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Needs Analysis Research in the Arab World (2000 – 2019): Contexts and Data Collection Instruments and Sources Triangulation

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Abstract

This study aimed at reporting the contexts of interest in needs analysis research (NAR) in the Arab World (2000 – 2019) and describing the adoption of triangulation in data collection instruments and data sources. A purposive sample of 48 published NAR was subjected to content analysis. Results revealed that needs analysis studies (NASs) in the Arab World (2000 – 2019) are interested in EAP context more than other contexts such as English for Medical Purposes (EMP) and English for Occupational Purposes (EOP). In addition, most of the NASs adopted one data collection tool and consulted outsiders as sources of data. In addition, the study found that there is lack of method and/or source interaction. In general, NAR in the Arab World suffers from several shortcomings. Based on these results, the study recommended that NA researchers in the Arab World should pay more attention to other ESP contexts. In addition, they need to address issues related to triangulation to lend reliability to their data.

Keywords: data collection methods, data sources, EAP, ESP, needs analysis, triangulation

INTRODUCTION

Needs analysis (NA) is of paramount importance to general English (GE) and English for Specific Purposes (ESP), but ESP pays more attention to NA than GE (Hutchinson & Waters 1987). According to researchers (e.g., Hutchinson and Waters 1987; Nunan 1988; Brindley 1989; Robinson 1991; Brown 1995; Seedhouse 1995; West 1997; Graves 2000; Richards 2001; Long 2005, Brown 2009; and Kumar 2020), this importance originates from the role NA plays in ESP course design. Consequently, NA is a main characteristic of ESP to the degree that it can be part of teacher's job (Graves 2000; Belcher 2006). Ali (2011) suggests that NA is profitable in producing a concentrated ESP course. NA data can serve a variety of purposes that include assessing a course, setting objectives, planning tests, offering required data about a course to interested bodies (Richards 2001) and selecting course materials and activities (Astika 1999; Diana 2020; Basri, Ampa and Ramadayani 2020). This situation is similar in the Arab World where researchers conducted several NA studies (NASs) to investigate ESP learners' needs. Therefore, careful design is deemed necessary for NASs to reveal the desired and accurate information, which effectively acts as the base of course design. Despite the central role that NA plays, little is known about how NA researchers conduct their research in the Arab World. This is because only few studies have been conducted to review NASs' quality in the Arab World. Therefore, the purpose of the current study is to achieve two objectives: first, to examine contexts in which NASs in the Arab World are interested, and second to explore triangulation of data collection methods and data sources in NA research in the Arab World (2000 – 2019). Accordingly, this study attempts to answer the following questions:

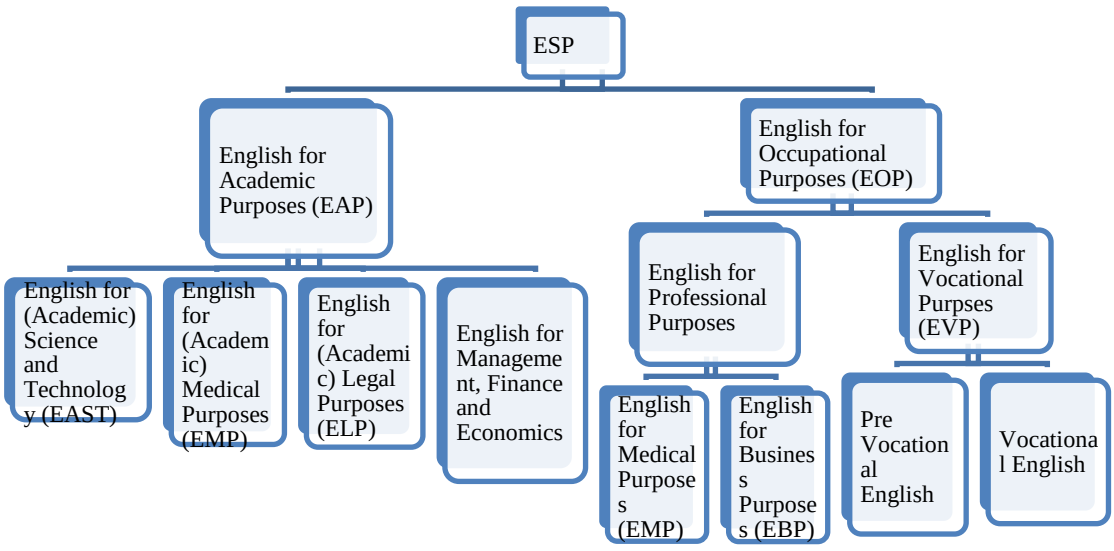
1. What are the contexts of interest to NASs in the Arab World (2000 – 2019)?
2. What is the status of data collection methods and sources triangulation in NASs in the Arab World (2000- 2019)?

LITERATURE REVIEW

There is a plethora of definitions for ESP. Hutchinson and Waters (1987) declare that ESP is an 'approach' not a 'product'. This is an implication that ESP does not represent a particular sort of language, method or content to be taught. Corresponding to Munby (1978), Hutchinson and Waters (1987) mention that an ESP course begins by discovering the reasons why individuals want to learn a foreign language. The response to this question bonds students, the language, and the educational environment. Hutchinson and Waters (1987) propose that ESP is a method to teach the language ensuring that all the materials and methods of instruction meet students' needs for learning English language.

Another definition considers ESP in terms of two types of characteristics as (Dudley-Evans and St John 1998) suggest. First, absolute characteristics comprise some factors that include ESP focus on learners' needs. Another determinant is the employment of methodology and activities related to the specialization it serves. In addition, it concentrates on the grammar, vocabulary, discourse, and genre appropriate for these activities. The second set of characteristics incorporate factors such as the design of ESP for a certain field at university or specialists in a specific profession; however, we can teach it to students in lower educational levels. Another determinant is that ESP is intended for proficient learners as it requires understanding of basic language, yet it could still be offered to beginners (Dudly-Evans and St John 1998). Furthermore, it might use a distinct methodology from that of GE. Finally, it is planned for mature students at tertiary education.

ESP has been classified into several branches. For example, Belcher (2009) groups ESP in relation to students' present needs and future tasks, which they will perform in their jobs. Dudley- Evans and St John (1998) provide a tree diagram that classifies ESP into two main types. See Figure 1.



From: Dudley-Evans and St. John (1998: 6)
Figure 1. ESP Classification

The diagram above divides ESP into two main classes: EAP and EOP. EAP has four branches. EST has been the main branch; however, EMP and ELP have always had their place. English for Management, Finance, and Economics (EMFE) is a recent branch, which has increasingly become important to Master of Business Administration (MBA) courses, but no specific acronym has been established for it (Dudley- Evans and St John 1998).

EOP branches into English for Professional Purposes (EPP) and English for Vocational Purposes (EVP). The former aimed for professionals such as doctors, and businessmen.

The latter is divided into two branches: Pre-Vocational English (Pre VE), which focuses on job- hunting skills such as writing a CV, taking an interview among other skills needed to find a job. The other branch of EVP is Vocational English (VE), which is concerned with the language of specific jobs (Dudley- Evans and St John 1998).

Definition of NA

It is mentioned that ESP pays more attention to NA than GE. Accordingly, ESP specialists have defined NA in several ways. Widdowson (1978 a & b) defines the term 'learner needs' in two ways. According to Widdowson (1978a: 192) the first concentrates on what students "need to do with the language when he or she has learned it". Widdowson (1978) maintains that this is a *goal- oriented* meaning of needs since it states the final behaviour in the target situation. The second definition of learner's needs considers language learning requirements on the part of the learners; what they need in order to learn the language (learning needs). He calls this *process-oriented* definition that attempts to disclose "transitional behaviour" or ways of learning. In Widdowson's words, "it is the first of these [two] interpretations which is favoured in ESP work" (Widdowson 1978: 192). The goal-oriented definition is related to aims while the process-oriented one refers to educational objectives. Focusing on students' needs in the first meaning, on one hand, assists in identifying the language, which should be taught in the course. Needs in the second meaning, on the other hand, is the focus of the methodological aspects of the course (Widdowson 1983).

NA refers to strategies we employ to collect data to plan a language programme (Nunan 1988). Nunan (1988) provides two categories of needs. The first is students' assessment, which aims to collect data about students' reasons for learning English. This entails 'objective and subjective' data. Objective information covers students' age, nationality, and mother tongue (Nunan 1988). For Berwick (1989), objective needs could be disclosed through a variety of actual information about learners, their use of language in real life situations besides their language ability and difficulties facing them in learning it. Subjective needs, according to Nunan (1988), encompasses information about leaners' opinion on English, purposes for learning English, and their prime concerns in learning the language. Beriwck (1989) believes that subjective needs is responsible for students' intellectual and psychological needs in the educational context.

Brown (1995: 36) provides, in his words, "a working definition" of NA. He defines it as

> *The systematic collection and analysis of all subjective and objective information necessary to define and validate defensible curriculum purposes that satisfy the language learning requirements of students within the context of particular institutions that influence the learning and teaching situation.*

Richards (2001) and Brown (2009) refer to NA as the process used to gather information about learners' needs. Brown (2009) states that NA concentrates on students' needs that should be interpreted into learning outcomes forming the base of teaching materials, learning tasks, testing, and course assessment. Needs is a complex term since it is used to mean "wants, desires, demands, expectation, motivations, lacks, constraints, and requirements" (Brindley 1984: 54).

Similarly, Hyland (2006) states that needs is an "umbrella term," which encompasses several facets such as, "learners' goals and backgrounds, their language proficiencies, their teaching and learning preferences, and the situation they will need to communicate in" (Hyland 2006: 73). This information is appropriate for course development. It is the way to establish the how and what of a language course (Hyland 2006 and Flowerde 2013). According to Hyland (2006), needs can mean various things to various people, and it can be more effective when it combines both teachers and students' views. Hyland (2007) refines his definition by providing a detailed one. He points out that NA is the organized employment of ways to identify the particular set of *skills, texts,* language patterns, and communicative practices, which a specific group of learners must acquire. This can inform the ESP course and support its practical relation to academic and professional contexts.

Methodological issues in NA

Data collection methods

NA employs numerous methods for data collection. For instance, Basturkmen (2010), Brown (2009 & 1995), Long (2005), Hyland (2006), Richards (2001), Graves (2000), Dudley-Evans and St John (1998), and West (1997) assert that NA data may be administered adopting questionnaires, participants and nonparticipants observations, structured and unstructured interviews, various types of tests, and analysis of authentic spoken and written texts.

Sources of data

Researchers can collect data for NA from several sources. Brown (1995) suggests four classes of NA data sources. Firstly, there is the target group, which includes learners, instructors, and managers. Secondly, the audience, which means individuals responsible for using the NA results. Audience members can be programme administrators, inspectors, or other authorities above the language programme. Thirdly, the resource group can contribute pertinent data. This group includes parents, funders, expected employers, or field instructors. Finally, needs analysts, who are experts external to the company or internal specialists (Robinson 1991). Long (2005) provides a comprehensive list of NA sources including domain experts that he considers as important source of data for needs analysis. This can be attributed to their ability to provide accurate description of the target tasks that students will perform in their future jobs.

Triangulation

Triangulation means employing multiple methods of data collection and data sources (West 1997; Richards 2001; Nugraha 2002; Long 2005; Brown 2009; and Flick 2007 & 2018). This, as Long (2005: 28) suggests, strengthens "credibility of…. [and] interpretations of data".

Denzin (1970, 2009, & 2017) suggests that triangulation can take several forms. The first one is data triangulation that refers to utilizing diverse data sources as dissimilar from employing various methods in producing data. Denzin proposes investigating the same topic at distinct times, in different places and with different respondents. The second form of triangulation is investigator triangulation. This form means employment of various or multiple researchers to reduce inclination resulting from single investigator. Theory triangulation, the third form, is examining a topic of interest with numerous theories, views, or hypotheses. Finally, methods triangulation refers to two types the first of which is within methods that utilizes various subsections in a survey to address the same topic. The second is between methods triangulation means combining two methods to avoid limitations of using one tool.

Similarly, Brown (2009) proposes seven types of triangulation. First, *data* triangulation involves using multiple kinds of procedures. Second, *investigator* triangulation refers to multiple needs analysts. Third, *theory* triangulation means multiple theoretical accounts. Fourth, *methodological* triangulation is to use multiple data collection methods. Fifth, *interdisciplinary* triangulation involves using views of multiple disciplines. Sixth, *time* triangulation is the use of multiple data collection occasions. Finally, *location* triangulation refers to collecting data from multiple locations.

Richards (2001) notes that adoption of numerous data collection methods supplements each other. For instance, survey forms, in one hand, are characterized by small return rate, and once they are dispensed, we cannot modify their items. Additionally, they are not able to reflect respondents' emotions. On the other hand, interviews can fill in this gap through supplying a full and comprehensive reportage on the questions because of the investigator attendance.

Long (2005), Hastings (2012) and Fielding (2012) suggest that triangulation could be beneficial for NA in several ways. First, it ensures the results of the study by contributing to minimizing errors. Second, it broadens our comprehension of the research problem and questions. Third, it allows for investigating many realities. Finally, it reduces nepotism.

Gilabert (2005), Jasso- Aguilar (2005, 1999) and Tonic (2010) evaluated the effectiveness of triangulating data collection methods and sources in conducting NA. They concluded that triangulated data collection instruments and sources proved to be influential and useful in producing information regarding participants' needs for language. They agree that triangulation improved their studies validity. In addition, it yielded concise and dependable data about

language needs. Moreover, variation in methods of data collection paved the way for discovering and collecting data that would not be possible through adopting one instrument.

Previous studies

Serafini, Lake and Long (2015) investigated 33 NASs conducted during the period 1984-2014 to survey the design, methods, procedures and triangulation. The study found that, during 1984-1999, all the studies resorted to filed specialists as data source. They also found that four papers interrogated ESP teachers and applied linguists. Nine studies out of 10 collected data from students. In terms of tools for data collection, six studies adopted questionnaires and seven used interviews. Regarding triangulation, the study revealed that seven studies triangulated participants using the same data collection instrument while six of them employed multiple data collection methods with one source of data. Regarding the period from 2000 to 2014, 23 research papers were reviewed. The study also found that all the studies recruited specialization experts as data sources, 10 studies employed mixture of data source, students participated in 21 studies, 12 studies triangulated data sources, and 17 papers used multiple methods for data collection. The study concluded that there is a noticeable improvement in NA studies; however, a methodical vent was conspicuous. The good part was the inclusion of field specialists and persistent triangulation of data sources and data collection instruments. Nevertheless, fewer than 50% of the research triangulated data from multiple participants adopting more than one method for collecting data.

Veerappan (2012) reviewed 14 NASs to report their methods. He noted several shortcomings. He also found that more focus was placed on EAP and EOP contexts for NA research. Most studies frequently employed participants' observation, structured and unstructured interviews and questionnaires as methods for data collection. Veerappan concluded that there was lack in triangulation of both instruments and data sources. Nugraha (2002) reviewed NASs in Asia and Indonesia to reveal the research context, triangulation of data collection methods and sources. He found that varieties of contexts were covered by the studies in Asia including EAP, EBA (English for Business Administration), EMP and EOP. He also found that three studies out of five used triangulation in both data collection methods and data sources. In Indonesia, only two studies out of six adopted triangulation in data sources in one study and both data collection methods and sources in the other. Veerappan (2012) and Nugraha's (2002) studies examined very few number of NASs. In addition, they did not provide a careful description of their methodology.

METHODOLOGY

Design

This study adopted the mixed method approach since it relies on content analysis that, according to Mayring (2014), starts, in its qualitative phase, with assigning categories to contents, operating via subject matters and analysing frequencies of genres in the quantitative phase. Selvi (2020) points out that content analysis is used as a strong systematic method for intuitive construction of material of both qualitative (categories) and quantitative (percentages of categories) in standardized and situation-reliant way.

Data collection

Data sources in this study constitutes purposive sample of NA research published in various peer reviewed journals. To locate studies for this paper, some databases such as *ERIC, Google Scholars, and the Saudi Digital Library (SDL)* were used. The key words utilized in the search included *'ESP needs analysis'*, *'needs assessment'*, *and 'needs analysis in the Arab World'*. The focus of the search was on needs analysis studies published in peer-reviewed journals. This is because most journals follow open access policymaking studies more accessible than other sources of research. To be included, studies should:

- be about needs analysis,
- have a method section,
- be written by Arab researchers,
- be published in a peer reviewed journal, and
- be published during 2000 – 2019.

These criteria resulted in research papers published in various local Arab journals such as *Arab World English Journal (AWEJ), International Arab Journal of English for Specific Purposes* and in

international journals such as *International Journal of Instruction, HOW Journal, and International Journal of Educational Investigations,* among others. All these journals are indexed in either SCOPUS or Web of Science databases.

The total number of the articles was 62, out of which 48 were included in this study as they met the inclusion criteria, and they were subjected to the content analysis.

Data analysis

The analysis focused on the contexts of the NASs, data collection methods, and data sources to examine their triangulation. Each of these 48 NASs (data sources) was assigned a number (1-48) to refer to them in the analysis, Table 1. The sample studies were arranged in Table 1 according to their publication date. Each of the 48 NASs was examined to identify its context, data collection tool(s), data source(s), and their triangulation. To discover the context of each study, the title, abstract were used. The Method section was thoroughly scrutinized to discern data collection instrument(s), data source(s) and their triangulation. The data were coded and entered in the SPSS that was used in the analysis.

Reliability

Reliability is used to measure data coverage, correctness, and comprehensibility (Tavakoli 2012 and Brown 2004). According to Tavakoli (2012), reliability is measured through interrater reliability. To decide on the reliability in this study, the sample studies were handled to a colleague at the department of English language to rate them. The interrater reliability was 0.96, showing an almost perfect agreement according to Landis & Koch (1977) cited in Stemler (2001).

RESULTS AND DISCUSSION

Table 1 shows data sources, contexts, instruments, data sources and triangulation of instruments and/or data sources of NA studies in the Arab World (2000 – 2019). Data sources coded 1-48 were referred to as appropriate.

Contexts of interest to NASs in the Arab World (2000- 2019)

From Table 1, it is obvious that NASs in the Arab World (2000- 2019) covered a variety of ESP contexts. EAP received more attention than other contexts since 23 (47.9%) of the studies focused on it. Eight studies (16.7%) of the total research were about EBE/EBA and six (12.5%) of them covered EMP and EOP. Very little attention was paid to EVP and EMILP. This is an indication that EAP occupies a space in NA research in the Arab World. This focus on EAP seems to be natural as it aims at preparing students for academic study at universities. Most universities in the Arab World offer EAP courses to their undergraduates, which necessitates analyzing students' needs to prepare appropriate courses. Nevertheless, the findings imply that NASs in the Arab World (2000 – 2019) pay little attention to other ESP branches compared to EAP. This could be attributed this to the absence of English language outside academic settings, i.e., it is not extensively used on daily basis in everyday life. These results contradict with what Serafini et al. (2015) found. They revealed that only two studies from those they reviewed focused on EAP context. This study's findings are consistent with those of Veerappan (2012) and Nugraha (2002) who disclosed that EAP is a context of interest to most of the studies they investigated.

Instrument triangulation

It is apparent from Table 1 that more than half 25 (52.1%) of the NAs in the Arab World (2000 – 2019) adopted one data collection instrument, a questionnaire, to be precise. Two studies (4.2%) employed four data collection methods. These are data source 7 that used participants' observation; two semi-structured interviews; structured interview and a questionnaire and data source 8, which adopted two questionnaires and two semi-structured interviews. It is also obvious that 13 (27.1%) of the studies utilized two data collection tools. For example, data source 3 used an interview and a questionnaire while data source 30 employed semi-structured interview and document analysis. Moreover, three tools appeared in eight (16.7%) of the NASs in the Arab World (2000 – 2019). These occurred, for instance, in data sources 11, 22, and 39. These results imply that adoption of one data collection tool, i.e., questionnaire, dominated NASs in the Arab World (2000 – 2019). This may jeopardize NA research validity and reliability because triangulating data collection method lends credibility, validity and reliability to data (Long, 2005 and Jasso-Aguilar, 2005). It may also affect

data quality due to questionnaire limitations. The results accord with that of Veerappan (2012) who found that NASs frequently adopted questionnaires in data collection. Nevertheless, the current study's findings are in contrast with what Serafini et al. (2015) found. They concluded that only six studies adopted questionnaires as data collection tool compared to 25 in the present study. Less than 50% of the total NASs in the Arab World employed two or more methods for data collection. Although the number of these studies is small, this implies that these studies pay attention to their data reliability. Moreover, this leads to varied data that provides more apprehension to participants' needs. Consequently, this contributes to accurate NA investigation. Nevertheless, methods triangulation occurred in 47.9% of the NASs in the Arab World. We can view this as a weakness, and it implies that NASs in the Arab World mainly adopted one data collection method. This may be because using two or more methods in collecting data is time consuming and needs more effort. The findings suggest that less than 50% of the NA research in the Arab World relied on valid and reliable data due to lack of methods triangulation. This may be justified by what Long (2005), Hastings (2012), and Fielding (2012) postulate; they believe that data collection method triangulation lends credibility and reliability to dat

Table 1. NA studies in the Arab World (2000 – 2019) Methodology

Data Source No.	**Year**	**Context**	**Instrument(s)**	**Data Source(s)**	**Triangulation of methods and/or sources**
1	2003	EMP	1. Questionnaire	1. Nurses	
2	2008	EOP	1. Questionnaire	1. Police officers	
3	2009	EOP	1. Interview 2. Questionnaire	1. Employers 2. Employees	1. Interview X employers 2. Questionnaire X employees 3. Observation X employees
4	2010	EEP/EAP	1. Questionnaire	1. Students	
5	2010	EOP	1. Questionnaire	2. Employees	
6	2010	EST	1. Questionnaire	1. Students	
7	2011	EMP	1. Participants' observation 2. Structured semi-open- ended interview/students 3. Structured semi-open-ended interview/ staff 4. Questionnaire	1. Medicine students 2. Medicine teachers 3. Medicine classroom	1. Interview X Faculty members 2. Interview X Students 3. Observation X Students
8	2011	EBE	1. Students' questionnaire 2. Teachers' questionnaire 3. Semi-structured interview/students 4. Semi-structured interview/teachers	1. Business teaching staff 2. Business students	1. Questionnaire X Students 2. Questionnaire X Business instructors 3. Semi-structured interview X Students 4. Semi-structured interview X Business instructors
9	2011	EOP	1. Questionnaire	1. Police officers	
10	2011	EAP	1. Students' questionnaire 2. Teachers' questionnaire	1. Students 2. EFL teachers	1. Questionnaire X Students 2. Questionnaire X EFL teachers
11	2012	EMP	1. Interview 2. Participants' observation 3. questionnaire	1. Nursing students 2. Programme directors	- Interview X Nursing programme directors - observation X Nursing students - Questionnaire X Nursing Ss.

12	2012	EBE	1. Questionnaire	1. ESP teachers	
13	2012	EBE	1. Questionnaire	1. Students	
14	2012	EAP	1. Questionnaire	1. Students	
15	2013	EAP	1. Questionnaire	1. EFL teachers	
16	2013	EOP	1. Questionnaire	1. Cadet students	
17	2013	EVP	1. Questionnaire	1. 1. Hotel students 2. EFL teachers 3. Hotel employees	1. Questionnaire X students 2. Questionnaire X EFL teachers 3. Questionnaire X hotel employees
18	2013	EAP	1. Questionnaire	1. Science students	
19	2013	EOP	1. Questionnaire 2. Proficiency test 3. Unstructured interview	1. Directors, supervisors & head of departments 2. Tour guides	1. Questionnaire X Hajj guides 2. Proficiency test X Haj Guides 3. Unstructured interview X Administrators
20	2013	EMP	1. Questionnaire	1. Students	
21	2014	EBE	1. Questionnaire	1. Businesswomen	
22	2014	EAP	1. Questionnaire 2. Interview 3. Observation	1. Science instructors	1. Interview X Science instructors 2. Questionnaire X Science instructors 3. Observation X Science instructors
23	2015	EAP	1. Questionnaire 2. Semi-structured interview	1. Students	1. Questionnaire X students 2. Semi-structured interview X students
24	2015	EBE	1. Questionnaire	1. ESP instructors	
25	2015	EAP	1. Questionnaire	1. Students	
26	2015	EBE	1. Documents analysis 2. Interview 3. Questionnaire	1. Students 2. Graduates 3. Employers	
27	2015	EBE	1. Questionnaire 2. Interview 3. Participants' observation	1. Students 2. ESP teachers	
28	2015	EAP	1. Students' questionnaire 2. Teachers' questionnaire	1. Students 2. College staff	1. Questionnaire X students 2. Questionnaire X professors

				3. ESP teachers	
29	2016	EMP	1. Questionnaire	1. Medicine students 2. Practicing doctors	1. Questionnaire X students 2. Questionnaire X doctors
30	2016	EAP	1. Semi-structured interview 2. Document analysis	1. Head of departments	
31	2016	EAP	3. Questionnaire	2. Students	
32	2016	EAP	1. Questionnaire 2. Proficiency test 3. Structured interview	1. Students 2. Programme coordinators	1. Questionnaire X students 2. Proficiency test X students 3. Interview X coordinators
33	2016	EAP	1. Questionnaire 2. Textbook analysis	1. ESP teachers	
34	2016	EAP/EIT (Info tech)	1. Questionnaire 2. Semi-structured interview	1. Students 2. ESP teachers	
35	2017	EMP (Military)	1. Questionnaire 2. Interview	1. Students	1. Questionnaire X students 2. Interview X students
36	2017	EAP/EIT	1. Questionnaire	1. Students	
37	2017	EAP	1. Questionnaire 2. Structured interview	1. Professors 2. Programme coordinators	1. Questionnaire X professors 2. Interview X professors
38	2017	EAP	1. Students' questionnaire 2. EFL teachers' questionnaire 3. Semi-structured interview	1. Master's students 2. EFL teachers 3. Subject specialists 4. Administrators	1. Questionnaire X students 2. Questionnaire X subject specialists 3. Semi-. structured interview X subject specialists 4. Semi-structured interview X administrators
39	2017	EAP	1. Classroom observation protocol 2. Questionnaire 3. Semi-structured interview	1. ESP teachers 2. Civil engineering teachers 3. Civil engineering students	1. Questionnaire X students 2. Structured interview X subject teachers 3. Structured interview X ESP teachers 4. Observation X students

40	2018	EAP	1. Questionnaire 2. Proficiency test	1. Teaching assistants	1. Questionnaire X Teaching assistants 2. Proficiency test X teaching assistants
41	2018	EMP	1. Questionnaire 2. Structured interview	1. Students 2. Medicine instructors	
42	2019	EST	1. Questionnaire	1. Students	
43	2019	ESP	1. Questionnaire	1. Students	
44	2019	EAP	1. Questionnaire 2. Interview	1. Students 2. Content subject teachers	
45	2019	EMP	1. Semi-structured interview	1. Dentistry students	
46	2019	EAP (computer engineering)	1. Questionnaire	1. Students	
47	2019	EBE	1. Questionnaire 2. Semi-structured interview	1. Business students 2. Language teachers 3. Business lecturers	1. Questionnaire X students 2. Questionnaire X EFL teachers 3. Semi-structured interview X students 4. Semi-structured interview X Business teachers
48	2019	EAP	1. Questionnaire	1. MA students	

EMP: English for Medical purposes, EOP English for Occupational Purposes, EAP English for Academic Purposes, EST English for Science & Technology, EBE English for Business & Economy, English for Business Administration, EVP English for Vocational Purposes, EMP English for Military Purposes

As for data sources, Table 1 presents that 30 (62.5%) of the NASs in the Arab world recruited one data source, which is mostly students, specialization teaching staff or ESP/EFL instructors. For instance, data source 4 used engineering students, data source 12 elicited data from ESP teachers and data source 22 recruited science professors as sources of data. The situation of data sources triangulation shows that only one study, data source 38, employed four groups of participants. Two and three sources of data occurred in 11 (22.9%) and six studies (12.5%), respectively. For example, the participants in data source 7 were medicine students, medicine instructors and medicine classroom. Similarly, data source 47 employed business students, EFL instructors and business lecturers. Data sources 27, 29, and 37, applied two data sources including students, ESP instructors, specialization professors and programme coordinators. The results suggest that data collected are single facet. Consequently, they are not varied to provide insights into learners' needs. This may affect the quality of data, which may produce inaccurate results. Accordingly, a feeble needs profile is presented. The sources of NA consulted in the 30 studies, which resorted to one data source, were mainly students, specialization teaching staff or ESP/EFL instructors. This can be another shortcoming in NA research in the Arab World. This is because these groups of informants are not well informed about target needs and they do not know the tasks students need to perform in future (Gilabert 2005 and Jasso-Aguilar 2005). They can better reflect on students' present needs, wants, and lacks. Likewise, according to Long (2005), specialization teaching staff cannot provide a complete idea on students' future needs; they can only inform about participants' present needs not target needs. As for ESP/EFL instructors, we can regard them beneficial in analysing language related to specific target tasks. It is noticeable that NASs in the Arab World (2000- 2019) ignored insiders', domain experts' views, since 62% of these studies did not consult them. Domain experts include on the job participants or employees in a certain field. As Jasso-Aguilar (2005) states they can provide in depth views on tasks that students will perform in future, target needs, and they are the most helpful data sources. NASs reliance on students, specialization teaching staff or ESP/EFL instructors may be due to their focus on EAP context. These findings are in line with what Gilabert (2005) points out. He suggests that most NA research depends on outsiders' opinion (students, /EFL teachers) instead of relying on insiders' opinions (domain experts). These results are not compatible with what Serafini et al. (2015) manifested. They exhibited that almost all the studies they reviewed collected data from domain experts.

Methods and/ or sources interaction

Table 1 displays that out of 48 of the NASs in the Arab World (2000 – 2019), only seven (14.6%) studies showed tool and source interaction, using one instrument with multiple data sources. For example, data source 7 collected data from its sources employing interviews with faculty members and students. Similarly, data source 8 used questionnaires with two groups of participants who were students and business instructors and two semi-structured interviews with the same groups of data sources. Data source 17 utilized a questionnaire with students, EFL instructors and hotel employees. As for data sources and data collection instruments interaction, 13 (27%) of the studies triangulated sources and instruments, collecting data using two instruments with the same respondents. The outcomes of this study imply that NASs in the Arab World (2000 – 2019) did not pay attention to methods and /or sources interaction. This indicates that data collected in these studies produced inattentive results that do not show participants' real needs for English language. They also suggest that researchers may not be aware of the value of crosschecking their data through methods and/or sources interaction. This result is in line with what Long (2005) states; he points out that triangulation by methods and/or sources is ignored by NA researchers, which is the case in the current study. This prohibits NA research in the Arab World from discovering conflict in respondents' needs, who, in certain cases, prefer to express immediate needs and neglect future needs. Moreover, this results in separating NA research from reality, which is dynamic and multi-dimensional. Another weakness caused by lack of method and /or source interaction is low data

quality that may affect NA outcomes. This methodical shortage can be ascribed to time and access restrains (Serafini et al. 2015). Researchers may conduct their studies in short time span not permitting them to multiply their source and/ or method. Furthermore, they may not have access to participant groups for triangulation. Ultimately, NA research is negatively affected because of this shortage. These findings are consistent with those of Veerappan (2012) and Nugraha (2002) who revealed lack of method and /or source interaction in their sample studies. Nevertheless, the results are not compatible with what Serafini et al. (2015) found. They revealed existence of method and/or source interaction in less than 50% of their studies higher than what is found in the present study.

CONCLUSION

This study found that EAP is the most common context in NASs in the Arab World. This is an indication that EAP occupies a space in NA research in the Arab World. As for data collection instrument, one data collection dominated NASs in the Arab World. It was found that 62.5% of NA research in the Arab World adopted one data source which indicates absence of data source triangulation in NA research in the Arab World. The study revealed that 14.6% of the NASs in the Arab World showed data collection tool and data sources interaction, while 27.00% of them employed data sources and data collection tools interaction.

Needs analysis research in the Arab World (2000 – 2019) suffers from several drawbacks. First, it focuses on EAP more than other ESP contexts. More interest in Arab EFL learners' needs for English language is required in other ESP branches to complement knowledge about them. Second, it lacks triangulation in data collection methods and/or data sources. This resulted in superficial results not reflecting learners' real needs. Thus, NA researchers in the Arab World should pay more attention to methods and/or sources triangulation to validate their studies and make them reliable. Third, NASs in the Arab World suffer from shortage in method and/or source interaction. This caused data to be less accurate, so to collect correct data, needs analysts in the Arab World should seek data collection instruments and/ or data sources interaction. These drawbacks are persistent since 2000 until 2019, and they negatively affected the validity and reliability of these studies. NA researchers in the Arab World must address these factors to assure the quality of their research outcomes to enable them to reflect accurate and real needs to inform NA purpose(s).

The current study has its own limitations. It employed a relatively small number of NASs in the Arab World (2000 – 2019). Increasing the sample number would provide more insights to the topic of triangulation. This could be achieved through increasing the time span covered by the current study. In addition, the present study did not cater for to methodical description. It did not cater for description of data collection methods, participants and reporting of validity and reliability. Moreover, the issue of sampling in NASs in the Arab World was not of interest to this study. Sampling technique employed in NA research plays an integral role in NA research as it guarantees reflection of accurate learner needs.

REFERENCES

Ali, Alfadil Ali. (2011). A needs analysis for designing an ESP syllabus for the students of Sudan Naval Academy. Unpublished doctoral Dissertation, Al Neelain University, Khartoum, Sudan.

Astika, Gusti. (1999). 'The role of needs analysis in English for Specific Purposes'. TEFLIN Journal, 10(1),31-47. DOI: 10.15639/teflinjournal.v10i1/31-47.

Basri, Muhammad, D, Andi Tenri Ampa and Sri Ramdayni. (2020). 'A needs analysis of ESP design for Pharmacy students'. The Asian ESP Journal,16(4), 271- 289.

Basturkmen, Helen. (2010.). Developing Courses in English for Specific Purposes. Hampshire: Palgrave Macmillan.

Belcher, Diane. (2009.). What ESP is and can be? An Introduction. In Diane Belcher. (ed.), English for Specific Purposes in Theory and Practice, 1-20. Michigan: Michigan ELT.

Belcher, Diane. (2006). 'English for Specific Purposes: Teaching to Perceived Needs and Imagined Futures in worlds of work, study, and everyday life'. TESOL Quarterly, 40(1), 133- 156. https://doi.org/10.2307/40264514

Berwick, Richard. (1989). 'Needs assessment in language programming: from theory to practice'. In R. K. Johnson (Ed.). The Second Language Curriculum, 48-61. Cambridge: Cambridge University Press.

Brindley, Geoffery. (1984). Needs Aanalysis and Objective Setting in the Adult Migrant Education Program. Sydney, Australia: N.S.W. Adult Migrant Education Service.

Brindley, Geoffery. (1989). 'The Role Of Needs Analysis in Adult ESL Programme Design'. In Robert Keith Johnson (ed.), The Second Language Curriculum, 63 -78. Cambridge: Cambridge University Press.

Brown, James Dean. (1988). Understanding Research in Second Language Learning. Cambridge: Cambridge University Press.

Brown, James Dean. (2004). 'Research methods for applied linguistics: Scope,

characteristics, and standards'. In Alan Davis and Catherine Elder (eds.), The Handbook of Applied Linguistics, 476–500. London: Blackwell Publishing Ltd.

Brown, James Dean. (1995). The Elements of Language Curriculum: A Systematic Approach to Programme Development. Boston: Heinle & Heinle Publishers.

Brown, James Dean. (2009). 'Foreign and second language needs analysis'. In Micheal. Hugh Long and Catherine J. Doughty (eds.), The Handbook of Language Teaching , 269 - 293. London: Wiley-Balckwell.

Diana, Sri Muhammad, Basri Wello and Baso Jabo. (2020). 'An analysis of Chemical Engineering students' needs on text types and reading topics for English reading materials development'. The Asian ESP Journal, 16(4), 367 - 386.

Denzin, Norman Kent. (1970). The Research Act: A Theoretical Introduction to Sociological Methods. Chicago, IL: Aldine.

Denzin, Norman Kent. (2009). The Research Act: A Theoretical Introduction to Sociological Methods (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.

Denzin, Norman Kent. (2017). The Research Act: A Theoretical Introduction to Sociological Methods (4th ed.). New York: Routledge.

Dudley-Evans, Tony and Maggie Jo St John. (1998.). English for Specific Purposes: A Multy-Disciplinary Approach. Cambridge: Cambridge University Press.

Fielding, G., Nigel. (2012). Triangulation and Mixed Methods Designs: Data

Integration with New Research Technologies. Journal of Mixed Research Methods, 6(2), 124 - 136. https://doi.org/10.1177/1558689812437101

Flick, Uwe. (2007). Managing Quality in Qualitative Research. Thousand Oaks: Sage.

Flick. Uwe. (2018). 'Triangulation in data collection'. In Uwe Flick (ed.), The Sage Handbook Of Qualitative Data Collection, 527-544. Thousand Oaks: Sage. https://dx.doi.org/10.4135/9781526416070

Flowerdew, Lynne. (2013). 'Needs analysis and curriculum development in ESP'. In Brian Paltridge and Sue Starfield (ed.) The Handbook of English for Specific Purpses, 326-347.West Sussex: Willey- Blackwell.

Gilabert, Roger. (2005). 'Evaluating the use of multiple sources and methods in needs

analysis: A case study of journalists in the Autonomous Community of Catalonia (Spain)'. In Michael Hugh Long. Second Language Needs Analysis,182 - 199. Cambridge: Cambridge University Press.

Graves, Cathleen. (2000). Designing Language Courses: A Guide for Teachers. Boston: Heinle & Heinle Publishers.

Hastings, L. (2012). 'Triangulation'. In Neil J. Salkind (ed.), Encyclopedia of Research Design, 1538 – 1540. Thousand Oaks: Sage.

Hutchinson, Tom. and Alan Waters. (1987). English for Specific Purposes: A Learning-centred Approach. Cambridge: Cambridge University Press.

Hyland, Ken. (2006). English for Academic Purposes: An Advanced Resource Book. London: Routledge.

Hyland, Ken. (2007). 'English for Specific Purposes'. In Jim Cummins and Chris Davison (eds), International Handbook of English Language Teaching, 391 - 402. Springer International Handbooks of Education, vol. 15. Springer, Boston, MA. https://doi.org/10.1007/978-0-387-46301-8_28

Jasso-Aguilar, Rebeca. (1999). 'Sources, methods, and triangulation in needs analysis:

A critical perspective in a case study of Waikiki hotel maids'. English for Specific Purposes,18(1), 27 - 46. https://doi.org/10.1016/S0889-4906(97)00048-3.

Jasso-Aguilar, Rebeca. (2005). 'Sources, methods, and triangulation in needs analysis:

A critical perspective in a case study of Waikiki hotel maids'. In Michael Hugh Long (ed.). Second Language Needs Analysis, pp. 127 - 158. Cambridge: Cambridge University Press.

Johns, Ann M. (1991). 'English for Specific Purposes (ESP): Its history and contributions to ELT'. In Marianne Celce-Murcia (ed.).Teaching English as a Second or Foreign Language , 2nd ed., 67-78. Boston: Heinle & Heinle.

Kumar, Tribhuwan. (2020). 'Assessing language need and proficiency of English graduates of Prince Sattam Bin Abdulaziz University for designing pre-placement training and workshops'. The Asian ESP Journal, 16(4), 153 - 168.

Long, Michael Hugh. (2005). 'Methodological issues in learner needs analysis'. In Michael Hugh Long (ed.). Second Language Needs Analysis, 19-75. Cambridge: Cambridge University Press.

Mackay, Ronald. and Alan Mountford. (1978). English for Specific Purposes. London: Longman.

Mayring, Philip. (2014). Qualitative Content Analysis: Theoretical Foundation, Basic

Procedures And Software Solution. Erstveröffentlichung. Retrieved from http://nbn- resolving.de/urn:nbn:de:0168-ssoar- 395173

Munby, John. (1978). Communicative Syllabus Design. Cambridge: Cambridge University Press.

Nugraha, Meedy. (2002). 'Tringulation of instrumentation and data source: A stronger method in assessing English language needs'. K@ta,4 (2),148-159.

Nunan, David. (1988). Syllabus Design. Oxford: Oxford University Press.

Richards, Jack. Croft. (2001). Curriculum Development in Language Teaching. Cambridge: Cambridge University Press.

Robinson, Paulin. (1991.). ESP Today: A Practitioner's Guide. New York: Printice Hall International.

Seedhouse, Paul. (1995). 'Needs analysis and the general English classroom'. ELT Journal, 49 (1), 59-65. https://doi.org/10.1093/elt/49.1.59

Selvi, Ali Fuad. (2020). 'Qualitative content analysis'. In Jim. McKinley and Heath

Rose (eds.). The Routledge Handbook of Research Methods in Applied Linguistics, 440 - 452. London: Routledge.

Serafini. Ellen J., Julie B., Lake, & Michael Hugh Long. (2015). 'Needs analysis for

specialized learner populations: Essential methodological improvements'. English for Specific Purposes, 40, 11- 26. http://dx.doi.org/10.1016/j.esp.2015.05.002

Stemler, Steve. (2000) 'An overview of content analysis'. Practical Assessment, Research, and Evaluation,7(17),1-6. DOI: https://doi.org/10.7275/z6fm-2e34

Tavakoli, Hossein. (2012). A dictionary of research methodology and statistics in applied linguistics. Tehran: Rahnama Press.

Tonic, Aleksandar. (2010). 'Triangulation of needs analysis in English for tourism

purposes'. Journal for Foreign Languages, 2(1-2),43 – 68. DOI:10.4312/vestnik.2.43-68

Veerappan, Veera. (2012). Empirical approaches to needs analysis in ESP: Analysis of research issues. Paper presented at the 8th International Language for Specific Purposes Seminar (LSP 2012): Aligning

Theoretical Knowledge with professional Practice, Kuala Lumpur, Malaysia. (Retrieved from http://www.researchgate.net/publication/269875617).

West, Ronald. (1997). 'Needs analysis: State of the art'. In Ron Howard and Gillian Brown (eds.). Teacher Education for Languages for Specific Purposes, 68-97. London: Multilingual Matters.

Widdowson, Henry. (1978a). 'Criteria for course design'. In Henry.G. Widdowson (ed.). Explorations in Applied Linguistics, 191-202. Oxford: Oxford University Press,.

Widdowson, Henry. (1978b). Teaching Language as Communication. Oxford: Oxford University Press.

Widdowson, Henry. (1983). Learning Purpose And Language Use. Oxford: Oxford University Press