The Role of Native Language in Teaching English for Specific Purposes

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Abstract
This study examines the controversial debate of the exclusion of adult learners' native language by reporting learners' and instructors overwhelmingly positive perceptions of its use in English for Specific Purpose (ESP) classes. In this study, multiple methods such as class observations, questionnaires and interviews were used. The research was undertaken in 14 ESP classes for the students of Engineering, Sciences and Humanities at Yazd University, Iran. Extensive qualitative and statistical analysis of the questionnaires revealed that a solid majority of learners from different academic majors and instructors responded positively regarding the use of native language as a pedagogic device for teaching various aspects of the target language. Correspondingly, class observations revealed that all the instructors teaching different academic disciplines resorted to the native language as an appropriate medium for cross-lingual, cross-cultural comparisons. Nevertheless, the results from the interview phase of the study revealed that a large majority of learners and instructors were not in favor of using the first language as a facilitating technique and as a means to reduce students' anxiety.

Keywords: English for Specific Purposes (ESP); Native Language (NL); First Language (L1); Target Language (TL); Engineering; Sciences; Humanities

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Introduction

Since the early 1960's, English for Specific Purposes (ESP) has been a developing branch of English as a foreign language (EFL) instruction in Iran. As in many countries, teaching ESP has a marginal status in Iranian tertiary education (Atai, 2000, 2002; Atai & Tahririan, 2003). At the undergraduate level learners of various disciplines such as arts, science, humanities, social sciences, architecture, engineering and medical sciences have to pass a three-credit ESP course which utilizes a text centered approach and can be described as examination-oriented. In fact as Atai (2002, p.4) points out, "the textbooks are based on a strict format assigned by SAMT (the official center for materials development in humanities), following a rigid distribution of instructional exercises and activities for all academic disciplines focusing on reading comprehension skill."

Most importantly, the content, methodology, classroom techniques and activities which are expected to emphasize the development of reading skills actually encourage the learners to translate some texts from English to Persian. The reading selections are loaded with technical and highly specialized language without providing the learners opportunities to use these words in realistic tasks or providing them with an opportunity to recycle the words. Co-texts, and such devices as graphs, diagrams, and semantic maps are not included in ESP textbooks (Atai, 2000; Faharzadeh, 2000; Mazdayasna, 2008; Mazdayasna & Tahririan, 2008). As it has been echoed in the literature, ESP courses are not designed and/or implemented consistently in terms of syllabus, materials, methodology, GEP level, and particularly the type of instructor (Atai, 2000; Mazdayasna, 2008; Mazdayasna and Tahririan, 2008; Robinson, 1981). Concerning the type of instructor, these courses are either conducted by language or content instructors.

As far as the methodological aspect is concerned, Iranian instructors teaching ESP courses nationwide have been debating over the issue of the use of L1 in these classes. Specifically speaking, some Iranian ESP instructors similar to some scholars worldwide (e.g., Chaudron, 1988, cited in Turnbull, 2001; Ellis, 1984, cited in Turnbull, 2001) are of the opinion that language instructors should maximize the use of target language. However, Turnbull (2001) along with other researchers (e.g., Macaro, 1997, cited in Turnbull and Arnett, 2002; Mattioli, 2004; Polio and Duff, 1994) question what maximize really means in terms of an optimal or acceptable amount of target language (TL) and first language (L1) use by teachers. Moreover, Macaro (2001) and Turnbull and Arnett (2002) indicate that, to

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date, there is relatively little empirical evidence as to the amount or nature of TL versus L1 use upon which sound pedagogical and policy decisions can be made.

On the other hand, there are other Iranian ESP instructors who agree with many scholars and researchers worldwide (e.g., Atkinson, 1993; Cook, 2001, 2002; Edstrom, 2006; Kharma and Hajjaj, 1989; Macaro, 2001, 2005; Mattioli, 2004; Rolin-Ianziti and Brownlie, 2002; Turnbull, 2001) that the use of native language enhances the second language (L2) learning process and advocate its careful, limited incorporation into classroom practice. The results of studies focused on the quantity of L1 and second language use by language instructors (Duff and Polio, 1990; Polio and Duff, 1994; Rolin-Ianziti and Brownlie, 2002) and language instructors in training (Macaro, 2001) indicate wide variation. For instance, Duff and Polio (1990) documented target language use ranging anywhere from 10% to 100% in the foreign language classes they studied. In contrast, the functions of L1 use seem strikingly similar.

Polio and Duff (1994) identified eight categories of common L1 use: "classroom administrative vocabulary, grammar instruction, classroom management, empathy/solidarity, practicing English, unknown vocabulary/translation, lack of comprehension, and an interactive effect in which learners' use of the L1 prompts their instructor to use it" (pp.317-320). Though they apply different labels, other studies (e.g., Edstrom, 2006; Macaro, 2001; Rowlin-Ianziti and Brownlie, 2002) refer to similar functions.

In line with the above studies, the present study aims at finding the learners' and instructors' views concerning the use of native language in ESP classes, at Yazd University. More specifically, this study was motivated by the following research questions:

1. What are the learners' and instructors' perceptions and attitudes concerning the use of native language in the ESP class?
2. When do instructors tend to use the native language, rather than the target language, and for what purposes?
3. Should learners be allowed to use native language as a communication strategy to compensate for deficiencies in target language?

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Method

Design

This study was designed on a qualitative-quantitative survey basis by using multiple methods such as classroom observations, questionnaires, and interviews.

Instruments

Three instruments were used in this study: (1) questionnaires, (2) schedule-structured interviews, and (3) class observations. The first instrument consisted of two sets of questionnaires, namely, learners' questionnaire and English instructors' questionnaire. Following four items which dealt with personal information such as age, sex, major course of study and whether the learners had attended any private English institution, the learners' questionnaire had three sections. The first, which was composed of four items (items 1-4), was designed to explore the beliefs and attitudes of the learners concerning the amount of L1 being used in the ESP class. The second, which consisted of sixteen items (items 5-20), explored the opinions of the learners concerning the use of L1 for teaching different language functions and cross-lingual comparisons. Finally, the third section, which consisted of five items (items 21-25) was designed to assess learners' views related to using L1 on occasions when they want to talk in pairs and groups, posing a question, providing L1 equivalent, checking for comprehension, and using translation as an instrument for testing purposes (refer to Appendix A). The first two sections (items 1-20), required respondents to rate the frequency of the above features in their ongoing ESP classes by marking on a four-point Likert scale ranging from 4 (always) to 1 (never). The third section (items 21– 25) required the respondents to choose one of the options on a four-point Likert agreement scale from 4 (strongly agree) to 1 (disagree). The instructors' questionnaire (refer to Appendix B) was similar to its corresponding version for learners except for personal information.

The second instrument consisted of a 'schedule-structured' interview. The main aim of conducting interviews with learners and instructors was to obtain reliable and valid information from different sources. Both, for the learners and instructors, a schedule-structured interview, comprising six items, was used in order to elicit information concerning the interviewees' perspectives about the occasions when L1 is used in the ESP classes, as well as whether the use of L1 facilitates teaching and reduces learners' anxiety (Appendices C & D). The respondents were required to express their opinions about each statement by marking the options on a four-point Likert scale ranging from 4 (always) to 1 (never).

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The third instrument used in this study was class observations. A class observation data sheet was prepared to find out how frequently and for what purposes instructors use L1 in their classes (Appendix E).

Participants

The respondents to the questionnaire phase of the study were four hundred and sixty-five university students from schools of Sciences, Engineering, and Humanities. They were sophomores enrolled in their relevant ESP courses in the fall semester of 2008-2009. The sample comprised two hundred and eighty-one females and one hundred and eighty-four male learners with an age range of eighteen to twenty-two years. Besides that, four hundred and twenty learners were interviewed by one of the researchers. Moreover, eight ESP instructors who taught these courses completed the questionnaires and also participated in the interview phase of the study.

Data collection

Data for the study were collected over the fall semester of 2008-2009. Once the first drafts of the questionnaires were prepared, a pilot study was performed on ten learners and two English instructors at Yazd University in order to elicit their comments concerning the content of the items and clarity of instructions. After revising the questionnaires based on the pilot study and adding a few items, the final version of the learners' questionnaire was translated into Persian and administered to the participants. The English language instructors were given the English version of the questionnaire. Moreover, data were collected based on stratified sampling from almost half of the ESP classes offered for the students of Sciences, Engineering, and Humanities at Yazd University. In the following section, data collection which was performed in three different phases will be described.

The class observations

At the end of the fall semester of 2008-2009, one of the researchers visited 14 ESP classes for the students of Sciences, Engineering, and Humanities at Yazd University one by one for observation, distributing questionnaires, and conducting interviews. The ESP classes are conducted for a period of ninety minutes. For the first forty minutes, the researcher took down notes on the observation data sheet which comprised a series of questions related to issues such as: (1) whether the instructor used L1 for grammar instruction, (2) whether the instructor used L1 to

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explain the meaning of new words, to give instructions and check comprehension, (3) on what occasions code switching between L1 and L2 took place, (4) how frequently and for what purposes instructors and learners used L1 in the class, and (5) whether the instructor uses L1 to highlight similarities and differences between L1 and L2 language forms. Table 1 shows the total number of ESP classes observed by the researcher.

Table 1
ESP classes observed in this survey

Sciences		Engineering		Humanities	
Morning	Evening	Morning	Evening	Morning	Evening
8-10 a.m.(Sm1)	1-3 p.m.(Se2)	10-12 a.m.(Em1)	3-5 p.m. (Ee2)	8-10 a.m. (Hm1)	1-3 p.m.(He3)
	1-3 p.m.(Se3)		5-7 p.m. (Ee3)	10-12 a.m.(Hm2)	3-5 p.m.(He4)
			5-7 p.m. (Ee4)		5-7 p.m.(He5)

The Questionnaires

After each class observation which lasted for forty minutes, the ESP instructor introduced the researcher to the learners and after providing proper instruction the students would fill in the questionnaires and return them to the researcher. Table 2 shows the distribution of learners who took part in the questionnaire survey.

Table 2
Distribution of learners who participated in the questionnaire survey

Sciences		Engineering		Humanities	
Morning	Evening	Morning	Evening	Morning	Evening
8-10 a.m.(Sm1) Questionnaire: 39	1-3 p.m.(Se2) Questionnaire: 27	10-12 a.m.(Em1) Questionnaire: 55	3-5 p.m.(Ee2) Questionnaire: 24	8-10 a.m.(Hm1) Questionnaire: 41	1-3 p.m.(He3) Questionnaire: 20
	1-3 p.m.(Se3) Questionnaire: 44		5-7 p.m.(Ee3) Questionnaire: 31	10-12 a.m.(Hm2) Questionnaire: 36	3-5 p.m.(He4) Questionnaire: 31
	1-3 p.m.(Se4) Questionnaire: 34		5-7 p.m.(Ee4) Questionnaire: 38		5-7 p.m.(He5) Questionnaire: 37
					3-5 p.m.(He6) Questionnaire: 8

Moreover, as the learners were responding to the items on their questionnaire, the researcher also requested the ESP instructor to fill in the instructor's

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questionnaire. Besides that, a schedule-structured interview was conducted in order to interview the instructor. Table 3 shows the distribution of instructors who participated in the questionnaire and interview survey by ESP program.

Table 3
Distribution of instructors who participated in the questionnaire and interview survey by ESP program

ESP program	Number
Sciences	3
Engineering	1
Humanities	4

The scheduled structured interviews
After the learners returned their questionnaires, a schedule-structured interview was conducted with them in the classroom. Table 4 shows the distribution of learners who participated in the interview survey.

Table 4
Distribution of learners who participated in the interview survey

Sciences		Engineering		Humanities	
Morning	Evening	Morning	Evening	Morning	Evening
8-10 a.m.(Sm1) Interview: 38	1-3 p.m.(Se2) Interview: 28	10-12 a.m.(Em1) Interview: 51	3-5 p.m.(Ee2) Interview: 24	8-10 a.m.(Hm1) Interview: 40	1-3 p.m.(He3) Interview: 18
	1-3 p.m.(Se3) Interview: 44		5-7 p.m.(Ee3) Interview: 30	10-12 a.m.(Hm2) Interview: 34	3-5 p.m.(He4) Interview: 21
	1-3 p.m.(Se4) Interview: 34		5-7 p.m.(Ee4) Interview: 15		5-7 p.m.(He5) Interview: 35
					3-5 p.m.(He6) Interview: 8

The main aim of conducting interviews with the learners was to elicit information concerning the beliefs and attitudes of the learners concerning the use of L1 and occasions they preferred their instructors to use L1 in the classroom. This method would ensure that each set of individual interview data was elicited in the same way and make it convenient for the comparison and statistical aggregation of the data.

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Results & Discussion

The information from the questionnaires and interviews was coded and entered into a computer database. The data obtained from each academic major as well as instructors were added up and assigned labels as: Engineering, Sciences, Humanities and Instructors. The responses of the four groups of participants were then cross-tabulated for each question. Analysis of variance was also performed to see whether the differences among the four groups were significant ($p<.05$). Furthermore, to facilitate the interpretation of the nominal categories "always" and "usually" were reduced to "positive responses" and "sometimes" and "never" were reduced to "negative" responses (Items 1-20 of Appendices A & B). Likewise, "strongly agree" and "agree" were reduced to "positive responses" and "not sure" and "disagree" were reduced to "negative" responses (Items 21-25 of Appendices A & B). Table 5 displays the cross-tabulation results of the questionnaires for the four groups of participants.

Table 5

Cross-tabulation results of the questionnaires for the four groups

Item #	Options	Engineering	Humanities	Sciences	Instructors
Q1	always %	26.53	48.84	27.27	25.00
	usually %	44.90	44.19	54.55	50.00
	sometimes %	18.37	3.49	11.19	25.00
	never %	10.20	3.49	6.99	0.00
Q2	always %	34.25	42.44	29.17	25.00
	usually %	46.58	39.53	56.25	50.00
	sometimes %	15.07	11.63	11.81	25.00
	never %	4.11	6.40	2.78	0.00
Q3	always %	2.04	33.72	4.20	37.50
	usually %	34.69	54.07	50.35	37.50
	sometimes %	54.42	11.63	43.36	25.00
	never %	8.84	0.58	2.10	0.00
Q4	always %	33.33	10.47	26.57	25.00
	usually %	34.01	39.53	41.26	75.00
	sometimes %	21.77	40.12	27.27	0.00
	never %	10.88	9.88	4.90	0.00
Q5	always %	2.11	25.64	4.44	12.50

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	usually %	82.11	69.23	66.67	62.50
	sometimes %	15.79	5.13	25.56	12.50
	never %	0.00	0.00	3.33	12.50
Item #	Options	Engineering	Humanities	Sciences	Instructors
Q6	always %	63.95	65.50	52.78	50.00
	usually %	27.21	30.41	36.11	12.50
	sometimes %	6.80	3.51	11.11	37.50
	never %	2.04	0.58	0.00	0.00
Q7	always %	63.27	73.84	63.19	62.50
	usually %	23.81	22.09	24.31	0.00
	sometimes %	11.56	3.49	8.33	37.50
	never %	1.36	0.58	4.17	0.00
Q8	always %	36.81	44.44	47.22	25.00
	usually %	45.14	46.78	37.50	37.50
	sometimes %	14.58	7.60	13.19	37.50
	never %	3.47	1.17	2.08	0.00
Q9	always %	39.46	43.02	46.15	0.00
	usually %	34.01	50.00	37.76	62.50
	sometimes %	21.77	5.23	11.19	25.00
	never %	4.76	1.74	4.90	12.50
Q10	always %	36.05	34.30	39.01	62.50
	usually %	37.41	40.70	29.08	12.50
	sometimes %	19.73	22.09	24.11	25.00
	never %	6.80	2.91	7.80	0.00
Q11	always %	74.15	73.53	65.28	50.00
	usually %	20.41	22.35	27.78	12.50
	sometimes %	4.08	2.94	6.25	37.50
	never %	1.36	1.18	0.69	0.00
Q12	always %	35.62	43.60	37.50	0.00
	usually %	43.15	48.84	47.22	75.00
	sometimes %	15.07	6.40	10.42	25.00
	never %	6.16	1.16	4.86	0.00
Q13	always %	48.30	62.21	37.50	50.00

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	usually %	35.37	31.40	40.28	25.00
	sometimes %	12.93	5.23	18.06	25.00
	never %	3.40	1.16	4.17	0.00
Item #	Options	Engineering	Humanities	Sciences	Instructors
Q14	always %	60.54	64.33	54.17	25.00
	usually %	26.53	28.07	32.64	62.50
	sometimes %	10.88	6.43	9.03	12.50
	never %	2.04	1.17	4.17	0.00
Q15	always %	58.90	79.65	72.92	14.29
	usually %	26.71	15.70	18.75	57.14
	sometimes %	13.01	4.65	5.56	28.57
	never %	1.37	0.00	2.78	0.00
Q16	always %	47.62	59.30	49.31	14.29
	usually %	36.05	31.98	33.33	42.86
	sometimes %	14.97	7.56	11.81	0.00
	never %	1.36	1.16	5.56	42.86
Q17	always %	37.41	50.29	50.00	50.00
	usually %	36.73	38.01	29.17	25.00
	sometimes %	21.09	9.94	15.28	12.50
	never %	4.76	1.75	5.56	12.50
Q18	always %	61.90	73.68	67.36	12.50
	usually %	25.85	22.22	20.14	50.00
	sometimes %	8.84	2.92	7.64	25.00
	never %	3.40	1.17	4.86	12.50
Q19	always %	40.82	47.67	43.06	12.50
	usually %	32.65	40.70	38.19	25.00
	sometimes %	21.77	9.88	14.58	50.00
	never %	4.76	1.74	4.17	12.50
Q20	always %	33.33	60.47	33.33	50.00
	usually %	31.29	27.91	40.28	37.50
	sometimes %	22.45	9.30	15.28	0.00
	never %	12.93	2.33	11.11	12.50
Q21	strongly agree %	19.44	26.74	16.67	0.00
	agree %	45.14	51.16	48.61	87.50

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	not sure %	26.39	18.02	24.31	0.00
	disagree %	9.03	4.07	10.42	12.50
Item #	Options	Engineering	Humanities	Sciences	Instructors
Q22	strongly agree %	27.89	37.21	27.78	12.50
	agree %	46.94	44.19	42.36	62.50
	not sure %	17.01	15.12	18.75	0.00
	disagree %	8.16	3.49	11.11	25.00
Q23	strongly agree %	28.77	34.30	35.46	12.50
	agree %	50.68	55.23	48.94	62.50
	not sure %	12.33	9.30	12.06	0.00
	disagree %	8.22	1.16	3.55	25.00
Q24	strongly agree %	30.61	32.75	36.81	25.00
	agree %	39.46	55.56	52.78	62.50
	not sure %	20.41	8.19	6.94	0.00
	disagree %	9.52	3.51	3.47	12.50
Q25	strongly agree %	26.21	32.56	24.31	0.00
	agree %	46.90	54.65	59.03	75.00
	not sure %	15.17	9.30	11.11	12.50
	disagree %	11.72	3.49	5.56	12.50

As indicated earlier, in this study, learners' and instructors' beliefs and attitudes concerning the use of native language in ESP classes were investigated. The first research question explored the participants' perceptions and attitudes concerning the use of native language in the ESP class. The responses obtained from the questionnaire revealed that learners' and instructors' perceptions concerning the use of L1 in the ESP class were similar. Almost all learners in the Humanities majors, a solid majority of the learners in the Sciences and Engineering majors as well as most of the instructors responded positively concerning the use of L1 in the ESP class (Item 1 of Appendices A & B).

A large majority of learners in the three groups believed that using L1 would help them in learning English. Likewise, most of the instructors felt that using L1 helps their learners in learning English (Item 2 of Appendices A & B).

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Almost all the learners in the three groups as well as most of the instructors revealed their positive attitudes concerning the use of L1 for helping learners feel more confident (Item 15 of Appendices A & B).

A solid majority of instructors and learners in the Humanities majors, as well as a considerable number of learners in the Sciences and Engineering majors responded positively concerning the use of L1 for teaching through translation (Item 20 of Appendices A & B).

Furthermore, the findings of the interview data as displayed in Table 6 reveals that about one-third of the learners from the three academic majors reported positively concerning the amount of L1 their instructors typically use in the ESP classroom. Likewise, more than one-third of the instructors reported positively concerning the amount of L1 they typically use in the ESP classroom (Item 1 of Appendices C & D). Nevertheless, the results obtained from the interview data also revealed that learners' and instructors' perceptions concerning the use of native language were different. While more than one-third of the instructors reported positively concerning the amount of L1 they would like to use in the ESP class, only a small proportion of the learners from the three academic majors reported positively concerning the amount of L1 they would like to use in the ESP class (Item 2 of Appendices C & D).

Table 6

Cross tabulation results of the interviews for the three groups of learners and instructors

Item #	Options	Learners	Instructors
Q1	always %	1.43	0.00
	usually %	30.64	37.50
	sometimes %	52.97	37.50
	never %	14.96	25.00
Q2	always %	4.28	12.50
	usually %	14.96	25.00
	sometimes %	52.02	62.50
	never %	28.74	0.00

The second research question dealt about the occasions and purposes of using L1 in the ESP class. Items 5, 6, 9 and 11 on the learners' and instructors' questionnaires (Appendices A & B) assessed the beliefs and attitudes of learners

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and instructors pertaining to the use of L1 for explaining lexical items. The results revealed that almost all the learners in the Humanities majors, a large majority of learners in the Engineering and Sciences majors as well as most of the instructors responded positively concerning the use of L1 for explaining the meaning of new words, technical and semi-technical words, checking the meaning of new words as well as explaining difficult ideas or concepts.

Items 7, 8 and 10 on the learners' and instructors' questionnaires (Appendices A & B) assessed the beliefs and attitudes of learners and instructors pertaining to the use of L1 for grammar instruction. The results revealed that almost all the learners in the Humanities majors and a solid majority of learners in the Engineering and Sciences majors as well as most of the instructors responded positively concerning the use of L1 for explaining grammatical structures, checking learners' comprehension of grammatical structures as well highlighting the differences between L1 and L2 language forms.

Items 12 and 16 on the learners' and instructors' questionnaires (Appendices A & B) assessed the beliefs and attitudes of learners and instructors pertaining to the use of L1 for checking learners' comprehension of the lesson and for explaining the content of the text, respectively. The results revealed that almost all the learners in the Humanities, a solid majority of learners in the Sciences and Engineering majors as well as a solid majority of the instructors responded positively concerning the use of L1 for the above-mentioned purposes.

A solid majority of learners in the Humanities, Sciences and Engineering majors responded positively concerning the use of L1 for explaining the objectives of the lesson. About one-third of the instructors responded positively for this statement (Item 19 of Appendices A & B).

Items 13, 14, 17 and 18 on the learners' and instructors' questionnaires (Appendices A & B) checked the beliefs and attitudes of learners and instructors pertaining to the use of L1 for giving instructions for tasks and exercises, for teaching reading strategies, for explaining the methodology, and for correcting errors, respectively. The results revealed that almost all the learners in the Humanities majors, a solid majority of learners in the Engineering and Sciences majors as well as a vast majority of instructors responded positively concerning the use of L1 for the above-mentioned purposes

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Correspondingly, the qualitative data gathered from classroom observations in this study revealed that the most common use of L1 was for explaining the meaning of lexical items, phrases and utterances as well as to remedy learners' lack of comprehension. This occurred in all the profiles of ESP for the learners of Sciences, Engineering, and Humanities. For instance, the word 'sour' in the sentence 'The hot weather has soured the milk,' the instructor (Science morning class number 1) first explained in L2, but as he noticed that the learners had not understood the L2 meaning of the word 'sour', he switched to L1 and provided the L1 equivalent. Moreover, the instructor also explained the meaning of words such as, 'rotten' and 'decay' using L1. Previous studies (e.g. Edstrom, 2006; Duff and Polio, 1990; Liu et al., 2004; Macaro, 2001; Polio and Duff, 1994; Rowlin-Ianziti and Brownlie, 2002; Storch & Wigglesworth, 2003) have also found such uses of native language in foreign language classes.

The native language was also used to provide grammatical explanations. Coincidentally, five of the twelve classes observed had grammar instruction as their teaching objective. For example, the instructor (Science evening class number 2) wrote on the blackboard 'The book which changed my life was War and Peace' and 'The book changing my life was War and Peace', however, he switched to L1 in order for explaining the use of relative clauses in English as well as highlighting the similarities and differences in L1 and L2. Many researchers and scholars (e.g., Cook, 2001, 2002; Edstrom, 2006; Castelloti and Moore, 1997, cited in Turnbull and Arnett, 2002; Liu et al., 2004; Sharwood-Smith, 1985, cited in Rowlin-Ianziti & Brownlie, 2002) have also argued that it is beneficial for instructors to switch from TL to L1 as a way of enhancing the input to which learners are exposed.

In the class profiles (Science evening class number 3 and Engineering evening class number 4), it was noticed that while solving the True/False types of exercises the instructors used L1 and L2 simultaneously. Learners benefitted from the approach of code-switching of the instructors, because as soon as the instructor switched to using L1 and L2 simultaneously, learners also responded in the same manner. Correspondingly, research findings (Edstrom, 2006; Duff and Polio, 1990; Liu et al., 2004; Macaro, 2001; Polio and Duff, 1994; Rowlin-Ianziti and Brownlie, 2002) of classroom observations revealed that instructors resorted to L1 most often to give and clarify instructions for classroom activities, to give feedback to learners, for translating, and for checking comprehension.

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Furthermore, by allowing learners to ask questions in L1, instructors can help learners not to lose face in front of their classmates. For instance, in the class for the learners of Engineering (evening class number 4), the instructor moved around the classroom and the learners posed their questions in L1 as well as asked the instructor to explain the meaning of technical and semi-technical words. The instructor used to provide elaborate definitions using L1 and L2 simultaneously. This occurred in the ESP classes for the learners of Sciences and Engineering. The findings of recent studies (e.g., Edstrom, 2006; Duff and Polio, 1990; Liu et al., 2004; Macaro, 2001; Polio and Duff, 1994; Rowlin-Ianziti and Brownlie, 2002; Storch & Wigglesworth, 2003) have also indicated that L1 can be utilized as a learning strategy for providing definitions of unknown words more directly and successfully.

The results obtained from the interview data revealed that learners' and instructors' perceptions concerning the use of native language were similar. A small proportion of learners from the three academic majors and instructors revealed their positive attitudes concerning the amount of L1 used for giving instructions and checking comprehension of a listening or reading text (Item 3 of Appendices C & D) as well as explaining grammar, vocabulary and language functions (Item 4 of Appendices C & D).

Table 7
Cross tabulation results of the interviews for the three groups of learners and instructors

Item #	Options	Learners	Instructors
Q3	always %	1.90	0.00
	usually %	26.60	25.00
	sometimes %	56.77	62.50
	never %	14.73	12.50
Q4	always %	2.14	0.00
	usually %	23.28	25.00
	sometimes %	46.08	12.50
	never %	28.50	62.50

Finally, the third research question dealt with finding out learners' and instructors' perceptions and attitudes concerning the use of L1 as a communication

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strategy to compensate for deficiencies in target language. The results obtained from the questionnaire revealed that a solid majority of participants from the three academic majors and instructors agreed with the statement that learners should be allowed to use L1 when they want to talk in pairs and groups, pose a question, show that they have understood a word, text as well as for testing purposes (Items 21-25 of Appendices A & B).

However, the results obtained from the interview data revealed that all the instructors as well as a solid majority of learners from the three academic majors reacted negatively concerning the use of L1 to facilitate teaching and learning in the ESP classroom (Item 5 of Appendices C) as well as to reduce learners' anxiety (Item 6 of Appendices C & D).

Table 8

Cross tabulation results of the interviews for the three groups of learners and instructors

Item #	Options	Learners	Instructors
Q5	always %	2.62	0.00
	usually %	13.81	0.00
	sometimes %	42.14	37.50
	never %	41.43	62.50
Q6	always %	2.86	0.00
	usually %	8.10	12.50
	sometimes %	31.19	12.50
	never %	57.86	75.00

Based on what was revealed by the study, learners' L1 can be treated as a resource (e.g., Cook, 2001; Macaro, 2001, 2005; Turnbull, 2001) instead of a hindrance to successful learning. ESP instructors teaching Humanities majors tended to translate the reading texts sentence-by-sentence. On the contrary, ESP instructors teaching Engineering and Sciences majors conducted the class using the target language as the dominant medium of instruction; nevertheless, they resorted to L1 most often to clarify difficult points of the target language (e.g., checking comprehension, explaining grammar or salient vocabulary, and providing feedback to learners). This has been supported by many scholars and researchers in the literature (e.g., Cook, 2001, 2002; Duff and Polio, 1990; Edstrom, 2006; Liu et al., 2004; Macaro, 2001, 2005; Mattioli, 2004; Polio and Duff, 1994; Rowlin-Ianziti and Brownlie, 2002; Storch & Wigglesworth, 2003; Turnbull, 2001). The use of L1

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in ESP classes is perhaps necessary on certain situations because L1 and L2 are not in different compartments but exist in the same mind (Cook, 2002).

Conclusion

In this study, Iranian ESP learners' and instructors' beliefs and attitudes concerning the use of native language were investigated. Extensive qualitative and statistical analyses of the data revealed that a solid majority of students in the Humanities, Engineering and Sciences majors as well as instructors responded positively regarding the use of L1 as a pedagogic device for teaching different language functions: explaining the meaning of technical and semi-technical words, grammatical structures, difficult ideas or concepts; explaining the methodology and content of the text; giving instructions for tasks and exercises; teaching reading strategies; helping students feel more confident; correcting errors; checking students' comprehension of grammatical structures; checking the meaning of new words and content of the lesson; highlighting similarities and differences between L1 and L2 language forms.

Correspondingly, the findings of class observations revealed that all the instructors teaching different academic disciplines resorted to L1 on different occasions: to explain the meaning of semi-technical and technical vocabulary, phrases and utterances; to provide grammar instruction; to remedy students' lack of comprehension; to raise students' awareness concerning the similarities and differences between L1 and the target language; for interpersonal rapport-building purposes; for performing classroom activities and posing questions. Whenever the instructor perceived that the learners have not grasped the meaning of words, phrases and utterances, the instructor used to switch to L1 and provide elaborate definitions for them. The use of native language in ESP classes can be seen as a communicative strategy readily drawn upon by instructors to accomplish different language functions.

Most importantly, the findings also indicate that the amount of L1 used depends on such factors as (1) learners' proficiency, (2) content of the lesson, (3) objectives of the lesson, (4) language functions, (5) activities and tasks, and (6) comprehension checks. It is hoped that these findings will help instructors reconsider their views concerning the use of native language in ESP classes and stimulate further study in this area.

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Appendix A
Learners' Questionnaire

Please answer the following questions. This information will be used for English for Specific Purposes teaching survey at Yazd University. Thank you for your cooperation. Please tick ( ) one of the choice for each item.

Age: ------ 18-20 years old -------- 20-22 years old ------22 + years old
Sex: Male --------- Female ---------
Major Course: ----------
Have you attended any private English institution? ------- Yes --------- No

Section I

1. Do you like your instructor to use Persian in the ESP class?
a. always b. usually c. sometimes d. never
2. Do you believe using Persian in your ESP class helps you learn English?
a. always b. usually c. sometimes d. never
3. How often does your instructor speak Persian in the class?
a. always b. usually c. sometimes d. never
4. How much of your instructor's English speech do you understand in the class?
a. always b. usually c. sometimes d. never

Section II

5. Do you think your instructor should use Persian in your English class to explain the meaning of new words?

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a. always b. usually c. sometimes d. never
6. Do you think your instructor should use Persian in your English class to explain technical and semi-technical words?
a. always b. usually c. sometimes d. never
7. Do you think your instructor should use Persian in your English class to explain grammatical points?
a. always b. usually c. sometimes d. never
8. Do you think your instructor should use Persian in your English class to check student's comprehension of grammatical points?
a. always b. usually c. sometimes d. never
9. Do you think your instructor should use Persian in your English class to check the meaning of new words?
a. always b. usually c. sometimes d. never
10. Do you think your instructor should use Persian in your English class to highlight the differences between English and Persian?
a. always b. usually c. sometimes d. never
11. Do you think your instructor should use Persian in your English class to explain difficult ideas or concepts?
a. always b. usually c. sometimes d. never
12. Do you think your instructor should use Persian in your English class to check learners' comprehension of the lesson?
a. always b. usually c. sometimes d. never
13. Do you think your instructor should use Persian in your English class to give instructions for tasks and exercises?
a. always b. usually c. sometimes d. never
14. Do you think your instructor should use Persian in your English class to teach reading strategies?
a. always b. usually c. sometimes d. never
15. Do you think your instructor should use Persian in your English class to help learners feel more confident?
a. always b. usually c. sometimes d. never
16. Do you think your instructor should use Persian in your English class to explain the content of the text?
a. always b. usually c. sometimes d. never
17. Do you think your instructor should use Persian in your English class to explain the methodology used in class?
a. always b. usually c. sometimes d. never

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18. Do you think your instructor should use Persian in your English class to correct errors?
a. always b. usually c. sometimes d. never
19. Do you think your instructor should use Persian in your English class to explain the aims of the lesson?
a. always b. usually c. sometimes d. never
20. Do you think your instructor should use Persian in your English class to teach through translation?
a. always b. usually c. sometimes d. never

Section III

21. Do you think learners should be allowed to use Persian when they want to talk in pairs and groups?
a. strongly agree b. agree c. not sure d. disagree
22. Do you think learners should be allowed to use Persian when they want to pose a question?
a. strongly agree b. agree c. not sure d. disagree
23. Do you think learners should be allowed to use Persian while translating an English word into a Persian to show they have understood a word?
a. strongly agree b. agree c. not sure d. disagree
24. Do you think learners should be allowed to use Persian while translating a text from English to Persian to show they have understood a text?
a. strongly agree b. agree c. not sure d. disagree
25. Do you think learners should be allowed to use Persian as a translation instrument for testing purposes?
a. strongly agree b. agree c. not sure d. disagree

Appendix B
Instructors' Questionnaire

This questionnaire aims to find out your attitude toward using Persian in English for Specific purposes classrooms. Your answers will be used for research purposes only. Please tick ( ) one of the choice for each item. Thank you for your cooperation!

1. Do you like to use Persian in the ESP class?
a. always b. usually c. sometimes d. never
2. Do you believe using Persian in your ESP class helps your learners learn English?

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a. always b. usually c. sometimes d. never
3. How often do you speak Persian in the class?
a. always b. usually c. sometimes d. never
4. How much of your English speech do your learners understand in the class?
a. always b. usually c. sometimes d. never

Section II

5. Do you think you should use Persian in your English class to explain the meaning of new words?
a. always b. usually c. sometimes d. never
6. Do you think you should use Persian in your English class to explain technical and semi-technical words?
a. always b. usually c. sometimes d. never
7. Do you think you should use Persian in your English class to explain grammatical points?
a. always b. usually c. sometimes d. never
8. Do you think you should use Persian in your English class to check student's comprehension of grammatical points?
a. always b. usually c. sometimes d. never
9. Do you think you should use Persian in your English class to check the meaning of new words?
a. always b. usually c. sometimes d. never
10. Do you think you should use Persian in your English class to highlight the differences between English and Persian?
a. always b. usually c. sometimes d. never
11. Do you think you should use Persian in your English class to explain difficult ideas or concepts?
a. always b. usually c. sometimes d. never
12. Do you think you should use Persian in your English class to check learners' comprehension of the lesson?
a. always b. usually c. sometimes d. never
13. Do you think you should use Persian in your English class to give instructions for tasks and exercises?
a. always b. usually c. sometimes d. never
14. Do you think you should use Persian in your English class to teach reading strategies?
a. always b. usually c. sometimes d. never

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15. Do you think you should use Persian in your English class to help learners feel more confident?
a. always b. usually c. sometimes d. never
16. Do you think you should use Persian in your English class to explain the content of the text?
a. always b. usually c. sometimes d. never
17. Do you think you should use Persian in your English class to explain the methodology used in class?
a. always b. usually c. sometimes d. never
18. Do you think you should use Persian in your English class to correct errors?
a. always b. usually c. sometimes d. never
19. Do you think you should use Persian in your English class to explain the aims of the lesson?
a. always b. usually c. sometimes d. never
20. Do you think you should use Persian in your English class to teach through translation?
a. always b. usually c. sometimes d. never

Section III

21. Do you think learners should be allowed to use Persian when they want to talk in pairs and groups?
a. strongly agree b. agree c. not sure d. disagree
22. Do you think learners should be allowed to use Persian when they want to pose a question?
a. strongly agree b. agree c. not sure d. disagree
23. Do you think learners should be allowed to use Persian while translating an English word into a Persian to show they have understood a word?
a. strongly agree b. agree c. not sure d. disagree
24. Do you think learners should be allowed to use Persian while translating a text from English to Persian to show they have understood a text?
a. strongly agree b. agree c. not sure d. disagree
25. Do you think learners should be allowed to use Persian as a translation instrument for testing purposes?
a. strongly agree b. agree c. not sure d. disagree

Appendix C

Questions used in learners' Interviews:

1. How much Persian does your instructor typically use in your ESP class?

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a. always b. usually c. sometimes d. never
2. How much Persian would you like your instructor to use in your ESP class?
a. always b. usually c. sometimes d. never
3. Does your instructor use Persian for giving instructions, checking comprehension of a listening or reading text?
a. always b. usually c. sometimes d. never
4. Does your instructor use Persian to provide explanation of grammatical structures, vocabulary, and language functions in your ESP class?
a. always b. usually c. sometimes d. never
5. Does the use of Persian facilitate teaching and learning in the ESP class?
a. always b. usually c. sometimes d. never
6. Does the use of Persian reduce your anxiety?
a. always b. usually c. sometimes d. never

Appendix D
Questions used in Instructors' Interviews:
1. How much Persian do you use in your English class?
a. always b. usually c. sometimes d. never
2. How much Persian would you like to use in your English class?
a. always b. usually c. sometimes d. never
3. Do you use Persian for giving instructions, checking comprehension of a listening or reading text?
a. always b. usually c. sometimes d. never
4. Do you use Persian to provide explanation of grammatical structures, vocabulary and language functions?
a. always b. usually c. sometimes d. never
5. Does the use of Persian facilitate teaching and learning in the ESP class?
a. always b. usually c. sometimes d. never
6. Does the use of Persian reduce learners' anxiety?
a. always b. usually c. sometimes d. never

Appendix E
Observation Form
Course ---------- Date ---------- Time ---------- Instructor ----------
1. To see how frequently and for what purposes instructors use L1 in their classes.
2. To see whether instructors use L1 for explaining grammatical points

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3. To see whether the instructor uses L1 to highlight similarities and differences between L1 and L2 forms.
4. To see whether the instructor uses L1 to explain the meaning of new words, to give instructions and check comprehension.
5. On what occasions does code switching between Persian and English takes place.

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