

Exploring Iranian EAP Teachers' Pedagogic Content Knowledge and Teaching Practices, and Students' Beliefs about EAP Teachers' Methodology

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Abstract

The systematic study of EAP teachers' pedagogic content knowledge and their actual teaching practices in class is a fresh avenue in applied linguistics, especially in contexts like Iran, where, EAP courses are taught by two groups of teachers with different specializations; i.e., language teachers and content teachers. This study explored the similarities and differences between language teachers' and content teachers' PCK, and teaching practices, and students' beliefs about their EAP teachers' methodology at Medical Sciences Universities across Iran. In order to answer the research questions, a wide range of instruments including questionnaires, observations, semi-structured interviews, and field notes were utilized. Sources included language teachers, content teachers, students taught by language teachers, and students taught by content teachers. Representative samples of 318 EAP teachers and 1573 students participated in the study. The results indicated substantial inconsistencies across the two groups of teachers with respect to their PCK and teaching practices. The findings also showed that students favored language teachers' methodologies and teaching practices. The findings promise implications for EAP instruction in Iran and highlight the pressing need for more systematic teacher training programs.

Keywords: English for Academic Purposes (EAP), language teachers, content teachers, pedagogic content knowledge (PCK), teaching practices

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INTRODUCTION

Teaching methodologies have undergone a lot of changes and a variety of approaches have been devised and practiced (Larsen-Freeman, 2000). Methodology is particularly important in EAP, where a reading course may pay more attention to an examination of factual information, rather than more important issues like critical-rhetorical analysis of the text and the writer's personal attitudes (Bloor, 1998).

Methodology and teacher's language proficiency are the most crucial elements of EAP instruction (Hyland, 2006). Since most EAP programs are limited in time and funding, they aim to find the quickest and effective ways to prepare learners to perform appropriately in academic contexts (Hyland, 2006). Equally important is the fact that in EAP contexts, learners should be familiar with different genres (Hyland, 2006). In order to build students' discourse competence, teachers may also use Vygotsky's idea of scaffolding (Hyland, 2006). The present study investigates EAP teachers' use of consciousness-raising strategies and scaffolding strategies based on Hyland (2006).

Although considerable research has been devoted to methodological principles and guidelines, there is little research about actual teaching practices adopted by EAP teachers. Besides, in contexts like Iran where EAP courses are taught by either language teachers or content teachers with little or no collaboration between the two camps (Atai, 2006), there is a pressing need to shed more light on EAP teachers' teaching practices.

LITERATURE REVIEW

Teachers' Pedagogic Content Knowledge

Schulman (1987) defines pedagogic content knowledge (PCK) as "that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding" (p. 8). He argues that PCK is among the most crucial categories of knowledge a teacher must possess, since "it represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Schulman, 1987, p. 8).

As Atai and Khazaei (2014) state, evaluation of PCK in EAP contexts, has not received much attention. The present study tries to

explore Iranian EAP teachers' PCK based on Grossman's (1989) classification. He offers four components of PCK:

what it means to teach a particular subject; knowledge of curricular materials and curriculum in a particular field; knowledge of students' understanding and potential misunderstandings of a subject area; and knowledge of instructional strategies and representations for teaching particular topics. (p. 25)

Student Beliefs

Scholars have been studying student beliefs, the “general assumptions that students hold about themselves as learners, about factors influencing learning and about the nature of language learning” (Victori & Lockhart, 1995, p. 224) within the past three decades (Trinder, 2013). Students' beliefs have an influential role in their success (Trinder, 2013). As Savignon (1997) asserts, “ultimate success in learning to use a second language most likely would be seen to depend on the attitude of the learner” (p. 107). Trinder (2013) observes that there is little research focusing on specific university discipline. Most studies survey student beliefs about language learning in general, and few studies explore learners' beliefs about particular teaching practices (Savignon & Wang, 2003). Thus, besides examining EAP teachers' cognitions, “what teachers know, believe, and think” (Borg, 2003, p. 81), under the category of PCK, the current study probes into students' beliefs about their EAP teachers' methodology.

EAP in Iran

As echoed in the literature, a controversial issue in EAP is the concept of specificity which has inspired EAP specialists to draw a distinction between English for General Academic Purposes (EGAP) and English for Specific Academic Purposes (ESAP) (Hyland, 2006). While the former refers to the teaching of the skills and language that are common to all disciplines, the latter is the teaching of some characteristics that distinguish one discipline from others (Dudley-Evans & St John, 1998). EAP in the present study refers to ESAP.

In Iran, currently, university students usually have an EGAP course in the first term, and an ESAP course in the second term (Farhady, Sajadi Hezaveh, & Hedayati, 2010). According to Atai and Tahririan (2003), these programs are reading-based. The most important purpose of EAP

courses at universities in Iran is “to fill in the gap between the students’ general English competence and their ability to read authentic discipline-specific texts” (Atai, 2006, p. 28). The texts in the books, as Mazdayasna and Tahririan (2008) claim, are selected based on students’ related discipline, rather than on genre or discourse of the discipline.

To fill the gap and provide a model for teacher education programs, Atai and Tahririan (2003) carried out a nationwide study to assess discipline-based EAP programs in Iran. Their evaluation of the Iranian EAP programs showed that despite significant differences between EAP learners’ pre-test and post-test performances, Iranian learners’ reading comprehension performances at the end of the course were far below the minimum expected criterion of the study. Recently, Atai and Fatahi-Majd (2014) explored the cognitions and practices of Iranian EAP teachers’ teaching reading comprehension between language teachers and content teachers. The results showed major discrepancies between the two groups of teachers. Content teachers, however, were more divergent in their practices.

PURPOSE OF THE STUDY

Atai (2006) observes that there is hardly any published document on the current patterns of methodological preferences among Iranian EAP practitioners. Consequently, there is confusion with respect to the actual implementation of EAP courses in Iran. The current nationwide study explores the similarities and differences between the two groups of EAP teachers; i.e. language teachers and content teachers in Iran regarding their PCK and teaching practices. Atai and Fatahi-Majd (2014) explored Iranian EAP teachers’ cognitions and teaching practices. However, their study was small in scale, and not generalizable to the whole nation. Also, they only investigated how teachers taught reading. The current study, however, is nationwide so the results can be generalized to all EAP teachers at Medical Sciences Universities. In addition, different issues in EAP methodology are explored. It also adds questionnaire to the instruments used by Atai and Fatahi-Majd (2014). Moreover, students’ beliefs about their EAP teachers’ methodology are also explored in this study. It is also an improvement over Atai and Khazaei's (2014) study in exploring EAP teachers’ PCK, since only two language teachers and two content teachers participated in their study and they were all selected from one university. Another limitation of their study is that it only used qualitative approaches to investigate teachers’ PCK.

The present study modified Grossman's (1989) components of PCK to suit the EAP context. The questions below address the four components of PCK. The following research questions were raised in this study:

1. What are the perceptions of Iranian EAP teachers with regard to the differences between teaching EAP and teaching EGP? Are there any similarities and differences between language teachers and content teachers?
2. What are Iranian EAP teachers' cognitions of selection and organization of materials? Are there any similarities and differences between language teachers and content teachers?
3. What are Iranian EAP teachers' knowledge of students' needs? Are there any similarities and differences between language teachers and content teachers?
4. What are the most common teaching practices of Iranian EAP teachers? Are there any similarities and differences between language teachers and content teachers?
5. What are Iranian students' beliefs about their EAP teachers' methodology? Are there any similarities and differences between the beliefs about students taught by language teachers and those taught by content teachers?

METHOD

Participants

Based on the 2015 rankings by the Ministry of Health and Medical Education, Medical Sciences Universities in Iran are classified into the following five clusters: type-1 universities (T1Us), type-2 universities (T2Us), newly-established universities (NEUs), independent colleges (ICs), and non-affiliated universities (NAUs). The population of EAP teachers was found to be 536, 187 language teachers and 349 content teachers. Based on the formula proposed by Krejcie and Morgan (1970), the sample size needed was 308 EAP teachers - 128 language teachers, and 183 content teachers. Consequently, 345 questionnaires were distributed in five clusters of universities. A total of 318 teachers, 190 content teachers and 128 language teachers, returned the completed questionnaires. A profile of EAP teachers who completed the questionnaires is presented in Table 1.

Table 1: Profile of EAP teachers who completed the questionnaires

Teachers	University Type	Frequency	Percent
Language	T1Us	70	54.7
	T2Us	23	18.0
	NEUs	13	10.2
	Ics	10	7.8
	NAUs	12	9.4
	Total	128	100.0
Content	T1Us	63	33.2
	T2Us	54	28.4
	NEUs	37	19.5
	Ics	28	14.7
	NAUs	8	4.2
	Total	190	100.0

We also found that 191,032 students are studying in Iran's Medical Sciences Universities. Based on the same formula, 1,537 students were needed to answer the open-ended item. Since approximately 40% of EAP teachers are language teachers and 60% are content teachers, it was assumed that 40% of students had been taught by language teachers and 60% by content teachers. Consequently, 615 students were taught by language teachers, and 922 students were taught by content teachers. A profile of students who answered the item is presented in Table 2.

Table 2: Profile of students who answered the open-ended item across university types

Teachers	University Type	Frequency	Percent
Language	T1Us	288	46.2
	T2Us	112	18.0
	NEUs	70	11.2
	Ics	40	6.4
	NAUs	113	18.1
	Total	623	100.0
Content	T1Us	570	60.0
	T2Us	120	12.6
	NEUs	84	8.8
	Ics	96	10.1
	NAUs	80	8.4
	Total	950	100.0

Instrumentation

In order to answer the research questions, a triangulation of instruments was employed. We developed a questionnaire for EAP teachers. The purpose was to explore their PCK; and how EAP is conceptualized in instructional practices, suggested by scholars (*e.g.*, Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987; Hyland, 2006). The teacher questionnaires included eight 5-scale items: 'very little – little – somewhat – much - very much'. The students had to answer one open-ended item and write what they generally think about their EAP teachers' methodology. We also used semi-structured interviews which were designed to probe deeper into the issues in the teacher questionnaire. A checklist was also developed to look for routine and non-routine teaching practices. In order not to miss any events happening during the observations, field notes were also taken.

Data Collection Procedure

Due to the difficulty of access to the participants and the nationwide nature of the study, the entire process of data collection took nearly one year. It started in July 2014 and finished in May 2015. In all stages of data collection, ethical codes of research were observed.

Non-Participant Observations and Field Notes

Overall 14 language teachers and 14 content teachers were observed by the third researcher. From each camp of EAP teachers, 5 teachers were observed three times, 6 teachers were observed twice, and 3 teachers were observed once. Since this study was conducted in a nationwide scale and we wanted to have teachers from all clusters of universities, it was not practical to observe all teachers equally; however, we did our best to include equal number of teachers and equal number of observations from each camp. Therefore, 60 full sessions were observed - 30 observations for each camp.

The third researcher tried to establish an atmosphere of trust by assuring EAP teachers that the purpose of the observations was not evaluating their practices. Despite being informed about the ethical codes of qualitative research and being assured that they will remain anonymous, only some of the teachers let the researcher audio-record the sessions. These recordings were later transcribed for further detailed analyses. Based on Atai and Fatahi-Majd's (2014) study who considered

practices which occurred 5 times out of 8 as routine practices, in the present study, we decided to code teaching practices that occurred at least 20 times during the 30 observations as routine practices. Others were coded as none-routine practices.

Questionnaire

Those teachers who were observed, completed the questionnaires in class. The rest of the questionnaires were emailed to teachers. The researchers repeated follow-up remembrance emails and text messages to the sample to increase the response rate. Students, on the other hand, answered the open-ended item at the end of the class.

Semi-Structured Interviews

Semi-structured interviews were conducted with each teacher in order to gain a deeper understanding of their PCK, and teaching practices. The interviews were conducted in the interviewees' first language to ensure easy interaction and avoid any misunderstandings. The interviews spanned from 46 minutes to 1 hour and 32 minutes, with a mean of 58 minutes.

Data Analysis

Both quantitative and qualitative approaches were used to analyze the collected data. In order to investigate the significant differences between language teachers' and content teachers' scores in the Likert-Scale items, Mann-Whitney U Tests were used. In order to analyze the interviewees' answers, and also students' comments in the open-ended item, content analysis was conducted (Dörnyei, 2010). First, all relevant responses were transcribed verbatim. Second, the responses were read many times by the researchers and overarching themes and sub-themes were extracted.

RESULTS

The results of data analysis for each research question are provided below.

Question One: First Component of PCK

For the purpose of the current study, the first component of PCK suggested by Grossman (1898) was modified to EAP teachers's beliefs

about differences between teaching EAP and teaching EGP. According to the data, in the questionnaire and in response to the question: "How much do you think teaching English for Academic Purposes is different from teaching English for General Purposes?", majority of language teachers (44.5%) selected 'somewhat', whereas most content teachers (51.1%) selected 'much'. The results of Mann-Whitney U Tests showed significant differences in scores between the two groups of EAP teachers: language teachers: $MD = 4$, $n = 128$ and content teachers: $MD = 3.34$, $n = 190$, $U = 10118.5$, $z = -2.72$, $r = .125$.

The analysis of the semi-structured interviews, also, revealed that language teachers and content teachers differed in their cognitions of teaching EAP and teaching EGP. The overarching themes and sub-themes are presented in Table 3.

Table 3: EAP teachers' cognitions of teaching EAP and teaching EGP

Language Teachers	Content Teachers
Theme 1: Teaching EAP and teaching EGP are very much similar	Theme 1: Teaching EAP and teaching EGP are totally different
Sub-theme 1: In EAP classes, the teacher must have more preparation	Sub-theme 1: Technical terms have different meanings in technical texts
Sub-theme 2: In EAP classes, the teacher should inform the students that the purpose of the course is to learn language not content	

One of the language teachers commented:

The general principles of teaching EAP and EGP are the same, but based on the topic, methodologies can differ. For instance, in teaching EAP, you must know the etymology of words; and also the examples the teacher brings must be from students' discipline.

Compared to language teachers, content teachers' answers were very brief. In order to support his reason, one content teacher maintained:

Even English native speakers may not know the meanings of technical terms. Only content teachers are familiar with the meanings of technical terms.

Question Two: Second Component of PCK

The second component of PCK includes teachers' cognitions concerning the selection and organization of the materials (Grossman, 1989). In the

questionnaire and in response to the question: “How much are you satisfied with the available materials?”, majority of language teachers (40.6%) chose ‘much’, whereas most content teachers (41.9%) chose ‘somewhat’. The results of Mann-Whitney U Tests showed no significant differences between language teachers and content teachers.

However, semi-structured interviews, concerning their use of materials, resulted in the following overarching themes and sub-themes in Table 4.

Table 4: EAP teachers’ cognitions of materials

Language Teachers	Content Teachers
<p>Theme 1: They use the available commercial textbooks, usually the ones written by English native speakers</p> <p>Sub-theme 1: Some universities provide the materials</p> <p>Sub-theme 2: In some universities, the teacher has to choose or design the materials</p>	<p>Theme 1: They use the book “Medical Terminology”</p> <p>Sub-theme 1: Only one teacher uses extracts from previous years’ M.A entrance exams</p>

Again, the two camps of teachers differed in their ideas about the appropriate material. A language teacher held:

I would choose materials that are: 1. appropriate, 2. available, and 3. not very expensive. If there were no books having these qualities, I would have to find one from different textbooks related to students’ discipline, or from the Internet. In these cases, I would consult content teachers.

Almost all content teachers, on the other hand, said they use the book “Medical Terminology” by Cohen. Having many technical terms was voiced as the main reason for using the book. As one content teacher pointed out:

The book has all the necessary vocabulary medical students need. When they read medical texts, they must be familiar with these technical terms.

Question Three: Third Component of PCK

For the purpose of the current study, and the importance of needs analysis in EAP, Grossman’s (1989) third component of PCK was modified to “teachers’ knowledge of students’ needs”. Our analysis of data from the questionnaire and the interviews revealed differences

between language teachers and content teachers. In the questionnaire and in response to the question: "How much do you know about students' needs?", majority of language teachers and content teachers selected 'much' (69.5% and 47.1%, respectively). The results of Mann-Whitney U Tests showed significant differences in scores between the two groups of EAP teachers: language teachers: $MD = 4$, content teachers: $MD = 3$, $U = 9685$, $z = -3.55$, $r = .214$.

From the interviews, the following two overarching themes, in Table 5, were extracted for language teachers.

Table 5: EAP teachers' knowledge of students' needs

Language Teachers	Content Teachers
Theme 1: Mostly reading articles and books	They had absolutely no idea of students' needs
Theme 2: At times, writing, listening, and speaking	

Language teachers cited various reasons including the following:

Most EAP students need to be able to read texts in their discipline and also write and speak about the discipline. To this end, by teaching reading strategies I try to develop students' reading skill, and especially in medicine classes, I speak 80% in English. Automatically, this bolsters their speaking and listening skills. I also ask them to interact in groups of two or more students.

Question Four: Fourth Component of PCK

In the present study, Grossman's (1989) fourth component of PCK was subsumed under the broad category of "teaching practices". We examined the following teaching practices:

- scaffolding strategies
- consciousness-raising strategies
- emphasizing grammar
- emphasizing vocabulary
- emphasizing translation

Scaffolding Strategies

In response to the question: "How much do you use scaffolding strategies?", majority of language teachers and content teachers selected

‘somewhat’ (38.3% and 46.8%, respectively). The results of Mann-Whitney U Tests showed significant differences in scores between the two groups of EAP teachers: language teachers: $MD = 4$, and content teachers: $MD = 3$, $U = 10160.5$, $z = -2.63$, $r = .148$.

Also, in the interviews, majority of language teachers said they use scaffolding strategies in their EAP classes. The overarching theme extracted from the interviews, is presented in Table 6.

Table 6: EAP teachers’ use of scaffolding strategies

Language Teachers	Content Teachers
Theme 1: They usually use scaffolding strategies	They had no idea of such strategies

Some of the remarks made by language teachers include the following:

It depends on the level of students. If there are advanced students in my class, sometimes I ask them to help the lower level students. I use these strategies, especially to help those students who are shy to speak in class.

Consciousness-Raising Strategies

In response to the question: “How much do you use consciousness-raising strategies?”, majority of language teachers and content teachers selected ‘much’ (47.7% and 46%, respectively). The results of Mann-Whitney U Tests revealed no significant differences between language teachers and content teachers. In the interviews, four language teachers said they sometimes use some consciousness-raising strategies. The results of the extracted overarching theme and sub-theme are presented in Table 7.

Table 7: EAP teachers’ use of consciousness-raising strategies

Language Teachers	Content Teachers
Theme 1: Majority of language teachers did not use these strategies	They had no idea of such strategies
Sub-theme 1: Lack of time was the main reason	

Some of the comments made by language teachers include the following:

I use both implicit and explicit strategies of teaching; that is, some students may not learn what I teach subconsciously, so I need to explain some concepts explicitly.

I tell students the differences between the French pronunciation of some medical terms which they use in some courses like histology, and the English pronunciation of these terms which they use in the EAP class.

Emphasizing Grammar

In response to the question: "How much do you emphasize grammar?", majority of language teachers selected 'little' (38.7%), whereas content teachers largely selected 'much' (35.3%). The results of Mann-Whitney U Tests showed significant differences in scores between the two groups of EAP teachers: language teachers: $MD = 3$, and content teachers: $MD = 4$, $U = 10186.5$, $z = -2.12$, $r = .125$. The results of the overarching themes and sub-themes extracted from the interviews, are shown in Table 8.

Table 8: EAP teachers' emphasis on grammar

Language Teachers	Content Teachers
Theme 1: They do not usually teach grammar	Theme 1: They do not teach grammar
Sub-theme 1: Students have already learned grammar in EGP classes	
Sub-theme 2: They only teach grammar in cases where they think a grammatical point needs explanation	

One language teacher articulated:

When we come across reduced relative clauses, like 'the sugar stored in the liver', I teach them the rule and tell them this is the reduced form of an adjective/relative clause 'the sugar which has been / is stored in the liver'. I teach grammar to develop students' reading skill.

From the observations, we noticed that in many occasions, content teachers did not appreciate students' difficulties in English. In one of the classes, it seemed that students had problems understanding the difference between active and passive sentences. One content teacher did

not know the difference between the modal verb “can” indicating “possibility” and “ability”.

Emphasizing Vocabulary

In response to the question: “How much do you emphasize vocabulary learning for better comprehension?”, majority of language teachers and content teachers chose ‘much’ (49.2% and 44.2%, respectively). The results of Mann-Whitney U Tests showed no statistically significant differences between the two camps. The same results were gained in the interviews and observations. Table 9 presents the overarching themes and sub-themes extracted from the interviews.

Table 9: EAP teachers’ emphasis on vocabulary learning

Language Teachers	Content Teachers
Theme 1: They highlight the role of vocabulary	Theme 1: They highlight the role of vocabulary
Sub-theme 1: They provide synonyms	Sub-theme 1: They only provide L1 equivalents
Sub-theme 2: They ask students to guess the meanings from context	
Sub-theme 3: They provide L1 equivalents for difficult terms	

Emphasizing Translation

Emphasis on translation was the only routine activity among content teachers. The same results were gained in the questionnaire and the interviews. In response to the question: “How much do you emphasize translating texts to L1?”, majority of language teachers selected ‘somewhat’ (28.9%), whereas ‘much’ was the most selected answer by content teachers (32.2%). The results of Mann-Whitney U Tests showed significant differences in scores between the two groups of EAP teachers: language teachers: $MD = 3$, and content teachers: $MD = 4$, $U = 10532$, $z = -2.09$, $r = .133$ (medium).

In the interviews, the two camps of EAP teachers showed totally different views concerning emphasis on translation. Table 10 shows the overarching themes and sub-theme.

Table 10: EAP teachers’ emphasis on translation

Language Teachers	Content Teachers
Theme 1: They very rarely translate	Theme 1: They always translate
Sub-theme 1: They only translate difficult concepts that students may not understand in L2	

According to one of the language teachers:

I only translate terms or sentences that have different meanings in technical contexts, and in these cases I immediately use them in many examples in English and ask them questions. The aim is to make them grasp the concepts in English. The examples I use are from students' disciplines; that is, in medical classes, I use medical examples, in dental courses, I use dental examples, etc.

Translation was observed to be the only activity in content teachers' classes. Unlike the Persian word order which is SOV (subject-object-verb), they translated the texts like the English word order which is SVO (subject-verb-object). Thus, at times, it was difficult to understand the meaning of the translations.

Routine and Non-Routine Practices

Based on the observation checklist, Table 11 summarizes the routine practices and non-routine practices among EAP teachers. In each case, the first number in the parentheses indicates the number of observed practices for language teachers, and the second number shows the number of observed practices for content teachers.

Motivating Reserved Students

Grossman (1989) argues that the fourth component of PCK also includes how teachers plan instruction for unmotivated students. Accordingly, EAP teachers were asked how they motivated reserved and unmotivated students. Table 12 provides the extracted overarching theme and sub-themes.

Some of the comments made by language teachers include the following:

I tell students without speaking you cannot speak, without writing you cannot write, etc. I tell them that learning English is different from learning other courses like physiology, for instance. You cannot learn English just by listening to the teacher.

I usually try to motivate them to speak in class by telling them if you knew English, you wouldn't be here. If they still were shy to speak, I would talk to them individually after the class.

On the other hand, only one content teacher being interviewed said he asks the reserved students to study about a simple topic and deliver a short lecture the next session. They all made short comments, including:

I have no plan for these students. I just tell them if you do not try hard, you will fail the course.

I never force anyone to speak in any of my classes, including EAP classes.

Table 11: EAP teachers' routine and non-routine practices

Routine Practice among both Groups of EAP teachers	Routine Practices among Language Teachers	Routine Practice among Content Teachers	Non-routine Practices among both Groups of EAP teachers
1. Translating words that are difficult for the students (words that are uncommon, specialized, unimportant for the text, or a name or place word) (23-30)	1. Being familiar with the methods, practices and techniques of language teaching (30-0)	1. Emphasizing translating texts to L1 (7-27)	1. Comparing spoken and written genres, such as a lecture and textbook, to raise awareness of the ways in which these differ in response to audience and purposes, as a consciousness-raising task (4-0)
	2. Exploring the extent to which the frequency and use of a feature can be transferred across the genres students need to write or participate in, as a consciousness-raising task (21-0)		2. Listing the ways that reading and listening to monologue are similar and different, as a consciousness-raising task (0-0)
	3. Providing synonyms to address words that are difficult for the students (words that are uncommon,		3. Investigating variability in academic writing by conducting mini-analyses of a feature in a text in their own discipline and then comparing the results with those of students from other fields, as a consciousness-

specialized,
unimportant for
the text, or a
name or place
word) (30-0)

4. Encouraging
students to
guess the
meanings of
words that are
difficult for the
students, from
context (23-0)

5. Being
creative with
the available
material (23-1)

raising task (0-0)

4. Examining a feature in
textbooks and comparing its
actual use in a target genre
such as a student essay or
research article, as a
consciousness-raising task
(16-0)

5. Reflecting on how far
features correspond with their
use in students' first language
and on their attitudes to the
expectations of academic style
in relation to their own needs,
cultures and identities, as a
consciousness-raising task (0-0)

6. Using the concept of
'shared consciousness': the
idea that learners working
together learn more
effectively than individuals
working separately, as a
scaffolding strategy (5-0)

7. Using the concept of
'borrowed consciousness':
the idea that learners
working with
knowledgeable others
develop greater
understanding of tasks and
ideas, as a scaffolding
strategy (2-0)

8. Providing glosses to
address words that are
difficult for the students (0-
0)

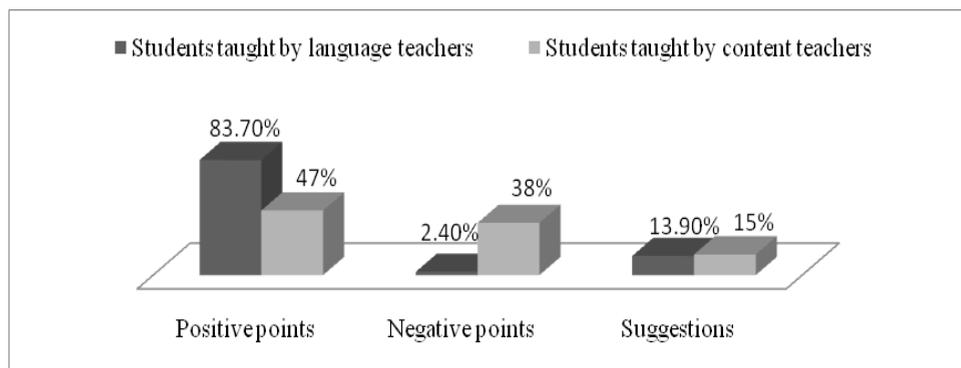
9. Emphasizing grammar
(9-5)

Table 12: EAP teachers' motivating unmotivated students

Language Teachers	Content Teachers
Theme 1: They usually talk to these students	All, but one, content teachers had no plan for motivating these students
Sub-theme 1: Telling students that making errors is a prerequisite for learning	
Sub-theme 2: Telling students that risk-takers are better learners	
Sub-theme 3: Telling students that all students in the class are approximately at the same level	

Question Five: Students' Beliefs

Having analyzed students' comments about their EAP teachers' methodology and teaching practices, we categorized them into the following three categories: positive points, negative points, and suggestions. Figure 1 shows the percentages of each category.

**Figure 1:** Percentages of students' positive/negative comments and suggestions

The overarching themes and sub-themes extracted from students' comments are shown in Table 13.

Table 13: Students' positive comments, negative comments, and suggestions about their EAP teachers' teaching practices

Students Taught by Language Teachers	Students Taught by Content Teachers
Positive points	Positive points
Theme 1: good methodology	Theme 1: good methodology
Sub-theme 1: Using different teaching practices (43.4% of all comments; 51.9% of positive points)	Sub-theme 1: emphasizing vocabulary, especially technical terms
	Sub-theme 2: emphasizing translation

Sub-theme 2: emphasizing all four skills
Sub-theme 3: motivating students, for instance, making students, who had hated English, love English
Sub-theme 4: involving all students
Sub-theme 5: managing the class well
Sub-theme 6: good lesson plan
Theme 2: good knowledge of language and content
Theme 3: establishing good rapport with students and creating a friendly atmosphere
Theme 4: good pronunciation
Theme 5: using a variety of materials, besides the main book
Theme 6: meeting students' needs

Sub-theme 3: emphasizing grammar
Sub-theme 4: involving all students
Theme 2: good knowledge of content

Negative points

Theme 1: fast teaching
Theme 2: not forcing students to attend the class

Negative points

Theme 1: bad methodology
Sub-theme 1: only emphasizing translation
Sub-theme 2: not teaching grammar at all
Sub-theme 3: not motivating students
Sub-theme 4: only emphasizing prefixes and suffixes
Sub-theme 5: not involving students in any activities
Sub-theme 6: teaching only in L1
Sub-theme 7: not being able to manage the class well
Sub-theme 8: not helping all students
Sub-theme 9: not correcting students' errors
Theme 2: insufficient knowledge of English

Suggestions

Theme 1: more emphasis on grammar
Theme 2: use of group activities
Theme 3: more emphasis on listening and speaking
Theme 4: more use of L1
Theme 5: involving students more in class activities
Theme 6: use of L2 only
Theme 7: reading on-line articles
Theme 8: more emphasis on writing

Suggestions

Theme 1: emphasis on all four skills
Theme 2: more emphasis on grammar
Theme 3: involving students more in class activities
Theme 4: emphasis on class attendance, so students take class seriously

DISCUSSION

This study set out to explore Iranian EAP teachers' PCK and teaching practices, and students' beliefs about their EAP teachers' methodology. Considering the first component of PCK, suggested by Grossman (1989), our findings showed sharp contrasts between language teachers' and content teachers' remarks. These findings were mirrored in the questionnaire as well. Generally, the language teachers believed that the principles of teaching EGP and teaching EAP are the same. However, EAP teachers need more preparation before the class, compared to EGP teachers. Their views are in line with Atai (2006) who holds that the principles forming the basis of EGP methodology and ESP/EAP methodology are similar. Similarly, Hutchinson and Waters (1987) argue that the underlying principles of ESP methodology and ELT methodology are the same, and "there is nothing specific about ESP methodology" (p. 142). Conversely, the content teachers asserted that teaching EAP and teaching EGP are totally different. The only reason they mentioned was the degree of emphasis on specialized language with specialist terms having different meanings in EAP courses. With content teachers' views in mind; however, some scholars (e.g., Anthony, 2011) believe language teachers are not responsible for teaching technical terms.

As for the second component of PCK, our findings indicated that language teachers used various commercial textbooks in the market. On the contrary, content teachers only used one book entitled "Medical Terminology". Use of the available commercial textbooks is supported by many scholars (e.g., Harwood, 2005). With this in mind, the results of the questionnaire revealed no significant differences between the two camps regarding their satisfaction with the available materials. However, language teachers were observed to be creative with the available materials. Based on the results, it may be possible to conclude that content teachers do not consider students' needs and proficiency level in selecting the materials.

With regard to the third component of PCK, the findings of the questionnaire and the interviews revealed major discrepancies between the two camps of teachers, concerning their cognitions of students' needs. All language teachers seemed to have clear ideas of students' needs. They mentioned reading articles and books, writing, and at times listening and speaking are what students need in EAP courses. In

contrast, content teachers had no idea of students' needs. As Rosenthal (2000) holds, and as the findings of the present study revealed, despite the fact that content teachers may be experts in their own discipline, they may have little information about linguistic needs of students. Therefore, it seems reasonable to assume that content teachers are not familiar with the principles of EAP methodology.

Regarding the fourth component of PCK, which was subsumed under the broad category of "teaching practices", the present study explored teachers' scaffolding strategies, consciousness-raising strategies, emphasizing grammar, emphasizing vocabulary learning, and emphasizing translation. The interviews and the questionnaire results revealed major discrepancies between language teachers and content teachers concerning their use of scaffolding strategies. Majority of language teachers claimed they use scaffolding strategies in class. In contrast, only one content teacher said he uses scaffolding strategies. However, different results were observed in language teachers' classes. Hyland's (2006) concepts of 'shared consciousness' and 'borrowed consciousness' were non-routine practices in language teachers' and also in content teachers' classes. The results showed that there is inconsistency between what language teachers claimed in the interviews and their actual performances. From their comments, we can be sure that, unlike content teachers, they are familiar with scaffolding strategies; nevertheless, contextual factors may hinder them from using these strategies. Therefore, it is difficult to formulate a consistent pattern for language teachers' use of scaffolding strategies.

Regarding the use of consciousness-raising strategies, the analysis of the questionnaire data showed no significant differences between the two camps of EAP teachers. In the interviews, only four language teachers asserted they use these strategies in class. The content teachers seemed to have no clear conceptualization of such strategies. The findings of the observations are in line with EAP teachers' comments. Five of the six consciousness-raising activities suggested by Hyland (2006) were observed to be non-routine activities by both camps of teachers. Only one of these tasks was observed as a routine practice in language teachers' classes. The findings manifested that the use of consciousness-raising strategies is not paid sufficient attention to by EAP teachers. As observed and later investigated in the interviews, EAP teachers did not acknowledge the specific features of academic discourse and genre

which have been emphasized by EAP scholars. Hyland (2006), for instance, considers genre as an essential concept in EAP methodology. The reason for their lack of knowledge could be that neither language teachers nor content teachers have professional background knowledge about the features of academic discourse. Consciousness-raising strategies and scaffolding strategies are supplementary EAP methodologies (Hyland, 2006; Jordan, 1997). Hyland (2006), further, argues that consciousness-raising strategies produce better writers and speakers.

Moreover, EAP teachers' remarks in the interviews showed that both camps do not usually teach grammar. The observations also revealed that 'emphasizing grammar' is a non-routine activity among EAP teachers. They both assumed that students studying EAP have already learned grammar in EGP courses. The language teachers, however, claimed they only teach grammar when situations arise where students may not grasp a grammatical construction; i.e. reduced relative clauses. Surprisingly, contradictory results were gained from the questionnaire; that is, the analysis of the data revealed that content teachers emphasize grammar more than language teachers. We observed that in many cases, content teachers did not appreciate students' grammatical problems, or at times they did not know the grammatical rule to explain. These findings indicate that content teachers are not proficient enough in English language, and they enter the EAP profession without a real background in English.

Some content teachers' overemphasis on technical vocabulary is in contrast with Hutchinson and Waters' (1987) views who argued that subject-specific teaching should be avoided in EAP. In a study, Peters and Fernandez (2013) found that their participants had less difficulty with technical vocabulary, compared to common scientific and academic vocabulary. Other studies have found that syntactic knowledge is more crucial than vocabulary knowledge in comprehension in EAP contexts (e.g., Cain, 2007). Moreover, Nergis (2013) found that depth of vocabulary knowledge was not a strong predictor of reading comprehension for EAP students.

The language teachers stated they very rarely use translation in their classes. They commented that they only translate difficult concepts. In contrast, the content teachers said they always translate the texts to L1. The use of translation was also affirmed in the observations. 'Emphasizing translating texts to L1' was the only routine activity

among content teachers. The findings are similar to Atai (2002) who concluded that content teachers translated reading texts sentence by sentence. This study revealed that the content teachers used word by word translation. Considering different word orders in Persian and English, in many cases the translations were unclear. Their undue emphasis on translation as the only activity in majority of their classes underscores the fact that they are not familiar with methods, practices, and techniques of language teaching. Possibly, financial reasons can be a strong driving force for their teaching EAP courses.

Turning to students' beliefs, majority of comments about their EAP teachers made by students taught by language teachers and those taught by content teachers were positive (83.7% and 47%, respectively). Those students taught by language teachers were satisfied by their teacher's methodology, including: using different teaching practices, emphasizing all four skills, involving all students, good knowledge of language and content, establishing good rapport with students and creating a friendly atmosphere, and good pronunciation.

The students taught by content teachers, however, had different ideas for appreciating their EAP teachers, including: emphasizing vocabulary, especially technical terms, emphasizing translation, and good knowledge of content. So, as we can see from both teachers' and students' comments, the content teachers seem to put too much emphasis on technical vocabulary and translation. One content teacher was observed to teach only technical vocabulary during the term. Students in her class seemed to be overwhelmed and confused by the bulk of vocabulary and technical stems and affixes they had to memorize.

Whereas only a small percentage of remarks (2.4%) about their EAP teacher, made by students taught by language teachers were negative, a noticeable percentage (38%) of the remarks made by students taught by content teachers were negative. As mentioned by students taught by content teachers, they were mainly dissatisfied with their teacher's methodology, including only emphasizing translation, not motivating students, not involving students in any activities, teaching only in L1, and not being able to manage the class well.

The findings showed different suggestions made by each camp of students about their EAP teachers. Whereas 'more emphasis on grammar' was the main suggestion by students taught by language teachers, 'emphasis on all four skills, especially listening and speaking'

was the most important suggestion made by students taught by content teachers. However, those students taught by language teachers suggested 'more emphasis on grammar', and not 'emphasis on grammar'. This shows that grammar is not totally neglected by language teachers. These students also suggested 'use of group activities'. Students taught by content teachers, also, pointed out 'involving students more' as another suggestion to improve their EAP classes.

CONCLUSION AND IMPLICATIONS

The findings of this study revealed that the differences between language teachers' and content teachers' PCK and teaching practices overshadow their similarities. We can conclude that language teachers and content teachers have different methodological ideologies. The same conclusion was reached by Atai (2006). He found that the main teaching method in Iranian EAP classes is GTM (Grammar Translation Method). The findings of the current study, however, indicated that only content teachers teach based on GTM. The findings show that content teachers have not been trained in applied linguistic and specifically in EAP programs. They are not familiar with learning-centered approaches where, according to Hutchinson and Waters (1987), learning is an internal process and it is dependent on the knowledge learners already possess. Therefore, they believe their job is to transmit knowledge to students.

This study also revealed that students prefer language teachers' methodology and teaching practices. Majority of comments (83.7%) about their EAP teachers made by students taught by language teachers were positive. On the other hand, a conspicuous percentage of the remarks (38%) about their EAP teacher made by students taught by content teachers were negative. As Trinder (2013) observes, teachers should take learners' preferences into consideration as much as possible. The results accentuate the fact that language teachers are better choices for running EAP courses.

The results of the present study highlight the urgent need for teacher education programs in Iran, especially for content teachers. Language teachers, too, need to be trained in EAP methodology. The study revealed that they also do not recognize the importance of consciousness-raising strategies and scaffolding strategies in EAP courses to improve students' discourse competence (Hyland, 2006).

The nature of EAP practice necessitates more cooperation between language teachers and content teachers (Stewart & Perry, 2005). The Ministry of Health and Medical Education, and university officials need to seriously consider holding workshops to encourage cooperation between language teachers and content teachers. Language teachers can be responsible for classroom presentations. Content teachers can help language teachers by providing advice on fresh topics and tasks in the discipline.

The study revealed that about 60% of EAP teachers at Iranian Medical Sciences Universities are content teachers. This shows that the Ministry and universities in Iran do not acknowledge the important role of English and language teachers in EAP courses. It is the responsibility of language teachers to discuss the role of language teachers and the importance of English teaching methodologies in EAP. By providing strong theoretical and practical reasons, they should convince the Ministry officials to establish language departments in all universities. As Jordan (1997) pointed out, in UK universities EAP courses are normally run by English language (teaching) centers. He adds the pattern in other countries is quite similar.

Bio-data

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