

Exploring Iranian EAP Teachers' Pedagogical Content Knowledge and Their Professional Identity

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Abstract

This study was conducted in English for Academic Purposes (EAP) context to explore Iranian teachers' perceptions of their pedagogical content knowledge (PCK) and their sense of professional identity (PI) as well as to scrutinize how their cognitions were practiced in EAP classes. To this end, two ELT teachers and two content instructors (i.e. subject experts who teach EAP courses in addition to their specialized field of study) from a university in Tehran participated in the study and their classes were observed for a full academic semester. To thoroughly probe the teachers' cognitions, semi-structured interviews were also conducted. The results of content analysis indicated some commonalities but major discrepancies in the cognitions and practices of the two pairs of teachers with regard to their PCK. Teachers of both camps claimed to have interactive EAP classes where group work is highly appreciated and students' questions are welcomed. Attending to their discrepancies, the content instructors seemed to adhere to 'transformative' education by reflecting on their teaching, hearing learners' voice, being responsive to their learning needs, and encouraging teacher-learner collaboration. On the other hand, the ELT teachers reflected a more 'traditional' approach, leaving behind issues of flexibility and innovation in their teaching methods. As far as the EAP teachers' PI is concerned, the study came up with eight factors as the underlying constituents of their PI. It was also found that pedagogical content knowledge and professional identity are interrelated attributes of EAP teachers. The findings provide implications for syllabus designers as well as EAP teacher education.

Keywords: Content instructors, English for Academic Purposes, ELT teachers, Pedagogical Content Knowledge, Professional identity, Teachers' cognitions and practices

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INTRODUCTION

Along with the fast-moving shifts in technology, education, and communication, the field of teacher education is also experiencing paradigm shifts (Hawkins, 2004). Once teaching was viewed as a “technical endeavor” and teachers were encouraged to acquire and apply particular skills and practices. Then, teaching was regarded as a “cognitive process”, with a focus on analyzing teachers’ mental processes. More recently, the shift of focus has been toward “critical teacher education”, viewing teachers as “transformative agents” who can develop proper attitudes and ways of thinking to reflect not only on "what they know" (i.e. their knowledge), but also on "who they are" (i.e. their identities) (Hawkins, 2004, pp.4-5). Despite this paradigm shift which brings teachers into a critical era of pedagogical transformation, it seems that particular contexts such as English for Academic Purposes are yet afflicted by pedagogical chaos due largely to the mismatches between ELT and content teachers’ cognitions and practices. On account of such inconsistencies, the present study locates the gap in the research line to shed more light on the issue of teacher cognition with regard to two professional facets of knowledge and identity.

LITERATURE REVIEW

Significance of Research on Teacher Knowledge

From the mid-1980s onwards, Shulman's work on the role of subject matter knowledge made a significant contribution to the field of teacher cognition, particularly to the research on teacher knowledge by proposing various knowledge types. Pedagogical Content Knowledge, among other categories of teacher knowledge, is assumed to have the greatest impact on teachers' cognitions (Borg, 2006). As a unique realm of teacher knowledge, pedagogical content knowledge is "that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding" (Shulman, 1987; cited in Verloop, Van Driel, & Meijer, 2001).

The importance of research on pedagogical content knowledge lies in the critical role this knowledge plays not only in teachers' success but also in students' motivation, understanding, and their learning outcomes (Johnston & Ahtee, 2006). Although the value of PCK has been accentuated since the late 1980s (Akkoç & Yeşildere, 2010; Johnston & Ahtee, 2006), evaluation of this knowledge in specific contexts such as EAP has not received due attention. On the other hand, not much is known about the interaction of this knowledge with other professional characteristics, namely teachers' professional identity (Beijaard, Verloop, & Vermunt, 2000). These gaps, hence, necessitate carrying out further research with a new perspective on teachers' professional identity in the EAP context.

Teacher Professional Identity

Teachers' professional identity emerged as a separate research area during the period of 1988- 2000 (Beijaard, Meijer, & Verloop, 2004). There are multiple interpretations of the concept of "professional identity". Gee (2000; cited in Sutherland, Howard, & Markauskaite, 2010) considers it as "a person narrativization of what consists of his or her (always potentially changing) core identity as a teacher" (p. 455). Timoštšuk and Ugaste (2010, p. 1564) define teacher's professional identity as "the person's self-knowledge in teaching-related situations and relationships that manifest themselves in practical professional activities...."

The various descriptions of professional identity (PI) show the lack of an agreed-upon definition of this concept. This gap has led some researchers, in recent years, to identify the major components of PI in order to shed more light on the nature of teachers' identity. Kelchtermans (1993), for example, listed different interrelated aspects of PI such as self-image, self-esteem, job-motivation, task perception and future perspective. Or Hong (2010) mentioned the six factors of "value, self-efficacy, commitment, emotions, knowledge and beliefs, and micropolitics" as constituting elements of professional identity (p. 1531). In addition to the factors cited above, evidence shows that certain features, namely teachers' teaching contexts, their experiences, and demographic variables also affect teachers' perceptions of their PI (Flores & Day, 2006). Thus, it can be concluded that professional identity is a multidimensional construct which is influenced by a

range of sociological, psychological, cultural, and even historical factors (Cooper & Olson, 1996).

Research on Teacher Professional Identity

It sounds that researchers have conceptualized PI differently by investigating varying topics within its framework (Beijaard et al., 2004). In a longitudinal study, Flores and Day (2006) explored the ways in which the professional identities of new teachers were shaped and reshaped in their first two years of teaching. In another longitudinal research, Jephcote and Salisbury (2009) studied the formation of further education teachers' professional identities. Drawing on a variety of data it was revealed that the teachers conceived of their PI primarily in terms of establishing friendly and supportive relationships with their learners (pedagogical expertise), rather than in terms simply of transmitting a body of knowledge.

Some studies deal with relevant issues to teachers' perceptions of their identity. One of these issues, i.e. reflective talk, was explored by Cohen (2010). In her qualitative research on teachers' negotiation of PI through talk with colleagues, Cohen found that teachers used reflective talk as a discourse strategy to negotiate their PI. In another study, student teachers' perceptions of their PI, through a semi-structured interview, were investigated. The results showed that personal experiences of classroom instruction, relations with pupils and supervisors, and positive and negative emotions were among the core factors affecting the teachers' understanding of their PI (Timoštšuk & Ugaste, 2010). Another related issue to teachers' understanding of their identity, i.e. teacher attrition, was studied in an exploration of different perceptions of pre-service and beginning teachers' PI. Considering professional identity as a combination of six factors of value, efficacy, commitment, emotions, knowledge and beliefs, and micropolitics, the findings indicated that pre-service teachers had idealistic and naive perceptions, and that dropout instructors showed more emotional burnout, low commitment, weak efficacy belief, low value, and negative perception of power relations (Hong, 2010).

EAP

With the growth of English in academic communications and increasing demand of university students to engage with disciplinary knowledge through English and later to be able to function effectively in employment, English for Academic Purposes (EAP), has established itself as one of the two main branches of ESP and expanded rapidly over the past twenty years or so (Hyland, 2006). Grounded in a variety of theories and being centralized around the issues of needs analysis, syllabus design, materials development, and discipline-specific communication skills, EAP is now at the cutting edge of language education (Hyland, 2006).

The controversial issue of *specificity* which affects the ways EAP is perceived and practiced has encouraged EAP specialists to make 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 general academic language and the skills which are shared by all disciplines, the latter is mainly concerned with discipline-specific features. Indeed, ESAP adapts the skills of EGAP to be used for specific subject tasks (Hyland, 2006). Those who advocate the first division (e.g. Hutchinson & Waters, 1987) argue that instead of focusing on target texts and practices, learners and learning should be prioritized. They believe that EAP teachers should provide students with EGAP because the learners, themselves, can learn ESAP via individualized project work (Hyland, 2006). However, some scholars such as Jordan (1997) claim that students' main reason for attending EAP courses is not general purposes but to acquire specific skills related to their academic subjects.

To put it in a nutshell, different views on specificity have a significant influence on how EAP is taught and practiced. In practice, specificity brings EAP practitioners into a collaborative atmosphere with subject specialists to cater for students' needs in a more comprehensive manner. According to Morgan and Clarke (2011), teacher identity is an important conceptual lens through which teachers' cognitions and theories underlying their practices could be unraveled. Using this conceptual framework (i.e. teacher identity), the present study aims to probe into EAP teachers' cognitions and

attitudes about the constituents of their professional identity and the different aspects of their pedagogical content knowledge.

EAP in Iran

English for Academic Purposes is an increasingly developing component of the ELT curriculum at Iranian universities (Atai, 2002a; Mazdayasna & Tahririan, 2008). The main objective of the EAP programs, as Atai and Tahririan (2003) point out, is to bridge the gap between the students' general English knowledge and their ability to read discipline-based sources. However, Atai (2002a) argues that the incoherent EAP curriculum development in Iran and the ambitious goals the policy makers have set make the realization of the objective of these courses rather unmanageable. On the other hand, EAP teacher education in Iran has not received due attention. Whether ELT practitioners or content instructors are the right persons to offer EAP courses has remained an issue of great controversy. According to Atai (2006), EAP programs in Iran are offered mainly by content specialists and the lack of collaboration between the two parties has led to an incoherent implementation of these programs.

To fill the gap and to provide an effective model for EAP teacher education and practice, some empirical studies have been carried out. Atai (2002b) explored the actual practice of EAP courses in Iran to see whether they are implemented consistently across academic disciplines and to probe any possible differences in classroom implementation of EAP courses as taught by language teachers or subject-matter instructors. It was found that Iranian EAP programs were implemented rather heterogeneously across academic disciplines. Also, some patterns of differentiation appeared between the EAP teachers' methodologies. It was deduced that EAP teachers are not fully aware of their roles and of the principles and practice of ESP methodology, and that Grammar-Translation Method dominates EAP teaching in Iran and the course objectives as well as the learners' expectations are not fully realized. More recently, Atai and Fatahi-Majd (2014) studied Iranian EAP teachers' cognitions and practices with regard to teaching reading-comprehension and vocabulary. The results indicated major discrepancies between language teachers and

content instructors, with the latter being more divergent in their practices.

While studies on teachers' cognitions and practices in the EAP context have been mainly concerned with teachers' own perspectives (Ferguson, 1997; Sullivan & Girginer, 2002; Wu & Badger, 2009), an integrated approach that involves both teachers' and learners' viewpoints is needed to deeply delve into teachers' professional life. In the modern world, teachers are expected to continuously enhance their teaching and their professional knowledge. In other words, they need to boost their professional characteristics (Beijaard, Meijer, Morine-Dershimer, & Tillema, 2005; Beijaard et al., 2000) and in so doing, much emphasis should be placed on improving the quality of teacher cognition, including their knowledge and beliefs. While teachers' knowledge is partially shaped by their beliefs (Borg, 2006) which are intrinsically intertwined with their teaching identity, both these characteristics (i.e. knowledge and identity) need to be taken into consideration in redefining teacher professionalism. The present study, hence, is an attempt to shed more light on EAP teachers' professionalism through unraveling their cognitions about their knowledge and professional identity.

PURPOSE OF THE STUDY

The present study aimed at bringing the issues of pedagogical content knowledge (PCK) and professional identity (PI) to the foreground through investigating the practices and cognitions of two pairs of ELT and content teachers in Iran. According to the literature, studies on teacher knowledge in the EAP context have been limited to a large extent to either ELT teachers' perspectives or content teachers' viewpoints (Ferguson, 1997; Sullivan & Girginer, 2002; Wu & Badger, 2009); thus, an integrated evaluation of teacher knowledge from the standpoint of both parties and investigation of the interplay between EAP teachers' knowledge and their various professional traits (e.g. professional identity) are among the highly significant issues which have not been explored extensively so far. This study, hence, addressed the following research questions:

1. What are the distinctive practices and cognitions of Iranian ELT teachers regarding their pedagogical content knowledge in EAP courses?
2. What are the distinctive practices and cognitions of Iranian content instructors regarding their pedagogical content knowledge in EAP courses?
3. How do Iranian ELT teachers and content instructors conceptualize their professional identity?

METHOD

Participants

The participants in this study were two ELT and two content instructors teaching EAP courses to undergraduates at a university in Tehran. Because of the nature of the current study, the sampling method lent itself to that of "criterion-based" selection. Since a major focus of this study is teachers' knowledge and regarding the fact that one of the main sources of teachers' knowledge is their professional experience (Gholami & Husu, 2010), experienced teachers with at least 5 years of EAP teaching were selected as the main source of data. As displayed in Table 1, all the teachers were teaching EAP for sub-branches of engineering, including computer science and mechanical engineering (taught by the two ELT teachers) and metallurgy and computer engineering (taught by the content instructors). For ethical considerations, the participants' consent was sought and the teachers, who were all Iranian, were reassured about the anonymity of their names. Thus, abbreviations such as "TA" (i.e. Teacher A) are used alternatively.

Table 1: Teachers' demographic information

Name	Gender	Field of study	Degree	Teaching background		Realm of EAP Teaching
				General	EAP	
TA	Male	TEFL	Ph.D.	26	8	Mechanical engineering
TB	Male	TEFL	Ph.D.	8	6	Computer engineering
TC	Male	Computer	Ph.D.	15	7	Computer engineering
TD	Male	Powder Metallurgy	Ph.D.	24	10	Metallurgical engineering

Instrumentation

Regarding the instruments of the study, qualitative approach including non-participant observations, semi-structured interviews and conversations with teachers was adopted to provide a vivid picture of the EAP teachers' conceptualization of their PCK and their professional identity. Since many aspects of teacher knowledge are not detectable through mere observation, interview techniques offer tools for bringing these hidden angles to the surface. According to Amos Hatch (2002), "when interviews are used in conjunction with observation, they provide ways to explore more deeply participants' perspectives on actions observed by researchers" (p. 91).

Data Collection Procedure

At the outset, we tried to win the teachers' confidence so that their reluctance to articulate their cognitions about two delicate aspects of their profession could diminish. To this end, the researchers emphasized that the teachers were not to be evaluated by the interviews or observations but to be asked about what conceptualizations they have about their pedagogical content knowledge and their professional identity.

Non-participant Observation

Several observations of the teachers' EAP classes, during a whole semester, were undertaken by the second researcher who attended the classes from the very first session but not regularly in order to minimize observer paradox effect. Each teacher, hence, was observed for eight full sessions. In addition to note-taking, the observer researcher provided a detailed account of the observed classes immediately after each session since she was not permitted to audio record the teachers' classes. The observations provided the researchers with an opportunity to scrutinize the way the teachers put their pedagogical content knowledge into practice and how they identified themselves as EAP practitioners.

Semi-structured Interviews

Since teacher knowledge and professional identity are multifaceted concepts, the use of multiple data collection instruments is required, so that multi-method triangulation will enhance the internal validity of the research (Verloop et al., 2001) and will improve the "credibility and trustworthiness" of the results (John, 2002, p. 326). To this end, in addition to the observations, semi-structured interviews were conducted with both ELT teachers and content instructors.

To explore pedagogical content knowledge (PCK) from the EAP teachers' perspective, based on a questionnaire, developed by Jang et al. (2009) on college teachers' PCK, a set of questions was devised and classified under four categories. To ensure the accuracy and the relevance of the questions to the concept being studied, three experts in the area of EAP teacher education were asked to judge on the content and the accuracy of the devised questions by providing their comments and giving a rating on a four-point Likert scale ranging from 1= irrelevant to 4= extremely relevant. Those questions received 4 and 3 on the scale were kept to be used in the interview; accordingly, the interview comprised of a set of 17 questions.

On the other hand, to probe into EAP teachers' perceptions of their professional identity, based on Karrabi's (2010) study and on the basis of theories and models extracted from the literature on teacher professional identity (e.g. Flores & Day, 2006; Hong, 2010), a set of 25 questions was devised for conducting the second interview. To

direct the interview in a way that both EAP and EGP factors could be accounted for, the questions were designed based on the ideas borrowed from Dudley-Evans and St John (1998), Hutchinson and Waters (1987), Robinson (1991), and Hyland (2006). The dimensions of professional identity the interview rested upon were such factors as: attitudes and emotions, commitment and job satisfaction, self-efficacy, efficacy doubts and reflection, knowledge, and experience. The interview questions were submitted to the same specialists to comment on the content relevancy of the item. They all agreed that the questions were relevant and clear.

After eight sessions of observation and before the end of the semester, the interviews, with a two-week interval in between, were conducted by the second researcher and lasted from 50 minutes to 1 hour and 15 minutes. The teachers were asked to provide as much information as required and their responses were audio taped and transcribed verbatim so that content analysis could be performed. The language of the interviews was Farsi as the teachers expressed their convenience in this language.

Data Analysis

After transcription of the interview responses, the data was analyzed qualitatively through the method of content analysis. The purpose of the analysis was to extract the EAP teachers' underlying cognitions about how they actualize the four dimensions of Pedagogical Content Knowledge in their EAP classes and to explore the main factors which shape and reshape the teachers' professional identity. To do so, first, the transcripts related to teachers' knowledge were coded deductively as the four dimensions of PCK were pre-specified according to the interview questions. Deductive coding helped the researchers find the main themes reflecting similarities and differences regarding teachers' cognitions of their pedagogical content knowledge. The same procedure (i.e. thematic analysis) was employed to extract teachers' cognitions of the main constituents of their professional identity.

RESULTS

Results Related to the First Research Question

Regarding the first research question which probed the cognitions and practices of ELT teachers with respect to four aspects of their pedagogical content knowledge, the study revealed the following results summarized in Table 2.

Table 2: ELT teachers' cognitions and practices regarding their pedagogical content knowledge

Categories of PCK ELT Teachers	Subject Matter Knowledge (SMK)	Instructional Representation & Strategies (IRS)	Instructional Objective & Context (IOC)	Knowledge of Students' Understanding (KSU)
TA	1. Little familiarity with the subject matters 2. Considering no difference between EAP & EGP teaching 3. Having a vague understanding of EAP teaching principles	1. Having no particular teaching strategy or method except for "silent reading" 2. Providing the Persian equivalents of technical terms instead of elaborating on them 3. Using no technological equipment in his EAP class 4. Believing in students' right to criticize his teaching	1. EAP course objectives in Iran are not well-defined. 2. EAP teachers have a vague understanding of the course objective. 3. His teaching was directed by his personal beliefs rather than students' learning needs. 4. No supplementary teaching/learning material was used.	1. Students' comprehension was checked only through the book's exercises. 2. Evaluation of students' learning was done at the end of the term via the final examination. 3. Activation of students' prior knowledge and discovery of their learning difficulties were ignored.

TB	<p>1. Familiarity with both technical & general English</p> <p>2. Being aware of EAP teaching principles & readiness to answer students' content-related questions</p> <p>3. Assuming content knowledge in addition to linguistic knowledge as a distinguishing feature of EAP practitioners</p>	<p>1. Using examples, analogies and some strategies</p> <p>2. Adapting EGP teaching methods to the EAP context</p> <p>3. Having no access to technology</p> <p>4. Embracing students' comments to improve his teaching</p>	<p>1. To him, the main goal of an EAP course was to familiarize students with particular genres of their field of study and to enable them to read and write academic texts.</p> <p>2. He emphasized that needs analysis and contextual factors should be taken into consideration when designing EAP courses.</p> <p>4. He highlighted the role of personal beliefs and prior experiences in his teaching.</p>	<p>1. At the beginning of the class, students' questions were answered.</p> <p>2. T activate their schemata, he initiated the lesson by asking some general questions.</p> <p>3. Students' comprehension was checked through questions and extra activities.</p> <p>4. The only assessment techniques were mid-term and final examinations.</p>
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The results of the interview exhibited some similarities but noticeable differences within and between the two groups of EAP teachers. While the first ELT teacher (TA) had a vague understanding of the main objectives of an EAP course, his colleague (TB), who was less-experienced than him, was cognizant of the course primary goals. He assumed that EAP teachers should equip themselves with a good command of both language knowledge and content expertise. He believed that the EAP teacher should come to the field with an awareness of its teaching principles and methodologies, should adopt a “reflective approach” in teaching, and should provide supplementary materials and technological resources to better satisfy the students' learning requirements. In addition, he said that, "EAP practitioners need to be efficacious in handling crowded classes of heterogeneous

students, be innovative in implementing a mixed methodology, and be flexible and welcoming to their students' critical comments".

On the contrary, the first ELT teacher ascribed no particular qualification to an EAP teacher. He assigned no role on the part of learner to decide for the materials or teaching methodology and determined his teaching approach based on his own intuition and the language center's imposed policies. Not only did he show little tendency for using computer in his EAP classes, but he also expressed negative attitudes towards computer-mediated teaching. In fact, students' pedagogical needs and wants were not catered for by this teacher. Nevertheless, as TB tried to be friendly in order to stimulate students' involvement in class activities, this teacher claimed that he had established a good rapport with the class. Another resemblance between these two ELT teachers was their attention to the role of pair work as well as group work in boosting students' performance.

Results Related to the Second Research Question

Regarding the second research question which probed the cognitions and practices of content instructors with respect to four aspects of their pedagogical content knowledge, the following results were obtained (Table 3).

Table 3: Content instructors' cognitions and practices regarding their pedagogical content knowledge

Categories of PCK	Subject Matter Knowledge (SMK)	Instructional Representation & Strategies (IRS)	Instructional Objective & Context (IOC)	Knowledge of Students' Understanding (KSU)
Content Instructors				
TC	1. He believed that both content and language knowledge are prerequisites for EAP teachers. 2. He considered content specialists as the qualified persons	1. Using tangible examples, strategies, and technology 2. Embracing learners' critical comments 3. Dominance of "Grammar-	1. He defined the primary objective of an EAP course as improving students' speaking, reading, and writing skills, so that they can comprehend technical texts and write articles. However, in practice, his main focus was on	1. Exploring students' problematic areas 2. Checking their comprehension through oral examination

	to teach EAP.	Translation Method”	learners' general English skills.	almost every session.
	3. He said that he did not need to be aware of the EAP principles since his own experiences guided his teaching.		2. He assigned additional tasks most of which were translation tasks, though. 3. Instead of learners' needs, his experiences determined his teaching direction.	3. Assigning further tasks
TD	1. He was confident about his knowledge of both language and content. 2. He regarded EAP as a highly specialized field with its own methodology. 3. He believed in the role of “reflection” in teachers' professional success.	1. Utilizing different examples and techniques 2. Adopting various teaching materials, including journal articles 3. Integrating technology in teaching 4. Using “Grammar-Translation Method” as the dominant teaching method	1. He mentioned the main goal of EAP teaching as improving learners' skills to be able to read specialized texts and to write papers. 2. He insisted on the role of interactive teaching and attended to learners' expectations. 3. He respected students' right to involve in class procedures. 4. Instead of assigning additional tasks, he encouraged learner engagement in class activities.	1. Activating learners' background knowledge by giving them some minutes at the beginning of the class to skim through the text 2. Monitoring their understanding through a chain of questions and answers

Unlike language teachers, content instructors were more convergent in their cognitions. The main objective of EAP courses, from their viewpoint, is to "facilitate students' understanding of specialized texts while equipping them with the necessary skills to comprehend spoken and written academic discourse". The first content instructor's practices, however, were mainly oriented toward the generalities of language rather than the specific features of the course. Both teachers agreed that EAP courses can best be taught by subject experts since ELT teachers do not have sufficient expertise in

content areas. They accounted for the learners' requirements, highlighted their role in materials selection and evaluation, and welcomed their involvement in class procedures.

Results Related to the Third Research Question

To probe the third research question which addressed the ELT and the content teachers' conceptualization of their professional identity, on the basis of the six predetermined typologies of attitudes and emotions, commitment and job satisfaction, self-efficacy, efficacy doubts and reflection, knowledge, and experience (all extracted from the literature on teacher professional identity), the transcribed data of the teachers' interview were coded and set into six categories. Thus the content analysis lent itself to that of "typological analysis" (Amos Hatch, 2002). The main findings are summarized below.

Table 4: ELT teachers' cognitions of the underlying constituents of their professional identity

ELT Teachers Constituents of PI	TA	TB
Attitudes & Emotions	He believed that his position, as an EAP teacher, is downgraded and English teachers are not respected by the academic community. This feeling, hence, caused him to lose his motive for further attempts. In fact, he identified himself as an EGP teacher whose negative attitudes and emotions had a great impact on the way he perceived the status of EAP.	He asserted that his attitudes toward teaching and his positive and negative emotions had considerable effects on the way he conceived of his professional identity. He described himself as "a practical and friendly EAP teacher" and pointed to knowledge as the distinguishing feature of an EAP instructor.
Efficacy	He considered himself as efficacious in some areas but not in others. For example, to manage crowded classes of EAP, he said: "My approach is student-centeredness." He complained that educational restrictions do not give him much discretion to decide upon his own teaching approach. On the other hand, he confessed	He said that an effective teacher is one who has a determining role in almost all the phases of teaching. Referring to students' idiosyncrasy, he stated: "As the students are not from the same background, distinct methodologies should be adopted to involve both weak and strong students in class activities. Needs analysis is of great help in this regard."

	<p>his inefficacy to motivate weak students and to absorb them in class activities. He defined his professional identity in terms of certain features and qualifications while ignoring the multi-dimensional role of an EAP teacher as an important part of such teachers' identity formation. While the interview revealed that LTA's efficacy beliefs had a pivotal role in his recognition of the "self" as an English teacher, and not necessarily an EAP practitioner, efficacy doubts had no place in his identity construction.</p>	<p>Regarding students' inside and outside the class problems, his cognition was that, part of an EAP practitioner's responsibility is to listen to his learners' troubles. "The problems out of the class milieu should be considered as they may impede students' learning." However, the interview revealed that he did not have any out-of-class interaction with his learners. While he believed in his efficacy and regarded it as an important factor through which he came to a better understanding of his professional identity, he admitted that most decisions are made by others.</p>
Knowledge	<p>Although he attributed much significance to the role of language knowledge, his cognition about the importance of content knowledge was that: "It's an advantage but not a prerequisite for language teachers who teach EAP."</p>	<p>Highlighting the importance of both content knowledge and language proficiency, he said:</p> <p style="padding-left: 40px;">Language proficiency is of utmost importance for EAP teachers; but content knowledge is necessary to the extent enabling the teachers to answer the students' questions which may impede their comprehension.</p> <p>He also pointed to the role of pedagogical content knowledge in his professional self-understanding.</p>
Experience	<p>As an experienced teacher, he highlighted the role of his previous teaching experience in his professional life. He noted that his teaching background not only affected his teaching but also broadened his worldview and influenced the way he defined himself as a teacher.</p>	<p>He mentioned that his learning and teaching experiences positively affected his attitudes towards EAP teaching and shaped his professional identity.</p>

Efficacy doubts & Reflection	According to his expressed cognitions, every time he questioned his capabilities, he understood more and more about himself as a teacher. He enunciated that a teacher with high sense of efficacy is not necessarily a successful teacher; unless the sense of efficacy is accompanied by a feeling of doubt, success would not be guaranteed. He assumed reflection as the product of uncertainty.
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As indicated in Table 5, the two content teachers, who were specialist in computer engineering and metallurgy, were similar in their cognitions and understandings about the underlying factors contributing to the formation and development of their professional identity. The emerging themes contributing to the teachers' professional identity were as follows: *attitudes, commitment and job satisfaction, experience, knowledge, efficacy, autonomy, efficacy doubts and reflection, and interaction.*

Table 5: Content teachers' cognitions of the underlying constituents of their professional identity

Constituents of Professional Identity	Content Teachers
Attitudes	Asking their attitudes about EAP and EGP, both teachers agreed that the border between these fields is not clear-cut, and this may lead to a misconception that no difference exists between EAP and EGP teachers. They said that English teachers have different attitudes which to a large extent affect their practices. Among the many factors they enumerated for their professional growth, the importance of attitudes was again emphasized.
Efficacy	Although both teachers ascribed importance to the role of efficacy in their professional self-understanding, there were slight differences in their cognitions about some aspects of their efficacy beliefs. While the first content teacher attributed more significance to the role of EAP teachers as materials developers, the second one accentuated that an EAP teacher should be a facilitator of learning, first and foremost, and then, an evaluator of the students' success. Both teachers argued that an EAP instructor should be able to establish a friendly class atmosphere, allocate some time to listen to the students' voice, detect their learning obstacles, and pay attention to their affect.
Knowledge	They admitted the role of knowledge in their professional growth and considered it as an inseparable aspect of their identity while emphasizing that both technical and general knowledge are prerequisite for an EAP

	<p>teacher. "I read different articles and search the Internet to update my knowledge with the recent developments in my profession. This helps me a lot in my content classes and EAP classes as well", said the first teacher. According to the second content teacher, EAP teachers can exhibit their different identity from EGP counterparts through their twofold knowledge which integrates content and language at the same time. He also referred to pedagogical content knowledge (PCK) and said: "PCK which is comprised of various skills and is a mixture of different types of knowledge helped me a lot, as an EAP teacher, to understand myself better." Moreover, he stressed the role of learners in improving his knowledge as their novel questions and innovative ideas induce critical thinking and increase his information. The former teacher also approved learners' positive impact on his knowledge.</p>
Experience	<p>The content teachers attributed great significance to the role of experience in their professional development and self-understanding. They owed half of their success to constructive experiences they accumulated through years of teaching. The second subject instructor acknowledged that his own experiences as well as listening to his colleagues' experiences broadened his horizon into the world of EAP to feel that he acquired a new identity by becoming an EAP instructor.</p>
Efficacy doubts & Reflection	<p>The first content teacher said, when the students' performance was not satisfactory or at the end of the course, when he was confronted with the learners' negative feedback, which occurred sometimes, he did not blame the students but cast doubt on his effectiveness to find fault with his teaching method. In his opinion, uncertainty makes teachers reflect on their actions and these reflections impress their professional life to the extent that they come to know themselves better than before. Referring to the role of teacher reflection in his professional success, the second content teacher emphasized student reflection as well, by noting that:</p> <p style="padding-left: 40px;">Providing an interactive and interesting class in which the students can freely express their ideas is one of my priorities. I usually give them some moments of reflection. I've gained a lot through these reflective practices the most of which is to have a better perception of my EAP personality.</p>
Commitment & Job satisfaction	<p>When the researcher asked about their likes and dislikes, both teachers expressed positive feelings. They considered teaching, including EAP teaching as a respectable profession and an important duty which has a central role in their professional life. They said that they feel a strong sense of belonging to the academic community and are pleased to belong to the language teaching profession.</p> <p>The second content teacher believed that:</p> <p style="padding-left: 40px;">When EAP teachers are devoted to their job, it means that they are aware of themselves, of who they are. I mean, you perceive your identity, who you expect yourself to be and what expectations other people including your students have of you, when you really attach yourself to the community you work in.</p>
Autonomy	<p>Unlike language teachers who had little autonomy over teaching procedures, their content counterparts expressed some autonomy and described it as a crucial aspect of English teachers' identity formation. While the course objectives are predetermined and the curriculum has</p>

	been developed in advance, the content teachers professed that they can adapt their syllabus to fit the exact needs of the learners.
Interaction	While they were articulating their cognitions about the constituting elements of their professional identity, these teachers implied that relationship with their students and academic interactions with their fellow workers undeniably raised their self-awareness and greatly influenced their EAP profession. For example, the first content teacher said: "I sometimes share my classroom experiences with my colleagues and benefit from exchanging ideas with them because they spark my curiosity and motivation to probe into my inner self." Or the latter stated: "My out-of-class interactions with students and negotiation of related issues with colleagues are like a window that opens my eyes to many aspects of my job and my 'self' which I didn't notice up to that time."

The results, depicted in Tables 4 and 5, not only confirmed the six elements, but also revealed *autonomy* and *interaction* as other constituents of the EAP teachers' professional identity. Among these factors, attitudes and emotions, self-efficacy, efficacy doubts and reflection, knowledge, and experience were the common attributes of both ELT teachers and content instructors, whereas the three remaining elements (i.e. autonomy, interaction, and commitment and job satisfaction), which were attributed to the content instructors' professional identity, distinguished the EAP teachers in their identity recognition.

It was revealed that the ELT teachers' cognitions of their professional identity (PI) were more coherent in comparison to their cognitions of their pedagogical content knowledge (PCK). Except for *efficacy doubts* and *reflection* that the second teacher (TB) referred to, the two ELT experts mentioned the same factors of *attitudes* and *emotions*, *efficacy*, *knowledge*, and *experience* as the fundamental components of their PI. On the other hand, the two content instructors, who had similar cognitions of their PCK, bore a close resemblance with regard to conceptualizations of their professional identity, too. While some commonalities appeared between ELT teachers and content instructors, the latter enumerated almost all the eight factors as the underlying constituents of their PI. Finally, the results of content analysis indicated that different types of knowledge, including pedagogical content knowledge are closely related to EAP teachers' sense of identity. From the teachers' perspective, knowledge is an inherent aspect of teacher identity, and PCK which encompasses

various knowledge types can have a great impact on EAP practitioners' self-understanding and their professional development.

DISCUSSION

EAP Teachers' Cognitions Regarding Their PCK

The results of the current study revealed some commonalities but major differences within and between the two camps of ELT teachers and content instructors concerning their theories and practices about their pedagogical content knowledge. Unlike their ELT counterparts who adhered strictly to the language center's restrictions, the content instructors were not constrained by educational regulations and had enough authority to make some changes in the curriculum and their own syllabus. They adopted a flexible approach towards their teaching materials and were not obliged to use any particular textbook.

ELT teachers, however, neither showed much flexibility in their teaching methods and materials, nor articulated their willingness to release themselves of the imposed pedagogical limitations. Another sharp distinction between teachers of the two camps was the extent of consistency between their cognitions and their actual performance. While the ELT teachers' practices contradicted some of their stated beliefs, the content instructors showed little mismatches in their cognitions and practices. For example, both content teachers insisted on teacher and learner reflection and as they were observed several times, they practiced what they preached, but ELT teachers, especially the second one who firmly believed in reflective practice, did not show any trace of this conviction in their routine practices. This contrasts with Atai and Fatahi-Majd's (2014) finding that showed language teachers were more reflective of their practices than their content counterparts.

Regarding teaching methodology, a serious gap was felt among all the teachers. While the dominant method in ELT teachers' classes was 'Silent Reading' and in content instructors' classes was 'Grammar-Translation', other skills, especially writing and listening were left behind. To fill the gap, EAP practitioners are expected to include oral and writing skills as an integrated part of class activities rather than a set of distinct skills (Hyland, 2006).

It can, hence, be concluded that the content instructors seemed to stick to the principles of "transformative" education (Kumaravadivelu, 2003) by reflecting on their practices, fostering critical thinking in students, attending to their learners' needs, showing flexibility to the learners' criticisms, involving them in materials selection, and by using creativity and innovation in their teaching strategies.

The ELT teachers, on the other hand, kept to the same "traditional" education in which all the educational plans are pre-determined and decisions are made by policy makers, giving teachers no room for maneuver (Flores & Day, 2006). Under this condition, teachers cannot exert authority to choose their own materials or to revise the existing ones. Nor the learners can have a voice in determining the materials of their interest. However, the issue of specificity which challenges EAP teachers in selecting and evaluating the appropriate materials (Hyland, 2006; Jordan, 1997) urges them to call for the students' contribution to the class procedures to the extent that the learners' offered materials could even serve as a more satisfactory teaching resource. This implies that EAP teachers should foster a 'participatory' feeling in the students and attribute 'extra' roles to them (Karrabi, 2010).

EAP Teachers' Cognitions Regarding Their PI

The results of the second interview which addressed the ELT and the content teachers' perceptions of their professional identity constituents, uncovered the following 8 elements as the main contributory factors to the EAP practitioners' professional identity construction and development: (1) *attitudes* and *emotions*, (2) *commitment* and *job satisfaction*, (3) *experience*, (4) *efficacy beliefs*, (5) *interaction*, (6) *knowledge*, (7) *autonomy*, (8) *efficacy doubts* and *reflection*. This finding is in accord with earlier research which showed the above factors, among other factors, as the constituting elements of teachers' professional identity (Flores & Day, 2006; Hong, 2010).

According to the previous studies (e.g. Sutherland et al., 2010; Timoštšuk & Ugaste, 2010), teachers' attitudes, emotions, and their self-images determine the way they develop as teachers. This was indicated in the present research, too. All the EAP teachers believed

that part of their professional identity had been shaped and affected by their attitudes and beliefs, however, their attitudes were not alike. Specially, there was a sharp distinction between the first ELT teacher's attitudes and those of others. His PI was bombarded by his negative attitudes about the status of EAP and the prestige of EAP teachers in Iran so much that he regarded himself as an EGP teacher, not an EAP teacher. In addition to attitudes, the two ELT experts attributed their positive and negative emotions to their identity recognition, but their content counterparts had a neutral stance in this regard.

Commitment and job satisfaction came out as one of the distinguishing features of the content teachers' professional identity. This finding is verified by Timoštšuk & Ugaste's (2010) study. It was also shown that experience, which was claimed by all the teachers, is an indispensable aspect of EAP teachers' professional identity formation and development. This is in line with Timoštšuk & Ugaste's (2010) findings.

Regarding efficacy beliefs, there were similarities as well as differences between teachers of the two camps. They all agreed that their professional self-understanding (or professional identity) was influenced by their capabilities and that their beliefs about their strengths and weaknesses overshadowed their perception of 'self' as an EAP teacher. While they claimed to be efficacious in managing the class, in conveying their knowledge to the students, in adapting their teaching methods and materials, and in using facilities, they differed in their beliefs about other aspects of efficacy. ELT teachers, for example, seemed not to be concerned about students' affect. The first ELT teacher directly asserted that this is not the teacher's duty to solve students' out-of-class problems. Though the second teacher (TB) showed some concern about his students' non-learning difficulties and accepted the role of problem-solver for EAP teachers, he was not far from his colleague in practice. Content instructors, on the other hand, were more consistent in theory and practice. As their EAP classes were observed, they displayed their efficacy in deploying technology and in providing materials and tasks of diverse types to foster students' motivation as well as their learning opportunities.

Following the literature, identity, including professional identity, is not a fixed characteristic but a relational phenomenon that develops through social interactions (Beijaard et al., 2004; Urzúa & Vásquez, 2008). In fact, through negotiation with their colleagues, teachers

would come to a sound understanding of themselves (Cohen, 2010; Williams, 2010). This view is supported by the results of the current study which revealed that collaboration with experts, coworkers, and students and interaction with them led to a better recognition of the content teachers' professional identity.

While teachers of the two camps (i.e. language and content) tried to accumulate and add to their knowledge via different sources such as books, journal articles, and the Internet, only content instructors mentioned 'learners' as a source of their knowledge. The study also revealed that the content teachers and the second ELT teacher were consistent in their cognition about the role of different types of knowledge, namely knowledge of English language, subject matter knowledge, and pedagogical content knowledge in the construction of their identity. However, the first ELT instructor merely pointed to the significance of general knowledge of English. Therefore, it can be concluded from the results that, knowledge, including pedagogical content knowledge is closely related to teachers' recognition of their professional identity, inasmuch as it appeared, in this study, to be an underlying factor in the process of EAP teachers' identity formation and development. This finding supports Beijaard et al.'s (2005) claim that teachers' identity is deeply related to their professional knowledge and is in accord with the results of Pietsch and Williamson's (2005) study which showed knowledge and identity as interrelated features of teachers.

Autonomy, which refers to teachers' sense of control over different aspects of their teaching and their freedom to make decisions relevant to their educational milieu (Bogler & Somech, 2004), came out to be another unique feature of the content teachers' professional identity development. This lends support to Šteh & Marentič Požarnik's (2005) view that teacher autonomy is an essential condition for teachers' professional growth.

Except for the first ELT teacher, the other EAP teachers mentioned uncertainty and reflection as an important aspect of their professional identity development. This finding is in line with previous studies which indicated that teachers develop an image of themselves as professionals by reflecting on their teaching practices (Maclean & White, 2005; Sutherland et al., 2010). According to Wheatley (2002), teachers' negative attitudes toward their profession

make them downgrade their sense of efficacy and attach little significance to their efficacy doubts as well; that is because the first ELT teacher (TA) did not cast doubt or reflect on his teaching. However, an optimal level of uncertainty is conducive to teachers' professional progress (Wheatley, 2002) since it invokes reflective thinking and these reflections in turn set the scene for educational modifications and reform in the common practice of teaching.

With respect to the findings of the present study which highlight the role of knowledge and identity in EAP teachers' professional development, the role of teacher education programs in teachers' professional journey comes to the fore. According to Niess (2005), teacher education programs can help teachers develop both a depth and breadth in their knowledge, in general, and their pedagogical content knowledge, in particular. In addition, Bullough (1997; cited in Hong, 2010), refers to the critical role of teacher education programs in teachers' identity (trans)formation. Thus, teacher educators are to familiarize teachers, especially prospective ones with reflective teaching and encourage them to throw their knowledge and teaching practices into question the result of which is a better awareness of their professional knowledge and identity (Farrell, 2011; Zanting et al., 2001). Not only reflective education brings about awareness raising, but also has a pivotal role in teachers' professional growth (Calderhead & Gates, 2004) and due to the dynamic nature of professional development, teacher education should be an ongoing process throughout teachers' professional life (Kumaravadivelu, 2003).

Regarding the role of technology in improving the quality of teaching and learning (Niess, 2005; Towndrow, 2004), providing teachers with opportunities to obtain the knowledge and experience needed to integrate technology in their classes is of note in teacher education programs. On the other hand, with respect to the role of 'language awareness' in arousing teachers' sensitivity to students' linguistic difficulties (Wright, 2002), EAP teacher education should pay specific attention to the issue of language awareness, particularly among content instructors who usually come to the EAP profession without a rich background in English language. Thus, such awareness not only benefits their learners, but also enhances EAP teachers' pedagogical practices since it is a prerequisite of their job (Andrews & McNeill, 2005).

CONCLUSION AND IMPLICATIONS

Comparing the ELT and the content teachers' cognitions, this study comes to the conclusion that the latter had more consistent conceptualizations about their pedagogical content knowledge and their professional identity. Their effectiveness in adopting teaching materials of different types, their autonomy in managing EAP classes, their efficacy in familiarizing students with technology though it was not extensive, and their strong dedication to the profession of EAP teaching were salient in their cognitions and tangible in their practices. As the results unraveled, their conceptualizations of their professional 'self', in comparison with their ELT counterparts, were more sophisticated, inasmuch as they associated a variety of factors, which were not attended to by ELT teachers, to their professional identity formation and development.

Regarding the last concern of the study, i.e. the interplay between EAP teachers' pedagogical content knowledge and their professional identity, it can be concluded that knowledge, particularly pedagogical content knowledge and professional identity are interrelated attributes of EAP teachers, having mutual impact on each other. Thus, teachers' recognition of the various aspects of their PCK gives rise to a better understanding of their professional 'self' and a well-shaped picture of who they are as teachers makes them aware of their strengths and weaknesses which in turn set the scene for their knowledge upgrading.

As for the implications of the study, syllabus designers should pay further attention to pedagogical requirements of EAP students by developing a flexible syllabus that allows for more involvement on the part of learners to decide on the materials and class activities. Such a flexible syllabus should also foster the teachers' autonomy to bring educational facilities, including technological equipment to teaching/learning context. On the other hand, evaluation of teachers' pedagogical content knowledge (PCK), especially in the area of English for Academic Purposes (EAP) gives them a more profound insight into their teaching, makes them reflect on their prior and current practices and can, hence, exert a positive influence on their professional effectiveness. Meanwhile, students' target needs and their expectations can be better dealt with when, in addition to teachers' reflections, learners' perceptions of their EAP practitioners' PCK are

also taken into consideration (Huang et al., 2006; Kirschner & Wexler, 2002).

Regarding the pivotal role of knowledge and identity in teachers' professional growth, what should not be disregarded is the significance of collaboration in enhancing the quality of such growth. In the context of EAP, this implies the necessity of team-teaching whereby ELT teachers' and content instructors' joint effort will not only promote teacher reflection and autonomy (Goker, 2006) but improve the quality of EAP teaching as well (Evans & Green, 2007).

Unraveling EAP practitioners' cognition with regard to their professional characteristics of knowledge and identity bears witness to exploring teachers' cognition in other contexts within ELT domain. Follow up research might also include longitudinal studies of teachers' PCK development in relation to factors such as their gender and experience. On the other hand, the relationship between identity and other attributes of teachers such as their sense of efficacy and autonomy can form another research orientation. Finally, in a comparative study, novice and experienced English teachers' conceptualization of their professional identity can be probed in order to extract the underlying factors of their identity formation.

Bio-data

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APPENDIX A

Interview Questions for Investigating EAP Teachers' Perceptions of Their Pedagogical Content Knowledge (PCK)

A. SMK (Subject Matter Knowledge)

1. How well are you familiar with the subject matter that you are teaching in EAP classes?
2. Do you usually elaborate on the content of the subject clearly?
3. Are you always ready to answer the students' questions about the subject?
4. Are you fully aware of the theories and principles of what you teach in EAP classes?

B. IRS (Instructional Representation and Strategies)

5. To explain difficult concepts or specialist vocabularies, do you use appropriate examples, analogies, and demonstrations?
6. Do you employ multimedia or technology in your EAP classes?
7. Do you have any particular method(s) of teaching EAP contents?
8. Are your students allowed to express their views about your teaching practice?

C. IOC (Instructional Objective and Context)

9. Are you familiar with the objectives of an EAP course? Do you clarify the objectives to the students, too?
10. Does your EAP class provide a friendly atmosphere for interaction?

11. Do your students' reactions matter during the class? Do you try to increase their interest in learning?
12. Are contextual factors and the learners' needs important in EAP classes?
13. Do you use additional teaching materials?
14. Do your personal beliefs or values affect your teaching?

D. KSU (Knowledge of Students' Understanding)

15. Before starting the class, do you try to realize the students' prior knowledge and their learning difficulties?
16. How do you evaluate the students' understanding of the subject?
17. Do you give any assignment to the students to facilitate their understanding?

APPENDIX B

An Open-ended Interview on EAP Teachers' Perceptions of Their Professional Identity

1. How do you describe yourself as an EAP teacher?
2. What do you think are the most important characteristics of an EAP teacher?
3. What is your attitude about the difference between EAP and EGP?
4. What factors do you think play a key role in EAP teachers' professional development and their professional self- understanding?
5. What do you like / don't you like about being an EAP teacher?
6. Do you think that your attitudes and emotions affect the way you understand yourself as a teacher, particularly as an EAP teacher?
7. What is the role of efficacy in your teaching? Does it affect your professional self-understanding (professional identity)?
8. In which of the following areas should an effective teacher play a more determining role, selection of materials, presenting them to the students, modifying the selected materials, evaluating the learners?

9. In order for an effective teacher to involve both strong and weak learners in class activities, do you think certain methodologies should be used for each group?
10. For better managing the class, class size matters the most. How can an effective teacher manage crowded classes of EAP? What strategies can be utilized?
11. What can an EAP teacher do to motivate those learners of seemingly low sense of effectiveness in class?
12. How much is an EAP teacher responsible for solving outside problems of his learners? Have you ever questioned your current role in the class as a teacher who cares a lot about his learners or as the one who has nothing to do with his learners except academic interactions?
13. How much responsibility has been vested with you to decide upon the curriculum and materials in your EAP class?
14. Have you ever thought about the inadequacy of the facilities and equipment for EAP classes? Are they necessary for such classes at all? Have you ever found yourself inefficient to use them?
15. How much does an EAP course lend itself to utilizing additional tasks or extra activities in the class?
16. How often do you reflect on your teaching? How do you think such reflection affects your professional life?
17. How much do you find yourself capable of making your learners think critically in EAP classes? How much can you do to foster student creativity?
18. How much are you free to use your own guidelines in your teaching?
19. Do you think you are free enough to opt for sources you like and apply the methods you wish in your EAP class?
20. Do you have enough freedom to decide on the content and adjust your teaching to the students' needs?

21. Does your job allow for discretion on your part? Are you free to be creative in your teaching? Does this freedom affect your professional identity?
22. For an EAP teacher, how much language proficiency should be considered as number one priority in effective teaching? Should they ever doubt their language proficiency at all?
23. To what extent should an effective EAP teacher be equipped with other knowledge besides linguistic knowledge?
24. Do you think that knowledge affects the way you perceive your position as a teacher in general, and as an EAP instructor in particular?
25. What role does experience play in your professional life?