Identity types and learners’ attitudes in language learning: Voices from students of medical sciences

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Abstract

Background: The academic level of each society is assessed through the level of its students’ education. Students need to update their knowledge based on the latest achievements obtained throughout the world. What can serve this purpose is “language” as a key instrument.

Methods: The current mixed methods study reviewed attitudes of Iranian medical sciences students towards learning English Language with a focus on their identity type. To this end, 372 students of medical sciences (medical, paramedical, and nursery and midwifery) completed two questionnaires and participated in a semi-structured interview investigating participants’ attitudes toward language learning.

Results: The results indicate that the students had a considerable appreciation for the English language, particularly in enhancing job opportunities for them in the future and helping them to keep up with technological developments in the world. Moreover, the English language was considered a way of feeling more confident and enriching their intercultural horizons in establishing interpersonal skills. There were also tendencies towards the English language as a prestigious language with a high social level and a channel to have good relationships with other people in their field. To some extent, they knew English as the transmission of professional knowledge providing academic support; foursome of them, it was considered just a university course to pass. It was also realized that the differences in their perceptions were not affected by their identity type, suggesting a unique path of identity type and certain attitudes for students of medical sciences.

Conclusion: In brief, with the English language considered as a growing global status and the increasing interpretation of the impact that these shifts have on attitudes towards learning the English language, there is a need for theoretical and practical exploration of learners’ attitudes towards the English language.

Introduction

In the world of contemporary communication, expressing one's thoughts causes increased international integration, and it is clear that learning English has become even more crucial since it works as an approach for interactions and exchanges of different types. The English language is the common language for communicating basic notions of several fields, including medicine. The necessity of language learning for medical doctors and researchers is felt not only in education but also in publishing their research work. There is no doubt that the level of medical English used in field reports, reference books, and academic studies has been increasing steadily. The important role that the English language plays in medicine is since most of the scientific, technological, and academic information in this field is dominantly mentioned and presented in English, and a lack of English communication ability could prevent the country from supplying the people with described as meanings attached to a person by self and others. There are four types of identity: personal, social, collective, and relational. A personal identity type defines self as a unique being. The relational form of self is based on relations and connections with others. Social identity develops from the idea that individuals are related to social groups and roles that affect their actions. The collective self is the self that develops through being a member of social groups or categories.

Learning a second language can be either a cause of construction or destruction, depending on the learners’ attitudes and perceptions. If a speaker’s only reason for learning a second language is an extrinsic force, intrinsic motivation fades, usually following negative attitudes towards language learning. In a study, it was demonstrated that learners know their needs and are ready to take the necessary steps to meet their wants. It was mentioned that different factors affect students’ viewpoints on

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learning a new language, including their feelings, identity, and experience. Accordingly, positive attitudes help learners to be more successful in learning a language. It has been stated that success in language learning is linked to attitudinal variables. These variables are attitudes towards the language learned and towards the users of that language and their culture. Learning a language is not a simple process but involves a variety of internal and external factors. It was also pointed out that if students do not feel the need to learn a new language either within or outside their immediate community, they will maintain a negative attitude toward that language.

In the same way, it was found that attitude is affected by the students’ perceptions about the new language's norms and the students' values, which starts at home. It is believed that successful language students adjust to new aspects of the target language culture or society. This is similar to the view that second language (L2) students who positively accept target culture will learn a target language more effectively than those who keep negative perceptions towards the target language's beliefs and culture. This means that they must have acceptance of the target language, which is referred to as the “individual's flexibility to taking on the culture of another social/linguistic group” (p. 7). It was noted that language learning seems to be easier for learners when the content is relevant, where the language is both meaningful and functional to the student. Language is easier when it is in a personal or professional life context, such as conversations with people in their academic environment.

Accomplishing study and getting knowledge are not the only reasons for emphasizing the role played by the English language in medical sciences education. The form and quality of medical service maybe even influenced dramatically by the limited English knowledge of the medical staff. To help medical students manage the challenges they encounter during their academic education, understanding their English language needs is a must that should not be neglected. Given the use of English as an international language, the results derived from this study can explain the choice and design of helpful materials and assessments in teaching English as an international language. Hence, the current study addresses the following research questions:
1. What are the Medical Sciences students’ attitudes towards English language learning?
2. To what extent can learners’ identity type explain their attitudes toward the English language?

Materials and Methods

Participants
The convenience sample included 400 male and female participants aged 18 to 46 years. The researchers used the Longman Placement Test (LPT) in the first phase of the study to choose participants with the same level of English language proficiency. According to the results of the placement test, 93% of the participants were intermediate English language learners and 7% of them were upper-intermediate English language learners. Excluding the upper-intermediate ones left us with a sample of 372 intermediate participants.

Instruments
The current study used a placement test, two self-report questionnaires, and a semi-structured interview. The description of each instrument is presented here.

Longman Placement Test
It is a criterion-referenced test designed by Pearson Longman ELT. The test contains 100 written grammar and vocabulary multiple-choice questions. The participants have 50 minutes to answer the questions. The scoring system places students as follows:
- Pre-Elementary: 00-20
- Elementary: 21-35
- Pre-intermediate: 36-60
- Intermediate: 61-85
- Upper-Intermediate: 86-100.

English Language Attitude Questionnaire (ELAQ)
To investigate participants’ English language attitude, the researcher used English Language Attitude questionnaire (ELAQ) questionnaire designed by the authors of the current study considering the literature review and objectives of the study (Supplementary A): an 8-item factor labeled Knowledge mastery (α = 0.79), Self-improvement (α = 0.86), Future achievement (α = 0.87), Social status (α = 0.85), Self-made duty (α = 0.91), Technology-based (α = 0.73), Cultural awareness (α = 0.81) and Relations with others (α = 0.84). This scale includes 25 statements which are rated on a 5-point Likert scale ranging from 5 (strongly agree) to 1 (strongly disagree). To design the questionnaire, the researchers followed some steps. At first, they did a meticulous examination of the relevant literature on the English language and attitudes on the English language as a second or foreign language. In this phase, after a comprehensive literature review, a series of semi-structured interviews were done with experts in the field to see whether the variables extracted from the literature could be confirmed by the interviewees, and to find out whether the interviewees could state other important variables which might relate to the newly designed questionnaire. These steps brought about the construction of 30 items by the researchers. The items were given in to several domain experts to assess their redundancy, face validity, content validity, and language clarity. To increase the validity and reliability of the items, they were also pilot tested with a population close to that in the study. The feedback helped the researchers to make some revisions such as modifying some questions and adding some instructions. Finally, the researchers ended up with a draft version of 25 items.
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Aspects of Identity Questionnaire (AIQ)
Aspects of Identity Questionnaire (AIQ)\(^2\) was used to categorize participants according to their identity label. Forty-five items describe different types of identity (personal, relational, social, and collective) (Supplementary B). The questionnaire was checked by four experts (two in English Language Teaching and two in data and information retrieval). The feedback results in some revisions of the questions and instructions. It was also pilot tested with a population close to that in the study to test the scale’s validity and reliability. Cronbach’s alpha test was done to indicate the level of reliability. The overall Cronbach’s alpha for the AIQ (translated into Persian) was 0.840 which indicated good internal consistency of the questionnaire.

Semi-structured interview
Semi-structured interviews and open-ended questionnaires were used for qualitative data collection (Appendices C and D). The semi-structured interview and open-ended questionnaire were conducted following the study objectives. The interviews were audio-recorded, transcribed, and translated to extract reliable data. For publishing purposes, the data were transcribed in Persian and then translated into English. Interview transcripts were sent to a proficient bilingual colleague for proofreading. Responses were coded to find related categories, themes, patterns, and relationships. Questionnaires and the interview were performed in Persian to foster the validity of the collected data and to avoid participants’ possible misunderstanding or failing to express their full opinions because of their limited English proficiency.

Procedure
The present study is a cross-sectional concurrent mixed-methods descriptive survey that investigated three different cohorts of language learners (medical, paramedical, and nursery and midwifery students) from Hormozgan, a city of Iran, at a particular point of time. Initial approval was sought from university principals according to the university’s ethical guidelines. Data collection started with the LPT. It was managed to ascertain that the participants were at the same level of English language background knowledge (Intermediate English language learners were the participants of the current study). As a lecturer at the University of Medical Sciences, one of the researchers had direct contact with the students there. This opportunity of being a member of the research society includes the trust that exists among the researchers and the participants.\(^{13-15}\) He informed the participants of the study objectives, procedure, and limitations and invited them to take part in the study voluntarily. After they agreed to participate, the students were assured that taking part in the project was optional and unrelated to their university courses. To protect participants’ privacy and confidentiality, all identifiers were removed and pseudonyms were used. One of the authors distributed the questionnaires personally to participants in their classrooms, allowing 30 to 40 minutes to answer the questions. The researchers were present to explain the items and to answer participant questions. Next, interviews were conducted to obtain more information on participant attitudes. These semi-structured interviews, which took place orally, were conducted at various time intervals with 200 volunteer participants. All interviews were conducted in Persian, to assure comprehension of the questions. The interview allowed the researchers to probe the hidden aspects of participants’ attitudes. All of the returned questionnaires were used anonymously for statistical analysis of mean, standard deviation, one-sample t-test, and Pearson correlation.

Results
Broken out by sex, 36.3% of participants (n=135) were male and 63.7% (n=237) female. In all, 43% of participants were students of Nursing & Midwifery (n=160), 35.2% were students of Paramedical (n=131), and 21.8% were students of Medical (n=81) (Table 1).

Quantitative data analysis
The present study was done to explain medical sciences students’ attitudes in language learning according to their identity type. Regarding the quantitative data analysis, descriptive and inferential statistics were performed as stated in this section.

The results of Table 2 indicated that students of the medical sciences fall in the following descending order of identity type: personal identity-oriented, relational, social, and collective.

Table 3 shows that the students’ attitudes were shaped...
based on eight factors with varying degrees of importance. The future achievement was the most important factor and self-made duty was the least important among all factors. The priority of the components falls in the following descending order: future achievement, technology enhancement, self-improvement, cultural awareness, social status, relations with others, and self-made duty. Moreover, one-way analysis of variance (Table 4) showed no significant difference in students’ identity type and attitudes in English language learning in terms of their field of study (medical, paramedical, and nursery and midwifery), which suggests a single pattern of identity and English language attitudes among students of medical sciences.

A one-sample t test was used to study the identity and attitude position among medical sciences students (Table 5). Referring to the test value=3, the results showed that the students of medical sciences possessed strong identities (M = 3.97) and attitudes in English language learning (M = 4.05).

Table 6 shows that there was a statistically positive relationship between identity and English language attitude (r = .33, n = 372, R2 = 0.11, P<0.01). The coefficient of determination value (R2 = 0.11) gives onto the conclusion that identity in students will display about 11% of attitude variance towards the English language.

### Qualitative data analysis
The findings in the qualitative phase of the current study are plotted thematically regarding the coding of the interview

Table 3. Attitudes in English language learning

| Variable         | N   | Mean | Standard Deviation | Skewness | Kurtosis |
|------------------|-----|------|--------------------|----------|----------|
| Knowledge mastery| 372 | 3.96 | 0.64               | -0.24    | -0.29    |
| Self-improvement | 372 | 4.25 | 0.67               | -0.76    | 0.12     |
| Future achievement| 372 | 4.33 | 0.57               | -0.77    | 0.94     |
| Social status    | 372 | 4.07 | 0.71               | -0.64    | 0.09     |
| Self-made duty   | 372 | 3.37 | 0.53               | 0.01     | 0.67     |
| Technology based | 372 | 4.30 | 0.56               | -0.64    | 0.55     |
| Cultural awareness| 372 | 4.10 | 0.62               | -0.56    | 0.23     |
| Relations with others | 372 | 4.07 | 0.64               | -0.62    | 0.28     |
| Attitude         | 372 | 4.05 | 0.46               | -0.34    | 0.22     |

Table 4. One-way ANOVA of learners’ identity and attitude by field of study

| Variable | Model              | Sum of Squares | Df     | Mean Square | F        | P value |
|----------|--------------------|----------------|--------|-------------|----------|---------|
| Identity | Between groups     | 468.82         | 2      | 234.41      |          |         |
|          | Within groups      | 84792.76       | 369    | 229.79      | 1.02     | 0.360   |
|          | Total              | 85261.58       | 371    | -           | -        |         |
| Attitude | Between groups     | 0.203          | 2      | 0.102       |          |         |
|          | Within groups      | 49521.25       | 369    | 134.20      | 0.001    | 0.900   |
|          | Total              | 49521.45       | 371    | -           | -        |         |

Table 5. One-sample t test of identity and attitude

| Variable | Test Value = 3 |
|----------|----------------|
| Mean     | T   | N   | df | Mean Difference | P value |
| Identity | 3.97 | 43.16 | 372 | 371 | 0.97 | 0.0005 |
| Attitude | 4.05 | 43.92 | 372 | 371 | 1.05 | 0.0005 |

Table 6. Pearson correlation of identity and attitude

| Variables | Pearson Correlation | N   | R2  | P value |
|-----------|---------------------|-----|-----|---------|
| Identity  | 0.33                | 372 | 0.11| 0.0005  |

Data and analysis of open-ended questionnaires. The data were processed following a thorough transcription, as suggested by Davidson. Using thematic analysis of the data, from a total of 372 students’ responses, we identified five main themes addressing students’ attitude orientations toward learning language: (1) Career development, (2) Interpersonal skills, (3) Social change, (4) Academic support, and (5) Self-investment.

**Career development**
Almost all participants (98%) believed that learning a language, specifically English, could help them achieve and develop their academic career and consequently promote their career. Speaking multiple languages means the ability to think in more than one way. Knowing English gives them the chance to know different ways of dealing with health problems which in turn means implementing a fair amount of flexibility in developing solutions for tough problems in medicine.

Learning a language gives me the chance to expand the experiences of my job and interactions with the counterparts all around the globe, which means some kind of development rather than being so strict or isolated in my field.

The English language gives me the power to take the initiative, with or without the assistance of university professors, in diagnosing my learning needs and formulating learning goals. It means developing my career based on articles and books that I read in my field, which are all written in English.

**Interpersonal skills**
Interpersonal communication in the field of medicine has an important role in satisfaction, motivation, collaboration, and success. The process of exchanging information, ideas, and feelings between experts is possible when they can speak a common language which is English. The vast majority (85%) of participants believed that the English language stimulates authentic interaction in an international context, and increases group membership.

Knowing a language removes the surrounding obstacles and paves the way for a broader relationship with the outside world.

If I can speak English, I have more open windows to see the world both panoramic and realistic. A real interaction
wipes the blacks and whites off our mind. We are not living in isolation, finding a way to help us get out of this tight corner, we need to have language means to join the world. The world is like a village consisting of big or small groups playing different roles if I want to be accepted to the belonging group I have to follow a joint and common language.

**Social change**
The following category focuses on students’ social change whereby it is attempted by both students, teachers, planners, and all those involved in the educational system to shape a bright personal and professional future. From most students’ viewpoint (73%), learning a language and speaking it with a good command of the language gives them some social prestige and credit.

> When I speak English in my class, I feel I am given more attention by either classmates or teachers. The ability in speaking English has made me more positively distinct from my classmates.

> Speaking English with foreigners grants me a higher value. For me speaking English is so prestigious, the way it has changed my life. I can never be praised so much as when I speak English, I feel that I have more space to move around.

**Academic support**
This category finds that the English language is a support to help participants develop academically. This category shows most participants (83%) desire to speak English to expand their professional content knowledge and general knowledge since almost all reference books are in English; that is, language becomes the medium through which something new is learned. The English language helps the students of medical sciences to become the best that they can be at research and technology.

> With the knowledge of the language, I can read and understand the professional texts better. I rely on the English language while studying specialized texts and terminology of the words.

> With the help of the English language, I can read and analyze the articles and improve my understanding of lesson content.

> Resorting to my language, I can analyze information from different research-based sources. I can compare the most recent findings of related articles in English and use them in my reports.

> I think computer skills and the English language are complimentary. If you know English, you can use the computer more easily and even professionally.

**Self-investment**
Language learners try to invest in learning a language because the language will develop their cultural and social power. Every time language learners are exposed to a different language, not only are they exchanging information with others, but they are managing and rearranging a sense of self and others as well. Accordingly, this category deals with English language learning and potential changes in self (mentioned by 80% of participants).

> Knowing the English language and the ability to speak it give me a strong command of self-confidence. I feel more confident in my field since I can refer to books and articles in English.

> Learning new languages means new challenges, which makes us stronger. I feel challenging myself and my abilities leaning the English language.

**Discussion**
Drawing on quantitative analysis, the results revealed certain patterns of attitudes concerning the students’ field of study and identity type (Tables 2 and 3). Besides, Table 5 shows that students of medical sciences possess strong identities, which can be described as positive meanings coupled with a person by self and others. They also hold positive attitudes toward English language learning. The Pearson correlation (Table 6) shows a positive relationship between identity type and attitudes toward English language learning. It can be concluded that the stronger the identity of the learners, the more positive attitudes towards language learning are shaped. Table 3 shows that students of medical sciences, generally, have positive attitudes towards learning the English language, particularly in enhancing their future achievements, that is, opening more job opportunities for them in the future, and knowledge of technology, that is, catching up with technological developments in the world. The findings of the present study are consistent with other studies that confirm the need for language learning for medical professionals and researchers in learning, publishing research work, presenting lectures, and using textbooks.

The English language is also considered a medium of self-improvement, helping students feeling more confident and enhancing their cultural awareness as well as enriching their intercultural horizons. Confirming our results, other studies have mentioned that cultural identity affects students’ attitudes to language learning. The idea of intercultural openness refers to the concept of how one perceives the language itself. In the same way, learners’ attitudes are affected by the beliefs they hold about both their home and target cultures. There are also tendencies to regard the English language as a prestigious language with a high social level and a channel to have good relationships with other people in their field. To some extent, participants identify English as the transmission of professional knowledge, although for some it is considered merely a university course to pass.

One-way analysis of variance (Table 4) showed no significant difference in students’ identity types in terms of their field of study. It was also learned that differences in language learning perceptions were not affected by their identity type, which suggests a single pattern of attitude. The results indicate that when the students enter...
the medical sciences at a university level, their attitudes toward language learning are shaped similarly despite the diversities seen in their identity type. These findings confirm the strong role of context in shaping learners’ attitudes and identities.

Drawing on the qualitative analysis, students had a considerable instrumental appreciation for the ESP course, particularly in developing their career, establishing interpersonal skills, building social prestige, providing academic support, and providing an opening for self-investment. The present study and other studies confirm the important role that the English language has in the field of medicine because the bulk of scientific, professional, and academic information is presented in English, and a lack of English language knowledge might inhibit a country from producing great healthcare to different populations. Considering English as an international language, the findings obtained from this study can explain the design of instructional materials and assessments in teaching English as an international language to students of medical sciences. EFL learners who possess effective English communication skills have an advantage in this high-speed globalized world. There is now a high level of awareness related to the importance of language diversity, multilingualism, and multilingual education.

In brief, neglecting learners’ demands and interests leads to a lack of motivation which in turn results in poor performance and lower academic achievement. With English language facility considered to have increasing global importance and the highlighted interpretation of the impact that these shifts have on attitudes towards learning the English language, there is a need for theoretical and practical exploration of learners’ attitudes towards the English language. This is the first study with students of medical sciences in this area, which paves the way for attitude awareness and leads to a more appropriate perception of what they are learning and what the top priorities should be in terms of learning the English language.

**Conclusion**

The present study opens new insights into medical sciences students’ understanding of the English language and develops our perception of this field. Future studies can value exploring students’ attitudes in the English language in different contexts, thereby increasing our interpretation of this type of inquiry and contributing to the body of current research concerning medical sciences students’ reflections of the English language. This study provides faculty members responsible for curriculum design with important information to adjust their teaching of the English language while taking learners’ attitudes into account. In brief, with the English language considered to have growing global importance and the highlighted interpretation of the impact that these shifts have on students of medical sciences attitudes towards learning the English language, there is a need for theoretical and practical exploration of learners’ attitudes towards the English language. Based on above mentioned, teaching the English language can be better designed to satisfy different students, thereby boosting the possibility of their being able to apply the English language successfully in their future educational and professional life. Despite its strengths, there are some limitations in this study that should be taken into consideration. First of all, the study sample is for the typical Iranian context, which can limit the generalizability of the results to other settings. As such, it would be valuable to replicate the study in other contexts to check the results. Additional longitudinal studies are needed to study participants’ dynamic attitudes.

**Ethical approval**

The present study was approved by the Ethics Committee of the Hormozgan University of Medical Sciences 1398.075. Besides, participants were assured that the collected data was to be used only for research, and the name of the participants would be kept confidential.

**Competing interests**

The corresponding author declares that there are no competing interests to be expressed on behalf of all the authors.

**Authors’ contributions**

HM contributed to the study design, data collection, and analysis and interpretation, and study revision.

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**Supplementary materials**

Supplementary file 1 contains appendices A-D.

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