to those students whose teacher admitted his lack of knowledge or corrected her mistake (Mohammad and Mina).

The last item in our questionnaire asked the respondents for their ideas on the teachers' admitting lack of knowledge on the subject matter. 69% of the students indicated that it is not unpleasant if the teacher sometimes says *I don't know*. The results revealed that, contrary to most of the teachers' beliefs, admitting lack of knowledge on a word or expression related to the students' major does not degrade the teachers and is not regarded as a defect.

#### 5. Discussion and conclusion

In this study, we demonstrated some instances of situations in which five Iranian ESP teachers dealt with their lack of subject knowledge. Using stimulated recall, we also presented the teachers' reflections on the strategies they implemented to cope with those situations. Table 3 is a summary of the strategies and tactics utilized by our participant teachers.

**Table 3**Summary of the strategies and tactics utilized by teachers

Teacher	Problem	Problem identification	strategy	tactic
Zahra	acute stress	teacher	risk taking	looking for contextual clues
Fatima	Fertile Crescent	teacher	avoidance	I don't know
Ali	Wellsian	teacher	avoidance	postponing it until the next time
Mina	rocket science	student	admitting one's mistake	repairing and correcting oneself
Mohammad	New plants were larger, less safe, etc.	student	admitting lack of knowledge	Saying I don't know

As table 3 depicts, in the first three situations when confronted by the problem in the text, rather than being asked by a student, the teachers utilized either a risk taking or an avoidance strategy. In the stimulated recall, all of these teachers stated that the use of these strategies was for maintaining face. It seems that declaring one's lack of knowledge was considered as a flaw. This viewpoint can be due to the traditional views that consider teacher as the source of knowledge and authority in the classroom. As Wu and Badger (2009) aptly concluded, teachers were anxious to maintain face by concealing the inadequacy in their knowledge.

However, in the fourth and fifth observations we came to a rather different technique. In these instances when students challenged the teacher by directly pointing to the problem, the

teacher seemed to have no choice but to admit his/her lack of knowledge. Being aware of the teachers' standpoint about admitting their lack of subject knowledge, we were curious to see the students' perspectives about it. Contrary to the teachers' expectations, as the data on table 2 clearly depicted, most of the students claimed that they do not expect their ESP teachers to have a complete knowledge about the subject matter. They indicated that admitting ignorance about subject on the part of an ESP teacher does not lead to losing face. This contrast between the teachers' stance and their students' point of view may indicate that students are moving away from the traditional idea which considered the teacher as an authority and a source of knowledge. It seems that Iranian students are living in what Nakata (2011) called the "transitional period" from a traditional culture, where "being taught" is valued, to a modern culture, where the creative mind is admired. The modern culture involves "self-teaching" through questioning, searching, and doing. As one of the students commented:

In this new age of technology, no one can claim to have a thorough knowledge about a field. The teacher can be a guide; if there is a problem we should search and find the answer ourselves.

In a learning-centered approach, as Hutchinson and Waters (1987) noted, there should be a negotiation between the teacher and students so that there is a meaningful communication in which the teacher does not have to be highly specialized in the subject matter. However, we admit Robinson (1991) who noted that the students' views about their ESP teacher's knowledge may depend on the students' degree of experience and knowledge. Since our participant students were freshmen, we cannot generalize our results to other students. There seems to be a need for further studies to come to more robust generalizations.

The findings reported in this paper are limited to a small sample and any conclusion based on the obtained results should be treated with care. Even though our findings are confined to Iranian context, it is hoped that they provide some directions for further studies.

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