

Triangulation of Instrumentation and Data Source: A Stronger Method in Assessing English Language Needs

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Abstract: This paper proposes the importance of multiple instrumentation and data source (triangulation) in a needs analysis. Various data gathering methods developed in assessing learners' English language needs are reviewed. The justification of employing more than a single data gathering method and data source in a needs analysis is also presented by examining the strengths and weaknesses of each method and evaluating previous needs analyses carried out in some Asian countries. Highlights are then given to the methodology mostly implemented in assessing English needs in Indonesia and a recommendation is addressed to further studies on learners's needs in Indonesia

Key words: needs analysis, instrumentation, data source, triangulation, triangular approach, assessing needs, English for Specific Purposes (ESP), English for Academic Purposes (EAP), stakeholders.

Needs analysis is about an on-going and systematic process of collecting information on learners' needs (Richards, 2001; Graves, 2000); how much students already know and what they still need to learn (Brown, 1995). The information gained from needs analysis will serve as the basis for constructing a language curriculum (goals setting, materials selection, teaching methodologies and evaluation) that represents the students' needs (Brown, 1995; Santopietro & van Duzer, 1997; Jordan, 1997). In the area of English for Specific Purposes (ESP), different groups of learners are believed to have specific language needs, therefore, needs analysis should be conducted to achieve a complete description of

the students' language needs (Dudley–Evans & St. John, 1998; Johns & Price-Machado, 2001).

INSTRUMENTATION IN NEEDS ANALYSIS

The categories of the main instrumentation in gathering data for needs analysis are *questionnaire surveys, analysis of authentic spoken and written texts, discussions, structured interviews, observations and assessments* (Dudley-Evans and St. John, 1998).

To gather information on a large scale, questionnaire surveys are the most common and the most efficient method of needs analysis compared to other procedures (Brown, 1992; West, 1994). Through a survey, the learners' profiles, including their background, language mastery, difficulties as well as learning styles can be obtained. An overall picture of students' perceived needs will emerge (Jordan, 1997).

An interview permits open-ended explorations of topics and elicits responses that are couched in the unique words of the respondents. Skilled interviewers can follow up a respondent's answers to obtain more information and clarify vague statements. They also can build trust and rapport with respondents and may obtain information that would not possibly be revealed by any other data collection method (Gall, Borg, & Gall, 1996). The type of interview used is usually determined by the amount of structure desired. At the end of the continuum fall highly structured, questionnaire–driven interviews; at the other end are the unstructured, open-ended, conversational formats (Merriam, 1998).

Observations are another instrument applied in order to conduct a needs analysis. Observations in English for Academic Purposes needs analysis can be in the form of sitting in on subject lectures or practical sessions. In the ESL/EFL context where English is used as the medium of instruction, observations are conducted in order to find out how and when English and the L1 are used interchangeably. In classes where English is not the medium of instruction, observation and shadowing are implemented for understanding work patterns. The relationship between the observer and the observed consists of four stances: complete participant, participant as observer, observer as participant and complete observer (Dudley-Evans and St. John, 1998; Merriam, 1998).

Analyzing authentic text is a crucial stage of needs analysis (Dudley-Evans and St. John, 1998; Brown, 1995; West, 1991). If the learners will use the target language primarily for reading and writing, text analysis may help in determining what the students will ultimately

have to read or write. The units of analysis chosen will tend to reflect the needs analysts' understandings of the nature of different kinds of texts and analysts' belief systems with regard to the nature of language and language learning. They can also form the basis of classroom materials, with three provisos: the client/source has given permission; fictitious facts replace confidential ones; and anything, which can directly identify the author, is removed. For evaluation, the texts learners produce in class can be looked at to evaluate progress towards the objectives and to identify needs that have not yet been met.

DATA SOURCES IN NEEDS ANALYSIS

The main sources of needs analysis are the learners, people working or studying in the field, ex-students, documents relevant to the field, clients, employers, colleagues, and previous ESP research in the field. Brown (1995) pointed out that there are four categories of people who may be involved in a needs analysis: the target group, the audience, the needs analysts and the resource group. The target group consists of people about whom information will ultimately be gathered, such as the students in a program, the teachers or administrators. The audience is all those who will eventually be required to act upon the analysis. This group usually consists of teachers, teacher aides, program administrators, and any governing bodies or supervisors in the bureaucracy above the language program. The needs analysts are the persons responsible for conducting the needs analysis. In addition to conducting the needs analysis, this group will probably be responsible for identifying the other three groups. Finally, the resource group consists of those who may serve as sources of information about the target group.

THE IMPORTANCE OF MULTIPLE INSTRUMENTATION AND DATA SOURCE IN NEEDS ANALYSIS

Since each data gathering method has its strengths and weaknesses, and any one source of information is likely to be incomplete or partial, a triangular approach (i.e., collecting information from two or more sources with multiple instrumentation) is advisable. Many different sources of information should be sought due to the fact that each of the procedures has different strengths and weaknesses (Richards, 2001). Questionnaires for example, have a low rate of return and once distributed, the items in a questionnaire cannot be modified, even if they

are confusing to respondents. Furthermore, they cannot probe deeply into the respondents' opinions and feelings. Interviews, on the other hand, can compensate for this weakness by providing completeness and depth of coverage as well as the opportunity to clarify and extend because of the physical presence of the analyst (West, 1994; Gall et al., 1996). An observer will focus on phenomena that are routines to participants to be able to understand their context, specific incidents, and behaviors. This can be used in conjunction with interviewing and document analysis to substantiate the findings (Merriam, 1998).

In short, multiple sources of information should be used in a needs analysis, although the specific combination appropriate for a given situation must be decided on the site by the needs analysts themselves. Several data gathering methods should be combined in order to obtain a more complete and accurate picture of learners' language needs (Brown, 1995; West, 1991).

LIMITATIONS OF NEEDS ANALYSIS

Although needs analysis plays a crucial role in course design, it has several shortcomings (West, 1994). The lack of awareness of the existence of needs analysis as a tool in course design tends to occur due to problems of familiarity and expertise. When converting learners' needs into course objectives, specifying precise needs sometimes can result in either restricted competence or multiple course objectives. To avoid the above limitations, the validity or reliability of the instruments used and the results obtained are required for an effective needs analysis procedure.

NEEDS ANALYSES IN THE ASIAN CONTEXT

Numerous needs analyses have been conducted in the Asian context (see Savage & Graeme, 1992; Bhatia & Candlin, 2001; Noakes & Wong, 1997; Chia, Johnson, Chia & Olive, 1999; Hyland, 1997). Multiple data sources obtained from various instrumentation have been used to achieve a full description of the students' language needs in some Asian countries. A needs analysis carried out in Thailand, for example, highlighted how the learners (the project staff in the Udonrthani main office and two sub-offices in other northeastern provinces) got involved in the needs analysis and how they participated actively in the program design. This analysis was conducted in order to develop a language program for the staff of the Aquaculture Outreach Project of the Asian Institute of Technology in

Udonrthani, Northeast Thailand. The paper described the experience of the teachers in working together with the learners. The role of the teacher was observing and assisting whereas the learners were working on tasks, reporting back, expanding and evaluating. The study showed clearly how the teacher collaborated with the learners in three different phases within the language program framework. They were involved in discussions to identify the learning needs (in the first phase: the one-day site visit) and through completing tasks and orientation, the needs were realized (during the two - week intensive workshop) (Savage & Graeme, 1992).

A large-scale project assessing the English language needs of undergraduate Bachelor of Business Administration (BBA) students, was conducted at five universities in Hong Kong (Bhatia & Candlin, 2001). A variety of well established methodological instruments and procedures from six perspectives were applied. Views on English needs were gathered from students, teachers, curriculum, writing performance, textual and occupational perspectives by means of questionnaires, focus group interviews (both students and staff), classroom observations, and textual analysis. The study investigated tasks and communication requirements that students needed to perform in both their business classes as well as in the English course for business students. A comparison was made to find out whether there was any mismatch between communication requirement in business classes with the instructions in the English course.

Data for an English needs analysis of engineering students in Hong Kong University of Science and Technology (Noakes & Wong, 1997) was gathered by triangulation. Interviews, questionnaires, students' written work, reports from the Hong Kong Institute of Engineers and a 1995 needs analysis of LANG 103 (the English course offered for engineering majors) were the instruments to gather information about engineering students' English needs. Data was obtained from various stakeholders such as School of Engineering Faculty, students and student alumni, Language Center English Language instructors, Students Affairs Office and companies employing engineering graduates. Recommendations for the development of a new English Language curriculum for both groups of students were made as the follow-up of the needs analysis. Samples of second and third year engineering students' written work were also gathered. The information includes types and length of written work, skills needed, typical language functions, typical grammatical and lexical problems, and strategic problems. By analyzing

the data, the study could figure out English demands from various engineering sub-disciplines.

An investigation of English needs in the medical context for college students in Taiwan was carried out by Chia, Johnson, Chia and Olive (1999). Although a questionnaire survey was the only instrument used, data was gathered from various viewpoints, namely the lower class students, the upper class students, and the faculty. The aims of this study were to describe the importance of English language use in students' studies and their future careers; to basic English skills needed in a freshman English course and suggestions for the development of an English language curriculum.

An investigation of students perceptions of English in tertiary study, conducted by Hyland (1997), involved questionnaire responses of 1,600 undergraduates at five Hong Kong universities, examining the importance students attributed to English, their major difficulties with the language, and the value they placed on EAP classes. The results showed that students recognize the value of English in academic success, with considerable variability across the disciplines, proficiency levels, and years of study, both in the extent to which they value EAP and the confidence students had in their ability to meet the English demands of their studies. The findings had implications for language teachers in syllabus planning and may be useful in sensitizing students and faculty lecturers to the significance of language in an undergraduate study. Unlike the previous needs analysis conducted in EFL context, this study lacks multiple instrumentation and procedures in gathering students' English needs.

NEEDS ANALYSES IN INDONESIA

A survey of non-English departments undergraduate from ten state universities and teacher training colleges in Sumatra, Indonesia, was conducted by Sriwijaya University Language Institute (Ahmad, 1997). The findings revealed that the majority of respondents viewed the need for EFL from a very limited perspective; for example, to help students to access information necessary for the successful completion of their undergraduate degree training.

A study by Yusuf & Sewoyo (1997) described the English language situation in Trisakti University before the establishment of the Language Center in 1994. The research design adopted in this study was CIPP

(Context, Input, Process, Product) model developed by Stufflebeam, which used questionnaires as the main instrument. The participants were teachers, students, Deans of Faculty, the Rector, and some government officials such as Officials of Directorate of Higher Education and Coordinating Body for Private Universities. The English language teaching situation in the university described were the management of the English course, the existing human resources, the English curriculum and the facilities. Students' opinions on the importance of English, and their performance in the course were also indicated.

A paper by Safnil (1997) attempted to discuss the problems faced by English Language Teaching in Bengkulu University and to propose solutions to overcome them. A number of problems discussed in the paper were large classes, too little time allocated for English, the mixed ability of the students, heterogeneous levels of motivation and expectation among the students, the absence of a requirement by their subject lecturers to read materials in English, and so on. Some alternative ways proposed to tackle the problems were to establish a language center for the highly motivated students and collaboration between the English learning center and non-English departments.

A case study was conducted by Setijono and Tabiati (1997) to provide a description on the evaluation of the English course for economics majors at Brawijaya University. Questionnaires were distributed to the students to gather their perceptions on the English course. The study described the process of setting up a new English course, with the adjustment made concerning the time allocation of the English course and the change of objective from reading skill to integrated reading and writing.

A study by Ras (1997) discussed the change of policy regarding the management of a compulsory English course for non-English department students at Riau University. More time was allocated for the English course as a result of the needs analysis. Discussions on students' receptive and productive skills needs, teaching methodology and teaching aids, continuous assessment and current problems being faced by the English course were included.

In investigating English needs of non-English majors at Petra Christian University (Lie & Limuil, 1998), questionnaire surveys directed at non-English majors and the subject lecturers, a focus group discussion with English instructors and semi-structured interviews with subject lecturers were conducted. To get the information of the students' English

needs for occupational purposes, views of prospective employers were also gathered in this study, by means of questionnaire surveys.

Table 1 and 2 below depict the complete list of research methodology employed by earlier needs analyses conducted in some Asian countries including Indonesia.

Table 1. Needs Analysis in Some Asian Countries

Researcher	Countries	Methodology		Description
		Instrumen- tation	Data Source	
Savage & Graeme, 1992	Thailand	Workshop, discussion	Learners and teachers (subject specialists and English instructors)	The development of a language program in Northeast Thailand
Bhatia & Candlin, 2001	Hong Kong	Questionnaires, focus group interviews, classroom observations, textual analysis	Learners, teachers (subject specialists and English instructors), curriculum, writing performance, textual and occupational perspectives	An English needs analysis for business students in Hong Kong
Noakes & Wong, 1997	Hong Kong	Questionnaires, interviews, students' written work, reports on previous NA	Learners, teachers (subject specialists and English instructors), alumni, Students Affair Office, companies employing graduates	An English needs analysis for engineering students in Hong Kong
Chia, Johnson, Chia & Olive, 1999	Taiwan	Questionnaires	Learners and teachers	An English needs analysis for medical students in Taiwan

Hyland, 1997	Hong Kong	Questionnaires	Learners	Students perceptions of the importance of English in tertiary study in Hong Kong
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Table 2. Needs Analysis in Indonesia

Researcher	Countries	Methodology		Description
		Instrumentation	Data Source	
Ahmad (1997)	Indonesia	Questionnaires	Learners	Needs, Services and Challenges of English Language Teaching in Sumatra
Yusuf & Sewoyo (1997)	Indonesia	Questionnaires	Government Officials, University administrators, learners and teachers	Trisakti University English language teaching situation
Safnil (1997)	Indonesia	-	-	English language teaching problems and possible solutions at Bengkulu University
Setijono and Tabiati (1997)	Indonesia	Questionnaires	Learners	The setting up of an English course in Brawijaya University

Ras (1997)	Indonesia	-	-	Descriptions on the needs of more time allocated for an English course at Riau University
Lie and Limuil (1997)	Indonesia	Questionnaire, focus group discussion, semi-structured interview	Learners, teachers (subject specialists and English instructors), companies employing graduates	Investigating English needs of non-English majors at Petra Christian University

EVALUATION ON THE EARLIER NEEDS ANALYSES

So far, this paper has reviewed needs analyses conducted in some Asian countries. In terms of the methodology, questionnaire surveys have been mostly used by the earlier analyses (see Chia, Johnson, Chia & Olive, 1999; Hyland, 1997; Ahmad, 1997; Setijono & Tabiati, 1997; Ras, 1997). In-depth and thorough data cannot be collected solely by survey because questionnaires have several shortcomings. A very low rate of return is one of the disadvantages. Another disadvantage is the designer can encounter difficulty in achieving a balance between asking too many and too few questions. (West, 1994). Questionnaires cannot probe deeply into the respondents' opinions and feelings. Also, once the questionnaire has been distributed, it is not possible to modify the items, even though they may be unclear to some respondents (Gall, et. al., 1996)

In the case of Indonesia, besides obtaining data merely through questionnaires directed at students, most of the needs analyses were also of an impressionistic nature. They were descriptions and were not based on research (as in the case of Safnil, 1997 and Ras, 1997). Perspectives from students were the only data sources for most analyses. Only Lie & Limuil (1997) utilized more than one method (surveys and interviews) and gathered data from various perspectives (students, teachers, and prospective employer).

To get a fuller picture of students' needs, other instruments and sources of data collection, such as surveys of teachers, interviews with students and teachers, classroom observations and textual analyses also need to be utilized. In short, data collection should be triangulated.

Among all the needs analyses reviewed above, only those conducted by Noakes & Wong (1997) and Bhatia & Candlin (2001) have a more complete instrumentation such as surveys, interviews, classroom observation and textual analysis. Data was gathered from multiple sources namely students, teachers, writing assignments or curriculum perspectives. The triangular approach adopted by those research can generate a more reliable information of the students' needs.

CONCLUSION AND RECOMMENDATIONS FOR FURTHER RESEARCH IN INDONESIA

Triangulation or the use of multiple data collection method and data source are found to be essential in assessing English language needs.

However, only few studies have triangulated the data to be able to assess the English needs of the students and most studies reviewed above only utilized questionnaires as the sole instrument. In the case of Indonesia, in addition to surveys on students as the most common method employed, quite a number of needs analyses are of impressionistic in nature. Therefore, views from various stakeholders obtained by multiple data gathering methods should begin to be applied in Indonesia to get a more complete understanding of the learners English language needs.

REFERENCES

- Ahmad, N. 1997. ELT needs and services. In Coleman, H., Soedradjat, T. & Westaway, G. (Eds.), *Teaching English to University Undergraduate in the Indonesian Context: Issues and Developments* (pp. 45-60). Bandung: Bandung Institute of Technology
- Bhatia, V. & Candlin, C. 2001. *Teaching English to meet the needs of business education in Hong Kong*. Hong Kong: City University of Hong Kong.
- Brown, J. D. 1995. *The elements of language curriculum*. Boston: Heinle and Heinle Publishers.
- Cohen, L., Manion, L. & Morrison, K. 2000. *Research methods in education*. New York: Routledge Falmer.
- Dudley-Evans, T. & St. John, M. J. 1998. *Developments in English for specific purposes*. Cambridge: Cambridge University Press.
- Hyland, K. 1997. Do our students really need EAP? In Allan, A. (Ed.), *Perspectives Working Papers*, 9 (1), 35-62.
- Gall, M. D., Borg, W.R. & Gall, J. P. 1996. *Educational research: an introduction* (6th ed.). New York: Longman.
- Graves, K. 2000. *Designing language courses*. Boston: Heinle and Heinle Publishers.
- Johns, A. M. & Price-Machado, D. 2001. English for Specific Purposes (ESP): tailoring courses to students' needs- and to the outside world. In Celce-Murcia, M. (Ed.), *Teaching English as a Second or Foreign Language* (3rd ed.). Boston: Heinle and Heinle Publishers.
- Jordan, R. R. 1997. *English for academic purposes: a guide and resource book for teachers*. Cambridge: Cambridge University Press.

- Lie, A. & Limuil, S. 1998. *A needs analysis of non-English department majors at Petra Christian University, Surabaya, Indonesia*. Surabaya: Petra Christian University.
- Merriam, S. 1998. *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
- Noakes, N & Wong, K. 1997. *English language needs analysis of School of Engineering HKUST*. Hong Kong: the Hong Kong University of Science and Technology.
- Nurweni, A. & Read, J. 1998. The English vocabulary knowledge of Indonesian university students. *English for Specific Purposes*, 18 (2), 161-175.
- Ras, F. 1997. How can needs be accomodated in course design? In H. Coleman, T. Soedradjat, & G. Westaway (Eds.), *Teaching English to University Undergraduate in the Indonesian Context: Issues and Developments* (pp.86-89). Bandung: Bandung Institute of Technology.
- Richards, J. 2001. *Curriculum development in language teaching*. Cambridge: Cambridge University Press.
- Safnil. 1997. English for non-English department students of Bengkulu University: problems and possible solutions. In H. Coleman, T. Soedradjat, & G. Westaway (Eds.), *Teaching English to University Undergraduate in the Indonesian Context: Issues and Developments*. (pp. 69-73). Bandung: Bandung Institute of Technology.
- Santopietro, K. & Van Duzer, C. 1997. Needs assessment for adult ESL learners. *ERIC Digest, National Clearinghouse for ESL Literacy Education*. Washington, DC: Center for Applied Linguistics.
- Savage, W. and Storer, G. 1992. An emergent language program framework: actively involving learners in needs analysis. *System*, 20 (2), 187- 199.
- Setijono, P. and Tabiati, S. 1997. ELT courses for students of economics. In H. Coleman, T. Soedradjat, & G. Westaway (Eds.), *Teaching English to University Undergraduate in the Indonesian Context: Issues and Developments* (pp. 74-85). Bandung: Bandung Institute of Technology.
- West, R. 1991. Needs analysis: state of the art. In R. Horward, and G. Brown, (Eds.), *Teacher Education for LSP*, 68-79.
- West, R. 1994. Needs analysis in language teaching. *Language Teaching*, 1-19.
- Yusuf, M. & Sewoyo, S. 1997. The evaluation of EFL at Trisakti University and its follow-up. In H. Coleman, T. Soedradjat, & G. Westaway

(Eds.), *Teaching English to University Undergraduate in the Indonesian Context: Issues and Developments* (pp. 61-68). Bandung: Bandung Institute of Technology.