Experimenting In-House EMP Course Contents for Saudi Medical Undergraduates: Lessons Learned

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Abstract

This research study comprehensively details the process of designing and implementation of English for Medical Purposes (EMP) course contents for Saudi medical undergraduates studying in the various medical colleges at the KSA by determining their EMP needs. Seven hundred and ninety four students and forty faculty members participated in this comprehensive needs analysis (NA) research project. Data collection phase included multiple methods and sources to reach dependable findings. Methods included quantitative as well as qualitative research tools such as structured and semi-structured questionnaires, faculty member and student interviews, and observations. The data generated through all these sources were scientifically analyzed and triangulated to determine their genuine EMP needs. EMP course contents were developed based on the comprehensive NA and were experimented at Taif medical college for one year to test five hypotheses. The results accepted four hypotheses. It was an enriching and rewarding experience because the reported significant gains in the English language proficiency of the experimental group. Furthermore, the course contents were accepted as formal textbooks to be taught at CMMS that also indicated that the whole exercise was successful and fruitful. The findings have reported that it is necessary to 1) develop in-house teaching materials based on comprehensive NA, 2) collect data through multiple sources and methods and to triangulate it to validate the data, 3) involve all the stake holders and consider the academic echo system in the on-going NA process, 4) conduct post-course assessment to make necessary changes in the teaching materials for future applications, 5) ensure close coordination and communication between English teachers and content-subjects faculties and 6) secure administration's confidence to guarantee the availability of necessary financial and administrative support.

Keywords: *needs analysis, course contents*, ESP

Introduction

Modern age can rightly be declared an age of specialization and there seems a need to produce optimum results in a limited time to meet

the specific challenges of this age. This global trend has influenced all walks of life and the realm of English language teaching is no exception and English for Specific Purposes (ESP) is an example in this regard (Freihat & Makhzoomi, 2012). Research has offered valuable insights into the development of ESP to address specific needs of specific learners (Cameron, 2008; Dudley-Evans & St. John, 1998; Gatehouse, 2001; Hadley, 2006; Hutchinson & Waters, 1987; Mackay & Mountford, 1978; Milavic, 2006). As for a broader definition of ESP, Hutchinson and Waters (1987, p. 19) have theorized that "ESP is an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning." This definition offers practical insights into the fact that unless the learners' reason for learning is not determined, no material can fulfill the specific needs of the learners. A significantly huge number of research projects have been undertaken to determine the ESP needs of the learners of different disciplines. ESP teaching material has been developed according to the identified ESP needs and the findings have provided sufficient proof of their success and effectiveness (Chalauisaeng & Holme, 2006; Cowling, 2007; Edwards, 2000; Hiu-Uen et al., 1995; Hull, 2004; Jiajing, 2007; Suzuki, 2007; Williams, 2006).

Medical colleges in Saudi Arabia accept intermediate students after twelve years of study and usually those students who score very high grades in their intermediate examination are admitted in the medical colleges. However, one of the challenges that newly-admitted Arab students go through is their English language deficiency. They seem to lack both communicative competence and specific English competence necessary to carry out their studies in medicine. Though their accumulative GPA (grade point average) is exceptionally high, they still have serious problems coping up with this new medium. During the first year of their study, they are given intensive classes of English so that they may be able to face the future challenges successfully. Suitable ESP material is not available to meet this very challenging job because majority of the textbooks available in the market do not seem to cater for the needs of these Saudi students studying in the medical colleges all over the kingdom.

Statement of the Problem

There seems a gap between ESP books available on the market and the ESP needs of the students studying at different medical colleges in Saudi Arabia. Research has reported that no ready-made English Language Teaching (ELT) material can fulfill the real ESP needs of the learners (Cozens, 2006; Gatehouse, 2001; Hutchinson & Waters, 1987; Javid, 2013). The personal experience of teaching Taif Medical College students, their unsatisfactory grades, interaction with other English as well as content subject instructors strongly suggested that there was a need to identify

their ESP needs to develop and implement ESP course contents for Saudi students of medicine.

Objectives of the Study

The main objective of this study was to try to bridge the above-mentioned gap by following a standard needs analysis (NA) procedure to assess ESP needs of Saudi students of medicine. Based on the findings of this NA project, ESP course contents were developed to ensure smooth progress of all language skills identified through NA and prepare them to handle their medical and non-medical textbooks effectively.

Hypotheses of the Study

It was hypnotized that if suitable and appropriate course contents are developed based on their specific needs after following a standard ESP material development procedure;

1. the pre and post intervention score gain of the experimental group in a TOEFL test will be statistically significant (higher) as compared to the pre and post intervention score gain of the control group;

2. the scores of the experimental group in the final in-house English examination will be statistically significant (higher) as compared to the final in-house English examination scores of the control group;

3. the scores of the experimental group in the final content-subject examinations will be statistically significant (higher) as compared to the final content-subject scores of the control group;

4. the teachers' evaluation of the experimental groups' language skills on a scale of 1-10 will be statistically significant (higher) as compared to their evaluation of the control groups' language skills on the same scale;

5. the experimental group's evaluation of the experimental course contents will be statistically significant (higher) as compared to the control group's evaluation of the existing textbooks.

Literature Review

From the early 1960s ESP has gained popularity and become the most prominent area of ELT. This development has been "reflected in an increasing number of publications, conferences and journals dedicated to ESP discussions" (Tratnik, 2008, p. 5). The issue of the main rationale and purpose of an ESP course has been intensively discussed in research. Hutchinson and Waters (1987, p. 12) have hypnotized that "the purpose of an ESP course is to enable learners to function adequately in a target situation." It has also been argued that ESP courses should be "goal-

directed" (Robinson, 1991 as cited in Hadley, 2006) and "centered on the language (grammar, lexis, register, etc.), skills, discourse and genres appropriate to the activities of the discipline it serves" (Dudley-Evans & St. John, 1998 as cited in Hadley, 2006, p. 5). It was suggested that an ESP course should have three aspects: it should be learner-directed, goal-directed and situation-directed suggesting that the principle of "one size fits all" cannot suit an ESP course. This seems to suggest that commercially available ESP textbooks are not suitable to address to the specific needs of specific learners (Dudley-Evans, 1997; Gatehouse, 2001; Hutchinson & Waters, 1987; Robinson, 1991). Goonetilleke (1989, p. 43) has appreciated the academic value of commercially available "standard ESP textbooks" produced in the Westen world but strongly suggested that no foreign textbook will be wholly adequate in the local situation. He has further reiterated that the universities should attempt to evolve "common ESP courses through cooperating endeavors at least until such time as the core ESP courses are produced" (ibid., p. 46). Chantrupanth (1993) has presented significant insights into "designing a short course" and stated that "the teaching material should be prepared specifically to meet the needs of the students either for their academic purposes or their careers" (p. 9). It has also been advised to ESP practitioners that they should modify the commercially available textbooks because "adapted materials are more suitable to ESP learners than textbooks since no textbooks could fully satisfy the particular needs of any ESP learners" (Chen, 2006, p. 40). Chen (2000, p. 395) has also suggested that ESP practitioners should attempt to develop in-house ESP teaching material according to their specific teaching environment and their students' specific needs because "there is no espoused ESP curriculum that corresponds to the particular teaching setting that many a prospective ESP teacher may encounter."

Related Research Projects: Medical Context

Research has reported that numerous projects of NA have been undertaken for the students related to the field of medicine (Cameron, 2008; Dunn & Hansford, 2008; Ghalandari & Talebinejad, 2012; Hwang, 2011). Rokowski (1996) conducted a study at the University of Extreadura in Caceres in which the perceived needs of the learners were compared with the ESP needs reported by the subject specialists at the School of Nursing Sciences. The sample comprised of all students and faculty members at the School of Nursing Sciences. The participants, students as well as faculty, were administered Likert scale questionnaires to determine authentic ESP needs at the nursing school. The researcher interviewed selected students and faculty members according to a programmed interview protocol to verify the data generated through the questionnaires. The results reported what language skills were required to

study nursing course effectively as well as it highlighted the need of "a better interdisciplinary coordination and understanding of the purpose of ESP within the subject specialism" (Rokowski, 1996). Romo (2006) conducted a comprehensive NA project to determine specific English language needs of a group of learners to become nursing assistants. This project combined qualitative as well as quantitative research methodologies and four tools were used to identify present situation analysis (PSA) and target situation analysis (TSA). Classroom observation, semi-structured interviews, structured questionnaires and English Placement Test were the various tools employed by the researcher. The data collected from various sources were scientifically analyzed to finalize aims and objectives for a twelve week English for nursing purposes short course that was developed for 40 non-native speakers of English to become nursing assistants at Utah Valley Regional Medical Center (UVRMC) in Provo, Utah. The study mentioned detailed curriculum development procedures and highlighted different stages involved. The experimental group was evaluated at the completion of the course and the results reported the effectiveness of using standard procedure of following NA to develop suitable ESP curriculum to address specific needs of specific learners.

Frank (2000) undertook an NA project in a professional setting in the Southern Illinois University-Carbondale (SIUC) in 1997. This study was meant to identify communication problems that existed between the international students who were studying in the Student Health Program (SHP) and the staff responsible to train them on the campus. Two questionnaires were used as tools: a student questionnaire and a faculty questionnaire. The questionnaires were completed by 123 international students after their graduation from SHP whereas 100 questionnaires were completed by the staff members. The responses reported by both the groups were compared to identify the common problems mentioned by both the groups. The study analyzed their responses regarding understanding subject matter, speech patterns and styles, medical terms, interaction pragmatics, medical systems and various medical procedures. The results highlighted the problematic areas due to different cultural background of both the groups. Rettanapinyowong et al. (1988) investigated the academic English needs of medical students at Chulalongkom University and their findings reported that reading skills was required in 65% of the courses, writing skills 25%, listening skills in 20% courses and speaking skills was required in only nearly 10% courses. Albano et al. (1998) surveyed medical faculties at Italian universities to identify the causes for ineffective EFL teaching and unsatisfactory English language proficiency of the medical graduates. The faculty members reported that objectives related to English for medical purposes were not

clearly defined and they reported a lack of coordination and collaboration between English language teachers and content subject faculty members. The samples suggested that an enhanced mutual relationship between these two groups would help identify real ESP needs and consequently improve English language instruction at the medical colleges in Italy. Fang's (1987) project included students from five medical disciplines; medicine, dentistry, pharmacy, medical technology, and nursing. He interpreted and presented his findings that the students and the faculty understood the usefulness of English proficiency in the field of medicine and he also found the students very motivated to achieve this goal but various medical institutions failed to satisfy students' expectations. The findings of this exploratory research project suggested that main reason behind this failure was absence of a formal NA component in ELT in the medical colleges.

Hiu-Uen et al. (1995, p. 18) expressed their concern that one of the major factors of ineffective English teaching was that these courses were "developed without conducting a needs analysis." Their research involved 349 students and 20 faculty members at Chung Shan Medical College in Taiwan. It was strongly recommended that medical students' specific needs had to be scientifically determined by using multiple tools. This study strongly suggested that these distinct needs should be seriously considered in developing sound EMP curriculum, teaching objectives and appropriate teaching materials. Bosher and Smalkoski (2002) carried out a comprehensive NA at College of Catherine, USA. They used multiple procedures: observations, interviews, and structured interviews. To achieve validity of the data, they triangulated the data to determine the objective needs of the immigrant students. The findings were exploited to develop an English Course: Speaking and Listening in a Health-care Setting. This EMP course was developed to address the identified area of greatest difficulty for the medical graduates who had to interact with clients and other colleagues in the clinical setting.

Numerous NA studies have been undertaken all over the world to highlight one obvious fact: NA is must for effective ESP/EAP teaching. There is no denying of the fact that usually a lot of time, financial and administrative resources and professional expertise are required to conduct these projects but professional organization cannot afford to neglect it. Another obvious challenge for ESP practitioners is that usually they do not have enough time to follow all the required steps because they have to start practical teaching without having a reasonable break after their first interaction with the ESP learners. To encounter this problem, Hutchinson and Waters (1987) have reported that NA is not a once-for-all

activity but it is a continuous process where conclusions are constantly checked and reassessed.

Vision and Scope of NA Project at CMMS

Research has reported that the researchers who conducted NA projects in various fields have used one to five tools to gather data and several studies have triangulated the data as well to identify authentic needs of the target learners. Furthermore, there were not many projects that included ESP course content development and most of them only confined themselves to identify learners' ESP needs. The vision and scope of this project is quite broad as it was carried out at College of Medicine and Medical Sciences (CMMS) for an extended period and involved both quantitative as well as qualitative research methodologies. This project encompassed all the stake holders of the pedagogical process of imparting quality medical education to the learners. The data generated were scientifically analyzed using triangulation. Course aims and objectives were set after careful analyses which were used to develop EMP course contents that were experimented at CMMS for complete one academic year. Hypotheses were tested based on the participants' results in various assessment procedures.

Research Design

The purpose of this study was to develop EMP course contents for Saudi medical undergraduates in the context of medical colleges situated in Saudi Arabia by determining their specific EMP needs. Research has reported that multiple sources and procedures should be used to get comprehensive results (Al-Khatib, 2005; Bosher & Smalkoski, 2002; Brown, 1995; Hutchinson & Waters, 1987; Long, 2005; Tudor, 1996; West, 1994). For the current study, the mixed methodology design was utilized. This approach combines a quantitative survey with qualitative components such as interviews and observation. In addition to the questionnaires, structured semi open-ended interviews and classroom observations were also employed to generate data for the study in order to compensate for the limitations of the study. According to Tashakkori and Teddlie (1998), combining qualitative and quantitative approaches in a single study is appropriate methodology because it supplements quantitative data with deeper and richer information. The data generated by all the above-mentioned procedures and tools were scientifically triangulated and interpreted to identify the participants' EMP needs. The findings gathered from these multiple research tools were used to design the aims and objectives to develop EMP syllabus, course contents, teaching materials, teaching methodologies as well as assessment instruments.

Population of the Study

The target population for this study included the Saudi medical undergraduates who were studying in different medical colleges in the KSA. The participants of the study were identified as all medical undergraduate students at CMMS in Taif, 10 faculty members who taught content subjects at different levels at CMMS, 34 carefully selected (the best students were selected after the consultation of their content subject teachers) 2nd and 3rd year students from CMMS, randomly selected faculty members from different medical colleges in the KSA and randomly selected medical undergraduates studying at the following nine medical colleges: 1) King Saud University for Health Sciences, Riyadh; 2) College of Medicine, King Saud University, Riyadh; 3) Faculty of Medicine and Allied Health Sciences, King Abdul Aziz University, Jeddah; 4) Ibn-Sena National College for Medical Studies, Jeddah; 5) College of Medicine, Umm Al-Qura University, Makkah Mukarrama; 6) College of Medicine, King Faisal University, Dammam; 7) College of Medicine, Qasim University, Qasim; 8) College of Medicine and Medical Sciences, King Khalid University, Abha and 9) College of Medicine, Al-Jouf University, Jouf.

Table 1: The Questionnaire's Rate of Return

	Given	Returned	% of Return
Faculty Members: CMMS	10	10	100%
Faculty Members: Other Medical Colleges	56	30	54%
Saudi Medical Undergraduates: CMMS	245	245	100%
Saudi Medical Undergraduates: Medical Colleges	675	427	63%

Instrumentation

The 1st instrument was an observation protocol used to observe 11 classes. This procedure served two purposes: it provided the researcher with an opportunity to identify dependable EMP needs of Saudi medical undergraduates and it also lent valuable information that helped the researchers to design questionnaires and interview protocols. The 2nd instrument was a semi-structured interview protocol for the faculty members. They were asked open-ended and closed ended questions to identify the present situation needs (PSN) and target situation needs (TSN) of the participants of the study. The 3rd instrument was a semi-open-ended interview protocol for carefully selected 34 second and third year students studying at CMMS. The 4th instrument was an English Language Proficiency Test: ELPT (Philips, 2003) with established reliability. It was administered to determine their English proficiency level and PSN whereas another version of ELPT was administered to test 1st hypothesis of this study. The

5th instrument was a structured questionnaire that had 38 items (See Appendix l). The first section of the questionnaire included the demographic data of the participants. The second section contained background information and questions regarding their PSA. In the third section, the samples were asked detailed questions regarding their future situation needs (FSN). The last section of the questionnaire was about the evaluation of the English courses that were taught at their medical colleges to know the shortcomings. This questionnaire was administered to all the students studying at CMMS and randomly selected students studying at different medical colleges in the KSA. The 6th instrument was ten-item course evaluation questionnaire which was administered to freshmen students at CMMS after the completion of their academic year to judge the success of the experimental EMP course contents developed. It was used to confirm 5th hypothesis of this study by comparing the responses of the experimental and the control groups. Standardized procedures have been followed to establish the reliability and validity of various instruments used in this study.

Data Collection

The procedure of data collection for the purpose of identifying EMP needs of Saudi medical undergraduates started with classroom observations. Eleven sessions were observed according to the semi-structured observation protocol. While selecting the classes for observation, it was ensured that a fair criterion is followed. These selected specimen sessions included different subjects taught by different teachers. The selection for this tool ensured to include all the main kinds of classroom proceedings and this specimen included six theoretical lectures, three small group discussion sessions, and two practical sessions. The researchers recorded all these sessions. Each observation lasted for a fixed period of time; i.e., 30 minutes. All these recordings were listened again later on and the following factors were calculated: students' reading time (SRT), students' listening time (SLT), students' writing time (SWT), teacher speaking time (TST), student speaking time (SST) and Arabic speaking time (AST) for the teachers as well as the students. The following table showed the total time for different activities that illustrated the complete picture of this procedure.

Table 2: Total Time for Various Activities in Twelve Observations

No	Activity	Time (minutes)	No	Activity	Time (minutes)
1	SRT	110	4	TST	88
2	SLT	122	5	SST	44
3	SWT	13	6	AST	98

The above table showed the total time for different activities and the data offered deep insights that reading skill was identified an extremely important language skill for their studies at CMMS.

The second procedure was faculty interview. Ten faculty members were selected according to the following criteria and this sample was interviewed according to a semi-structured questionnaire protocol. The selection process considered the following three factors. First, the selection would include faculty members related to all three main categories of teaching processes at CMMS: lectures, small group discussions and lab classes. Second, they must have taught first year classes. Third, they must have served CMMS for more than two year. The last factor was adopted only to make sure that these faculty members should know the academic "echo system" (Adams-Smith, 1989) to offer sound and dependable judgments. All these faculty members were non-native English speakers who belonged to four different nationalities. Before the interview, the researcher explained the purpose of the study and they were given a chance to go through the research questions to understand the background. Each interview took fifteen to twenty five minutes. The researcher requested them to ask questions in case of any confusion regarding any questions or its logic. All the interviews were recorded for future reference. The third procedure was student interview through a semi-structured interview protocol was developed by the researchers. The first two questions were about their background. Question three, four, seven, eight and ten were closed-ended questions and their results were computed and analyzed with the help of SPSS. Question five, six, nine and eleven were open-ended questions and their results were described and then explained by the researcher. The data generated by these interviews has been recorded to be exploited to identify the participants' EMP needs. Along with collection of data related to EMP need of Saudi medical undergraduates from CMMS, the data were collected from nine other medical colleges situated in various regions of the KSA. Two instruments were used to collect data from these medical colleges. These included student questionnaire and faculty questionnaire.

EMP Needs of Saudi Medical Undergraduates

The data generated by different procedures and instruments employed at CMMS and other medical colleges were scientifically analyzed and carefully triangulated to determine authentic EMP needs of Saudi medical undergraduates studying at the medical colleges in the KSA. The findings were used to catalogue EMP course syllable, learning outcomes, teaching methodologies, assessment procedures etc. that provided the foundation to develop EMP course contents for Saudi medical undergraduates.

Analyses of the data generated from six research tools suggested that there seemed a harmony between students and faculty about the importance of English language skills. Based on triangulated data analyses, it was found out that 1) majority of the students lacked the required English language proficiency; 2) more time should be assigned to English language course; 3) medical terminology should be taught in English language course; 4) use of Arabic should be prohibited in the classrooms; and 5) EMP should be emphasized more instead of EAP. It also transpired that the following language tasks have been identified as the most important ones for their medical studies: 1) listening to lectures; 2) reading textbooks; 3) taking notes during lectures; 4) interacting with doctors in field; 5) participating in discussions; 6) asking questions; 7) understanding power point presentations; 8) understanding instructions and 9) answering questions.

Development and Implementation of the Course Contents

The aims and objectives that were drafted based on the findings of this study governed the process of developing ESP course contents which were taught to Saudi medical undergraduates enrolled at CMMS for one complete academic year to determine their success and effectiveness. The following aims have been identified based on comprehensive NA. By the end of their first year studies at CMMS, Saudi medical undergraduates would be able to: 1) comprehend basic medical vocabulary; 2) read medical and general English texts with a reasonable speed and comprehension; 3) understand oral presentations in academic and medical settings; 4) communicate orally in correct and appropriate language in various academic and medical settings and 5) write simple and grammatically correct language. Further objectives for listening, reading, speaking, writing, grammar and medical terminology were drafted and exploited to develop the experimental course contents. Two textbooks have been developed based on the aims and objectives identified. Book one (English for Medicine – part 1), taught during the first term, had seven units based on authentic passages related to various body parts. The second book (English for Medicine – Part 2), developed to be taught during the second term, also had seven units in which reading passages related to various body systems acted as the backbone of this ESP textbook.

These course contents were experimented at CMMS for complete one academic year. The first year at CMMS was an English orientation year when Saudi medical undergraduate are given intense practice of English to prepare them to face the heavy burden of medical related textbooks in the target language. English teaching has been assigned four credit hours that are further divided into three theoretical teaching hours whereas the remaining one hour is for their practical teaching. But that one practical

credit hour is equal to three teaching hours. In other words, Saudi medical undergraduate are taught English for six hours every week. Each academic year is divided into two terms and each term has fifteen teaching weeks followed by final examinations. The above-mentioned indigenously developed textbooks based on the identified EMP needs of Saudi medical undergraduates studying at CMMS were experimented for one complete year.

The classrooms of CMMS were properly equipped with teaching aids like audio visual aids, photocopying machine, power point presentation facilities and language laboratories. These facilities were properly exploited during the teaching process. Furthermore, the classroom did not have fixed furniture that allowed the teachers to provide intensive practice through pair and group work especially during their practical sessions when the students were in small groups. Group and pair work was exploited intensively to increase student talking time. ESP practitioners needed to use eclectic approach because no single teaching methodology would satisfy diverse linguistic and non-linguistic needs of the specific learners. The researchers and the other English instructors had detailed meetings before and after the teaching sessions to decide upon what teaching activities should be used. They met several times to discuss the success and failure of the teaching activities and this discussion helped them modify and improve their teaching according to their learners' needs.

Evaluation

The final evaluation involved four kinds of patterns: MCQ questions, written questions, oral presentations and teachers' evaluation based on the students' classroom performance. The experimental and the control groups were evaluated at the end of both terms according to the following formula.

i. Mid-Term Examination 20 marks

ii. Teachers' Evaluation 20 marks

iii. Final Examination (theoretical) 35 marks

iv. Final Examination (practical) 25 marks

Total marks: 100 marks

Testing of Hypotheses of the Study

A 100-item TOEFL test (Philips, 2003) was administered to the control group and the experimental group in the beginning of the first

term of academic year to determine their English language proficiency. Independent-samples t-test was administered to identify any significant difference and the results revealed no significant difference in the proficiency level of both the groups before the intervention. The control group was taught the existed textbooks and the ESP course contents developed by the researcher after the comprehensive NA at CMMS were experimented on the experimental group. At the end of the academic year, a 100-item TOEFL test (Philips, 2003) was administered to both the groups. Independent-samples t-test was run and the statistics generated 2-tailed significance value of .007 which was less than ($p<0.05$). The results proved the "first hypothesis."

Both the groups were evaluated at the end of their first year studies through in-house English examinations prepared by their English teachers. Independent-samples t-test was applied to their final scores and 2-tailed significance remained as .143. The result ($p>0.05$) rejected the "second hypothesis."

The students at CMMS study English and general subjects during the first year and start studying content subjects from the second year. The average scores of the cumulated results of the first term of second year content subjects of the experimental and control groups were compared to calculate any significant differences. Independent-samples t-test was applied 2-tailed value remained .008. The statistics ($p<0.05$) proved the "third hypothesis."

A 10-point scale was administered to 10 faculty members at CMMS at the end of the academic year to evaluate English language skills of the control and experimental groups on a scale of 1-10. Independent-samples t-test generated the statistics showing 2-tailed significance as .001 ($p<0.05$) proving the "fourth hypothesis."

A five-item course evaluation form was developed and administered to both the groups (control and experimental) at the end of their first year studies at CMMS. The responses for all the five items were collectively compared both the groups and Independent-samples t-test was run, the statistics generated 2-tailed significance value as .000 ($p<0.05$) accepting the "fifth hypothesis." The results proved 4 hypotheses strongly suggesting that the experimental course contents that were experimented were successful and met EMP needs of Saudi medical undergraduates.

Recommendations

The following recommendations are forwarded that are based on the scientific analyses of the data generated through six tools used in the

study. It is highly recommended that specific needs of ESP learners ought to be addressed by developing in-house course contents based on a comprehensive and standard NA procedure because no ready-made teaching material can fulfill their specific needs. It is recommended that appropriate reading material from the content subjects should be exploited while developing ESP course contents. It is also proposed that an NA project should ensure maximum participation to gather authentic data to help achieve clear and complete picture. All efforts should be exerted to involve all the stake holders and to explore the whole academic echo system of the institution to reach dependable information regarding the PSN and TSN of ESP learners. It is extremely important to administer an English language proficiency test well before the commencement of practical teaching to determine their English language proficiency so that appropriate course contents may be developed according to their linguistic competence. It is also important that an NA project should follow various recommended procedural steps and the questionnaires should be developed according to the information gathered through initial classroom observations, interviews of content specialists and English language teachers and investigation of the administration for their departmental vision. It is highly recommended that multiple tools should be used to collect reliable data and NA studies should involve both quantitative and qualitative tools of data collection. The data generated through various quantitative and qualitative research tools should be triangulated to find out the authentic needs and to identify and strike out various biased and immature responses. It is also advised that the institutions should not feel satisfied after conducting NA studies in the beginning of ESP courses but adopt it as a continuous process of evaluation and assessment to ensure dynamism, suitability and appropriateness for their ESP programs. It also seems important to get faculty members' feedback to replace inappropriate and ineffective exercises, activities and methodologies with more successful and appropriate ones. The participants of ESP courses should be asked to assess the course at the end to identify its strong as well as weak points because adult ESP learners are reported to offer sound judgments in the post-course assessments. It is strongly suggested to establish a close coordination and efficient communication between English teachers and the content-subject teachers. This practice is vital to guarantee precision and accuracy of ESP course contents. This close collaboration will ensure that the learners are provided with effective and authentic course contents that will not only satisfy their linguistic needs, improve their required language skills but also impart authentic content-subject information.

It is also suggested that the administration should be taken into confidence about the utility and practicability of these courses because

they play a crucial role in the success of ESP courses. Appropriate financial and administrative support is only possible if the administration is convinced of its utility. It is highly advisable to develop ESP course contents that are flexible and adaptable and there should be certain guide lines for ESP practitioners to follow but they need to adapt these course contents according to their learners' needs and the availability of teaching facilities on campus.

The experimental course contents developed for the students at CMMS were officially accepted as formal textbooks to be taught at CMMS that also exhibited the authenticity, reliability, validity and genuineness of this research project. Furthermore, these ESP textbooks have been published by Taif University as well.

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Appendix l

Student Questionnaire (English)

I- PERSONAL

  Name: Mobile:

  Date: Email:

II- BACKGROUND

* What level of proficiency do you think you have in the following language skills?

	Excellent	very good	good	fair	poor
a. Listening	____	____	____	____	____
a. Speaking	____	____	____	____	____
a. Reading	____	____	____	____	____
a. Writing	____	____	____	____	____
a. Grammar	____	____	____	____	____

III- LANGUAGE NEEDS AT CMMS

* Rank the four language skills (listening, speaking, reading, writing) according to their importance for carrying out your studies at CMMS.

- Most important: _____   -Important   _____

- Less important _____   - Least important _____

* Rank the following according to their importance. Circle the most appropriate choice.

  1 = very important   2 = important

  3 = not important   4 = not applicable

a. How important is grammar?   1 2 3 4

b. Listening

  - Listening to lectures   1 2 3 4

  - Understanding instructions   1 2 3 4

  - Following question/answer sessions   1 2 3 4

  - Understanding power point presentations   1 2 3 4

c. Speaking

  - Asking questions   1 2 3 4

  - Participating in discussions   1 2 3 4

  - Answering the questions   1 2 3 4

- Giving oral presentations	1 2 3 4
- Interacting with doctors in field	1 2 3 4

d. Reading

- Textbooks	1 2 3 4
- Articles in journals	1 2 3 4
- Handouts given by teachers	1 2 3 4
- Instructions for assignments	1 2 3 4

e. Writing

- Taking notes in lectures	1 2 3 4
- Class quizzes and exams	1 2 3 4
- Assignments	1 2 3 4
- Certain reports	1 2 3 4

IV- EVALUATION OF ENGLISH COURSE AT CMMS

* Circle the most appropriate choice.

1 = strongly agree	2 = agree	3 = neutral
4 = disagree	5 = strongly disagree	

- More time should be given to English course	1 2 3 4 5
- English course content is interesting	1 2 3 4 5
- More time is needed for medical terminology	1 2 3 4 5
- More time is needed for listening	1 2 3 4 5
- More time is needed for speaking	1 2 3 4 5
- More time is needed for reading	1 2 3 4 5
- More time is needed for writing	1 2 3 4 5
- More time is needed for grammar	1 2 3 4 5
- English is one of the most important courses at CMMS	1 2 3 4 5
- English needed for medical studies should be emphasized more	1 2 3 4 5
- The English course helps in my medical studies	1 2 3 4 5