Second Language Needs Analysis

Michael H. Long

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Overview: A rationale for needs analysis and needs analysis research

Michael H. Long

In an era of shrinking resources, there are growing demands for accountability in public life, including education. In foreign and second language teaching, one of several consequences is the increasing importance attached to careful studies of learner needs as a prerequisite for effective course design.

Successful language learning is vital for refugees, immigrants, international students, those receiving education or vocational training through the medium of a second language in their own country, and individuals in occupations requiring advanced foreign language proficiency, among others. The combination of target language varieties, skills, lexicons, genres, registers, etc., that each of these and other groups needs varies greatly, however, meaning that language teaching using generic programs and materials, not designed with particular groups in mind, will be inefficient, at the very least, and in all probability, grossly inadequate. Just as no medical intervention would be prescribed before a thorough diagnosis of what ails the patient, so no language teaching program should be designed without a thorough needs analysis. Every language course should be considered a course for specific purposes, varying only (and considerably, to be sure) in the precision with which learner needs can be specified – from little or none in the case of programs for most young children to minute detail in the case of occupationally-, academically-, or vocationally-oriented programs for most adults.

A one-size-fits-all approach has long been discredited by research findings on the *specificity* of the tasks, genres and discourse practices that language learners encounter in the varied domains in which they must operate.[1] It is not simply that the *language* and *skills* required to function successfully, and the *texts* encountered, vary greatly for an overseas college student within discipline A, B or C, for a foreign tourist, for an immigrant construction worker, jeweler, hospital porter, union organizer, nurse, or emergency room physician, or for an illiterate newly-arrived refugee struggling with social survival

tasks (opening a bank account, renting an apartment, gaining permission for a child to start school, etc.) during the first months in an alien culture. The variation in language, skills and texts reflects underlying differences in the *roles* such individuals occupy, and in the *beliefs*, *practices*, *ways of speaking*, and *cultures* of the often overlapping *discourse communities* of which they seek to become members. As a recent discussion of discourse communities in academic disciplines concluded:

> Communities ... differ from one another along both social and cognitive dimensions, offering contrasts not just in their fields of knowledge, but also in their ways of talking, their argument structures, aims, social behaviors, power relations, and political interests. (Hyland & Hamp-Lyons, 2002, p. 6)

Given such a broad range of phenomena, an ability to perform linguistic analyses of texts (telephone conversations, service encounters, academic lectures, scientific journal articles, office e-mail messages, purchase orders, driver's license application forms, etc.), even when an analysis is computer-assisted, will alone clearly be insufficient. Language teachers and applied linguists need to be familiar with the history of needs analysis (see, e.g., Swales, 1985, 2001; West, 1994) to avoid repeating mistakes of the past and reinventing the wheel. They also need familiarity with the wide array of sources and methods available to them today, and with appropriate combinations thereof, i.e., with source x method interactions.

Unfortunately, while books and journals are replete with reports of NAs (needs analyses) each year, with very few exceptions (see Van Els & Oud-de-Glas, 1983; Van Hest & Oud-de-Glas, 1990) relatively little attention is paid to needs analysis itself. In some respects, the NA literature is reminiscent of writing on language pedagogy 20 years ago, when authors wrote data-free books and journal articles recounting their alleged success at teaching this or that structure or skill, while offering no evidence that what they described had worked at all or worked better than alternative 'methods'. There is an urgent need for a serious research program (as distinct from one-off studies) focused on methodological options in NA itself. Hence, *methodological issues* in NA constitute a major focus of this volume, and contributors include explicit discussion of their very varied methodologies in their chapters.

The increasing importance attached to professionally-conducted NAs comes at a time when the theory and practice of NA itself, and of language teaching in general, are in flux, as educators respond to theory change and research findings in SLA and L2 syllabus design.

To illustrate, for some 30 years now, researchers have repeatedly shown that learners do not acquire a new language one structure at a time (nor could, since so many structures are inter-dependent). Nor do they acquire in the theoretically and empirically unmotivated structural or notional-functional sequences found in linguistically-based syllabuses and textbooks. This is true even when teachers and textbook writers attempt to teach them that way (see, e.g., Ellis, 1989; Hyltenstam, 1977; Lightbown, 1983; Pienemann, 1984). Learners are far more active and cognitively-independent participants in the acquisition process than is assumed by the erroneous belief that what you teach is what they learn, and when you teach it is when they learn it.

Nor do learners move from a state of zero knowledge of a structure to native-like mastery in one step, as is assumed possible by the many superficially different language teaching 'methods' – from ALM to Silent Way – that demand immediate forced production of the structure of the day to native-like accuracy levels, with 'error correction' prescribed when things go wrong. In reality, sudden categorical learning appears to be very rare, even in cases where theorists sometimes claim it does occur, e.g., (putative) parameter-resetting (see Hilles, 1986). Rather, language learning both inside and outside classrooms is a gradual, cumulative, often non-linear process. It involves zig-zag developmental paths, U-shaped behavior, passage through fixed developmental sequences in such areas as negation, interrogatives and relative clauses, plateaus, restructuring, lengthy periods when non-target forms and constructions are the norm, fluctuations in error rate, and only gradually improving accuracy (see, e.g., Huebner, 1983; Kellerman, 1985; Long, 1990, 2003; McLaughlin, 1990; Perkins, Brutten, & Gass, 1996; Pica, 1983; Pishwa, 1993; Sato, 1988, 1990; Shirai, 1990; Stauble, 1984; Zobl, 1982, 1984).

These and many other SLA research findings cast doubt on the validity of synthetic, especially grammatical, syllabuses, and have been partially responsible for the miscellany of syllabus types – lexical, structural, notional-functional, relational, topical, procedural, process, content, and task, plus hybrids – now on the table in applied linguistics (see, e.g., Long & Crookes, 1992; Robinson, 1995, 1998). The findings also delegitimize related synthetic 'focus on forms' language teaching methodology.[2] Equally, if structures or other linguistic elements (notions, functions, lexical items, etc.) are not to be the units of analysis in a syllabus, it throws into question the relevance of continuing to conduct needs analyses – the output of which will be the input to syllabus design – in terms of the structures

or other linguistic forms most likely to be encountered in the domains of interest to a particular learner group. Structurally based NAs, even good ones (see, e.g., Cameron, 1998), tend to produce lists of forms similar to, but far less detailed than, the table of contents of most commercially-published pedagogic grammars, leading one to question their value. That sort of information may still be useful, but it will not be the most important information and, unattached to functional data (see, e.g., Cathcart, 1989) and/or cross-referenced to some other non-linguistic unit of analysis, it will often be meaningless.

Adding independent, converging motivation for a shift towards analytic, e.g., task-based, syllabuses of some kind, a variety of studies have suggested that it is often not lack of linguistic competence *per se* that renders learners unable to perform adequately at work or on an overseas university course. To cite just one of many such examples in the literature, an Australian duty-free store salesman studied by Marriot & Yamada (1991; see, also, Marriot, 1991) knew sufficient specialized Japanese lexical items relevant for selling opals to tourists, but missed sales opportunities for lack of awareness of cross-cultural pragmatic differences in making a sale. Rather, it is learners' inability to accomplish the *tasks* required of them, for which language use is often highly differentiated and both field- and context-specific, and for which much more than L2 linguistic knowledge is needed (see, e.g., Arden-Close, 1993; Bosher & Smalkoski, 2002; Jacobson, 1986; Jacoby, 1999; Jacoby & McNamara, 1999; Marriot, 1991; Medway & Andrews, 1992; Miller-Retwaiut, 1994; Mohan & Smith, 1992; Selinker, 1979). Hence, many modern NAs, including several reported in this volume, use *task* as the unit of analysis, with analysts (and sometimes the students themselves) out in the field collecting samples of the *discourse* typically involved in performance of target tasks relevant for the communicative needs of particular groups of learners.

There is more than one way to conduct a NA, however, just as there is more than one way to teach a language. Not all the studies reported in this volume share the same psycholinguistic underpinnings. By design, they illustrate a wide variety of task-based and non-task-based methodologies. It would be unnecessarily limiting, unreflective of the current state of the art, and a disservice to the reader to present multiple examples of just one approach, whatever the editor's personal preferences and beliefs. Readers sufficiently interested in the issues to work through a book like this will certainly be capable of forming their own judgments as to the relative merits of the different approaches.

Modern needs analysts owe a considerable debt to the pioneers in this important sub-field of applied linguistics, many of them still active: Jordan, Mackay, Mountford, Munby, Strevens, Swales, Trim, Van Eck, Van Els, Van Hest, Oud-de-Glas, Johns, Hutchison, Waters, Richterich, Chancerel, Jupp, Hodlin, Selinker, Candlin, Trimble, Brindley, Hyland, Flowerdew, and Dudley-Evans, among others, and to those associated with such early publications as *ESPMENA Bulletin*, *Lenguas Para Objectivos Especificos, English for Specific Purposes*, and the more recent *English for Academic Purposes*. They have laid the foundations in the form of conceptual ground-clearing, concrete examples of needs analyses, and insights into the complexities of domain-specific language use. What is needed now is a serious effort by applied linguists to identify generalizations that can be made about how best to conduct needs analyses for populations A or B, in sectors C or D, given constraints E or F. However detailed and insightful they may be, particular findings about the language, genres, tasks, etc., encountered in this or that domain are often only of use to others with the same or similar students. Of greater relevance to a far wider audience are the methodological lessons arising from such studies, and especially, research on the methodology of needs analysis itself. Yet such work is scarce. A principal aim of this volume is to indicate by example the potential scope of a needs analysis research program.

In the opening chapter, 'Methodological issues in learner needs analysis', I provide a summary and evaluation of various *sources* of information for a NA (published and unpublished literature, the learners, applied linguists, domain experts, triangulated sources); *methods* of obtaining that information (expert and non-expert intuitions, interviews, questionnaire surveys, language audits, participant and non-participant observation, ethnographic methods, journals and logs, language proficiency and competency measures); and *source x method combinations*. The three areas are considered with respect to the potential of different options for obtaining reliable, valid, and usable data about the *language* and *tasks* required for successful performance within a target academic, occupational, vocational, or other discourse domain. The review is based on a survey of literature in applied linguistics and social science research methods, supplemented by findings from a data-based study of methodological issues in a task-based NA of airline flight attendants. Several sources, methods, and source x method interactions, as well as the reliability of insiders and outsiders in NAs, were the primary foci of the flight attendant study. More case studies are needed to test the generalizability of the study's methodological findings to less

neatly circumscribed, less public occupations than that of flight attendant, and to other sectors altogether.

Most contributors to this book, and most NAs, are concerned with needs specification at the level of individuals or, more often, learner types. In an era of globalization and shrinking resources, however, language audits and NAs for whole societies are likely to become increasingly important. Good (or bad) NAs at this level can greatly affect federal, state, or local government language policies, with far-reaching consequences for millions of people for years to come. The broad scope of such analyses presents peculiar methodological difficulties, with scientific sampling being especially important, and relatively large sample size making (telephone or written) questionnaire surveys and studies of government publications and other written documents likely to figure among the favored methods and sources. Furthermore, since primary audiences for findings from NAs in the public sector include politicians, economists, bureaucrats, and others seldom known for their understanding of the role of language in society, findings and rationales for recommendations need to be explicit, empirically-supported and expressed using concepts and terminology familiar to them.

Such was the case in two ground-breaking studies reported in the chapter by Richard Brecht and William Rivers. In what is a potentially precedent-setting innovation in foreign language needs analysis, Brecht and Rivers adopt an economic approach to analyzing the language 'market' in the USA, operationalizing 'supply' and 'demand' at the tactical level, and 'capacity' and 'needs' at the strategic level. This and an accompanying cost-benefit analysis allow them to distinguish 'private marginal value' – what an individual considers when deciding to learn or maintain skills in a language, and 'social marginal value' – the *societal need* for that language. They apply the model to two quite different cases: (i) language needs for US national security, and (ii) the accessibility of social services to speakers of languages other than English (LOTE) in the US state of Maryland. It is safe to predict that both studies will serve as models for work of this kind in many countries for years to come.

A second chapter dealing with NA in the public sector involves one of the largest foreign language teaching operations in the world, the Defense Language Institute (DLI) in Monterey, California. With some 800 faculty members providing instruction in 22 languages to 3,300 students for six hours each day – both staff and students funded by the US government, and ultimately by the American taxpayer, to the tune of tens of millions of dollars per year – it is vital to know that what is taught will satisfy the future communicative needs

both of the students themselves and their sponsoring agencies. Not surprisingly, therefore, needs analysis at DLI is accorded considerable importance. The Director of its Research and Analysis Division, John Lett, reports three recent NAs conducted at DLI. Sources were domain experts familiar with students' future work, and experts in language proficiency assessment, using the ILR (Interagency Language Roundtable) scale; methods utilized included document analysis, retrospection, and unstructured interviews. After joint group discussions among the subject matter and testing experts, tasks were rated for frequency and criticality, and in some cases classified in various ways. They were then assigned a consensus language proficiency rating in each skill modality, taking into consideration the typical conditions under which those tasks are carried out and the standards of performance required. Subsequent reviews of the tasks and ratings often produce recommendations for policy makers as to the global language requirements for various military careers.

Having described the NAs themselves, Lett moves on to discuss several important reliability and validity issues that should be of concern to needs analysts everywhere, but which have very rarely been discussed in the NA literature. These include the use of convenience samples of subject matter experts, the lack of ready external criteria for assessing the validity of analyses, the lack of independence of proficiency level ratings obtained via the collaborative group process, possible response bias, and the halo effect. He identifies potential solutions to several of the problems, e.g., stratified random sampling, use of surrogate or partial test-retest and modified split-half procedures for improving reliability, and relating DLI graduates' language proficiency ratings to supervisors' field reports on their subsequent job performance in predictive validity studies. He points out, however, that the increased costs in time and personnel, among other problems, would often render them inadequate, or in some cases preclude their adoption altogether.

The next four contributions deal with NA in the occupational sector. In one of the few NAs to date to employ multiple sources and methods – and one of the very few to utilize participant observation, in the form of on-the-job training, to do the work being studied – Rebeca Jasso-Aguilar reports a study she conducted of the target tasks and language needs of maids ("housekeepers") in a large Waikiki hotel, part of a chain employing approximately 1000 maids. They are typically female, low income immigrants (or in some parts of the US, often illegal aliens). Participant observation (with tape-recording and note-taking), unstructured interviews and questionnaires were the methods Jasso-Aguilar used. Sources included three

hotel maids, various supervisors, the executive housekeeper, a human resources staff member, daily shift briefings for the maids, and work-related documents, such as job descriptions. Methods and sources were triangulated to help guage reliability, and considerable disparities emerging between what supervisors confidently believed the maids' work to involve and what it actually involved. Jasso-Aguilar concludes with a critique of the unbalanced distribution of power in such settings, and a call for researchers to adopt a more critical perspective in NA – one which allows for the inclusion of a wider range of participants' voices and assessment of their needs beyond the workplace.

Working in a very different social and cultural setting, Sonja Vandermeeren begins with a brief introduction to problems in identifying objective, subjective, unconscious, subjective unmet, and objective unmet foreign language needs in the business world. Some useful sources are described, including business clients who are native speakers of the foreign language concerned (in this case, German), along with some methods for accessing their expertise. In one of the non-task-based NAs described in the book, Vandermeeren then reports results from two questionnaire surveys she conducted of the quantitative and qualitative language needs of 112 Finnish companies wishing to sell their products in German markets. Among other interesting findings was the existence of unmet needs for German of which many companies were unaware, but which Vandermeeren's methodology revealed. Also of note, and reminiscent of Marriot & Yamada's findings, was the relatively greater importance attributed by German clients to the Finns' knowledge of German business culture and practices than to their knowledge of the German (or English) language itself. Vandermeeren underscores the importance of NA not only for foreign language teachers, but for those who train them. She notes an innovative course in international business writing that has students conduct field research on foreign language needs as one of three tools used to develop the required cultural knowledge.

In another European study, this time of the English language needs of Catalan journalists operating in nine sub-domains of their profession, Roger Gilabert begins by drawing a useful, operationalizable distinction between target tasks and target sub-tasks. He then proceeds to demonstrate, first, that some sources and methods were more revealing than others in absolute terms. Second, he shows how triangulation by sources (scholars, company representatives, domain experts, and documents) and methods (unstructured and structured interviews, introspections, non-participant observation, and ques-

tionnaires) can improve the reliability and validity of NA findings in general. In the journalism study, the triangulation was supplemented by further non-participant observation of specific target tasks, which turned out to be especially useful, and by the collection of additional discourse samples. Gilabert also identifies some source x method interactions in his study, e.g., the greater productivity of insider introspections with domain experts than with company representatives. He offers useful suggestions concerning the relatively greater value of (i) responses to questionnaire items that probe judgments of frequency and perceived need, compared with harder-to-define 'difficulty,' and (ii) analysis of target discourse (in this case, e-mail messages) over self-report data by their sender.

In the fourth and final chapter on occupational needs, Eric Kellerman, Hella Koonen and Monique van der Haagen report an interesting study of a topic that has rarely, if ever, featured in applied linguistics, the language needs of professional footballers. With the internationalization of many professional sports, the communicative needs of professional athletes is a topic likely to grow in importance. In another non-task-based study, Kellerman et al employed multiple methods and sources: a telephone questionnaire (a form of interview schedule) with Dutch soccer club managements; a written questionnaire in both English and Dutch for foreign players; and unstructured interviews with two teachers of Dutch attached to top professional clubs in Holland, a club press officer, and two well-known coaches, including Arsene Wenger, the world-famous French manager of 2002 English Premiership champions, Arsenal. The sometimes strikingly different findings for English and Dutch as target languages, for players from different L1 and cultural backgrounds, and between language policies at Dutch and English clubs, underscore the importance of sampling in all NA studies. The study also illustrates how important personal insider contacts can be for what ethnographers (and perhaps security personnel at some clubs) refer to as 'gaining entry to the field.'

In a lengthy report on NA in an academic setting, focusing on foreign language learners, Craig Chaudron et al describe a NA conducted in the University of Hawai'i's Korean as a foreign language (KFL) program as part of the first stage of a federally funded three-year pilot study of Task-Based Language Teaching for Korean. The NA began with unstructured interviews of a stratified random sample of students enrolled in KFL classes, followed by a survey of the entire population using a questionnaire based upon the interview findings. The study shows how even students in what foreign language teachers often assume to be homogenous groups,

and/or groups having no real need for a language beyond satisfying a college language requirement, in reality often do have definable, and varied, present or future communicative needs – needs that will often not be adequately met through use of a one-size-fits-all curriculum and set of teaching materials. Then, in a foretaste of work reported in the book's final section, the second half of the paper describes procedures employed by the University of Hawai'i team for collection and analysis of target discourse samples surrounding performance of two elementary-level 'social survival' target tasks for visitors to Korea. The final part of the paper describes how results of the analysis of target discourse were combined with SLA theory and research findings to motivate the design of two modules of prototype task-based teaching materials, each consisting of seven pedagogic tasks, the last also serving as an exit test, for classroom use in Korean courses.

The fifth and final section comprises three chapters, two from the USA and one from New Zealand, which focus on the collection and analysis of samples of language use in target discourse domains. After target tasks for a particular group of learners have been identified, the second stage of a thorough task-based NA involves collection and analysis of authentic samples of discourse surrounding accomplishment of those tasks. The first step, data-collection, is rarely without problems. For instance, quite apart from the usual technical difficulties surrounding audio or video recordings in the field, discourse samples may be lacking in the immediate environment of the language teaching institution, as is often the case when listening or speaking materials are required for foreign language learners headed for a second language environment. On other occasions, there may be difficulty in gaining access to sensitive service encounters, especially those involving confidentiality.

An example of the latter type, the US naturalization interview, was the focus of the study by Michelle Winn. Winn provides a detailed description of what was involved in her 'gaining entry to the field,' and identifies nine factors that facilitated the success of this and other aspects of her work. These included use of an inside connection, positioning herself as a learner rather than as an expert or evaluator, and use of immediate 'debriefing' interviews with INS (Immigration and Naturalization Service) interviewers. Winn finishes by showing how tasks and sub-tasks identified from the discourse analysis can be translated into task-based pedagogic materials and classroom activities.

Nicola Downey Bartlett reports a detailed study of what might at first seem an easy-enough task in a fairly straightforward service

encounter: ordering coffee. The complexities she uncovers provide compelling evidence of the need for specificity in course design, even for seemingly mundane everyday tasks. Bartlett recorded 168 conversations at three sites where coffee was sold. She analyzed the resulting transcripts using a system partly inspired by pioneering work on service encounters by Ventola (1983), eventually producing a distillation of the findings in the form of an empirically based *prototypical dialog* of the kind that can provide a useful basis for the design of teaching materials. Finally, Bartlett compared her findings with dialogs in several current ESL textbooks, some claiming to model authentic native speaker use. As has been found in every previous study of this issue of which I am aware (see, also, Long, this volume), the discrepancies she identifies provide further evidence of the need to go beyond textbook writers' intuitions if a program (or publisher) is serious about meeting learner needs.

Bartlett's chapter offers a good example of how the second phase in task-based NAs, analysis of target discourse, can be conducted. A potentially complementary non-task-based approach is provided in the final chapter in this section. Over the five years of its existence, Victoria University of Wellington's government-funded Language in the Workplace (LWP) project has amassed a very large, very valuable corpus of audio- and video-recordings of talk in a variety of New Zealand workplaces. In her paper for this volume, the project's Director, Janet Holmes, focuses on a particularly important, yet often neglected, aspect of work-place communication: small talk.

As Holmes points out, small talk is the language that greases interactional wheels; failure in this area can sometimes be as important as an employee's substantive job performance (see, also, Bosher & Smalkoski, 2002; Svendsen & Krebs, 1984). The background knowledge, cultural knowledge, and sociolinguistic and pragmatic skills required are sometimes difficult even for native speakers to acquire, and harder still for the two populations targeted in her study: recent immigrants, and workers with an intellectual disability. Holmes provides an important discussion of the research methods utilized by the LWP project team, in particular, procedures that can be employed to enhance the validity of field recordings for that kind of work. This is followed by qualitative linguistic analysis of the target discourse samples. She reports the LWP team's findings concerning common topics for small talk, typical distributional patterns, and functions of small talk at work, before closing with some practical pedagogic suggestions for teachers involved in pre-experience and in-service training for students of these kinds.

The contributors to this volume do not toe a party line in the way

they go about their work. Nor do they pretend to have answers to all the many complex methodological questions remaining in learner NA – questions concerning such matters as appropriate sampling procedures, the relative merits of various units of analysis, and optimal choices and triangulation among sources and methods, let alone what must eventually follow: predictive validity studies. As part of an embryonic collaborative research program, however, it is to be hoped that some of the studies reported here will inspire replications with different populations in different sectors, as well as new work designed to put NA on as sound a theoretical and empirical base as is expected in other areas of applied linguistics. Better-conducted needs analyses, after all, will enhance the quality of language teaching programs based upon them and, thereby, success rates for language learners.

Notes

1 By way of illustration, for examples of differences within and among academic disciplines, see Braine (1995); Dudley-Evans (1995); Dudley-Evans & St. John (1998); Flowerdew (2000); Horowitz (1986); Hyland (2000); Johns (1997); Prior (1998); and Swales (1981, 1990). For an excellent discussion of the need for specificity in course design, see Hyland (2002).

2 For empirical findings and arguments against synthetic syllabuses, 'focus on forms,' and also its opposite, a pure 'focus on meaning,' and in support of analytic, especially task-based, syllabuses and 'focus on form,' see, e.g., Doughty & Long (2002); Doughty & Williams (1998); Long (1985, 1991, 2000); Long & Crookes (1992); Long & Norris (2000); Long & Robinson (1998); Norris & Ortega (2000); Skehan (1998).

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PART I:
METHODOLOGICAL ISSUES

1 *Methodological issues in learner needs analysis*

Michael H. Long

Introduction

In an era of shrinking resources, there are growing demands for accountability in public life, with education a particularly urgent case and foreign language education a prime example within it. Many secondary school students and, especially, adults with serious academic, occupational, vocational, or 'survival' needs for functional L2 proficiency, as well as their sponsors, are increasingly dissatisfied with lessons, materials and methodology developed for someone else or for no-one in particular. There is an urgent need for courses of all kinds to be relevant – and to be seen to be relevant – to the needs of specific groups of learners and of society at large. This is especially, but not only, true of advanced courses, which by definition (should) involve specialized instruction for specific purposes. General (language for no purpose) courses at any proficiency level almost always teach too much, e.g., vocabulary, skills, registers or styles some learners do not need, and too little, e.g., omitting lexis and genres that they do. Instead of a one-size-fits-all approach, it is more defensible to view every course as involving specific purposes, the difference in each case being simply the precision with which it is possible to identify current or future uses of the L2. This varies from little or no precision in the case of most young children, to great precision in that of most adult learners.

One of the ways in which foreign and second language educators have responded to the changing situation is by basing more of their courses on the findings of surveys of learner needs. However, as in the teaching of English as a Second Language (ESL), too many of the needs analyses are carried out via semi-structured interviews or, more commonly, written questionnaires. Moreover, while exceptions exist and the situation is slowly improving, in the past the instruments have often been devised by teachers or applied linguists with limited expertise in research methods, little or no insider knowledge of the field concerned, and with the learners themselves as the primary, sometimes the only, respondents (see, e.g., Alalou, 2001; Lepetit &

Cichocki, 2002). The reliability and validity of the findings produced by such procedures are rarely discussed.

Regardless of the *methods* used to obtain it, the sufficiency of language students as *sources* of information about their present or future communicative needs is a complex and sensitive issue. To be sure, learners sometimes not only wish to be consulted, but also are well informed. In most cases, however, while they can identify their general reasons for language study (to visit country A, to study for a masters degree in subject B in country C, to work in occupation D, etc.), it will be the analyst's job to identify needs, administer tests, and generally complete the diagnosis. This is no different from what happens in any walk of life where specialized knowledge is involved. A physician, for example, typically begins with a general question asking a patient what brought him or her to the clinic today, but then assumes responsibility for the diagnosis itself, as well as for selecting an appropriate course of treatment.

While it would be comforting to assume otherwise, learner expertise is by no means guaranteed. Learners may be 'pre-experience', or 'pre-service', e.g., international students preparing for graduate studies in the USA, refugees in holding camps awaiting permission to emigrate to a country they have never seen, European or North-American students or management trainees headed for internships and business experience in Asia, or volunteers off to work in a refugee camp in another country. Alternatively, they may be 'in-service', e.g., teachers, scientists, businesswomen, diplomats, or military personnel about to move overseas. All these individuals can sometimes provide useful information on such matters as their learning styles and preferences, i.e., partial input for a *means analysis*. Understandably, however, they tend to make inadequate sources of information for a *needs analysis* (NA), since most in-service learners know about their work, but little about the language involved in functioning successfully in their target discourse domains, and most pre-experience or pre-service learners know little about either.

While a substantial number of NAs have been reported in the literature (and many more, conducted for private businesses or for very specialized groups of learners, remain unpublished), there has been surprisingly little research, despite its obvious and growing importance, on NA itself. Most of those writing on the topic either report the results of NAs, with little by way of generalizable findings or principles, or make unsupported assertions about appropriate or 'successful' NA methodology. With very few exceptions (see, e.g., Van Els & Oud-de-Glas, 1983; Van Hest & Oud-de-Glas, 1990),

reviews of the L2 NA literature (e.g., Berwick, 1989; Brindley, 1984, 1989; West, 1994) make little or no reference to research in foreign language education or in ESL on the *methodology of NA* itself for the simple reason that hardly any such research has been conducted.

The limitations of current approaches are compounded by the continued tacit or explicit reliance by most needs analysts on the model provided by the project conducted for the Council of Europe in the early 1970s by Wilkins, Richterich and others (e.g., Richterich & Chancerel, 1977/1980; Wilkins, 1974), and related studies (e.g., Munby, 1978). As is well known, that work was designed to produce a unit credit system for describing language proficiency and use chiefly by individuals whose jobs led them to cross linguistic borders within the (then) European Economic Community. The desirability of some degree of standardization across countries and languages resulted in Wilkins et al opting for a putatively universal, i.e., non-language-specific, *semantically* based, 'notional-functional' system. NAs, together with the syllabuses and pedagogic materials based upon their findings, focused on the notions and functions supposedly required to satisfy various occupational language needs. While innovative and important in its time, and while undoubtedly an improvement on the dominant register analyses and structural syllabuses of the day, such NAs and resulting curricula were typically based on *intuitions* about the notions and functions required, not empirical studies – and the intuitions of applied linguists, not domain experts, at that. Moreover, the courses, lessons, and materials that embodied the findings still assumed the validity of *synthetic* syllabuses (Wilkins, 1976), i.e., those in which target language items are presented separately to learners, who are later required to synthesize them for communicative purposes. Like the NAs themselves, such syllabuses are built around *linguistic* (in that case, semantic) units of analysis. As with all synthetic approaches, the sequence of lexical, structural, notional and/or functional syllabus items is fixed *a priori*, thereby often conflicting with well-attested developmental sequences in both foreign and second language learning (for review, see, e.g., R. Ellis, 1994; Larsen-Freeman & Long, 1991; Towell & Hawkins, 1994), and disregarding cognitive processing constraints on learnability and teachability (Clahsen, 1987; Pienemann, 1984, 1998), about both of which, to be fair, little was known at the time of the Council of Europe work.

Twenty-five years and much data-based research on foreign and second language acquisition later, few serious scholars maintain that such approaches to language teaching are justified. Most argue instead either for what Wilkins (1976) called *analytic* syllabuses,

i.e., those in which, using some *non-linguistic* unit of analysis, learners are presented with holistic samples of L2 use and helped to induce the rules of the grammar, as in, e.g., procedural (Prahbu, 1987), process (Breen, 1984) or task (Long, 1985) syllabuses, or else for some oil and water combination of analytic and synthetic syllabuses, e.g., task and structural (R. Ellis, 1993) or task and lexical (Willis & Willis, 1988). Whatever their respective merits and limitations, the new approaches to second and foreign language instruction require NAs to be conducted using units of analysis that are compatible with the ensuing syllabus specification, methodology, materials and assessment, and *all* approaches to NA, new or old, could benefit from some serious work on issues of reliability and validity.

Units of analysis in NA: The case for task

There are several independent motivations for *task* as the unit of analysis in NA. Most fundamentally, if the rationale offered for adoption of an analytic syllabus of some kind, and/or, in particular, for task-based language teaching is convincing (see Doughty & Long, 2002; Long, 1985, 1998, 2000, to appear; Long & Crookes, 1992, 1993; Long & Norris, 2000; Robinson, 1998, 2001; Skehan, 1998), then task-based NA will allow coherence in course design. It would be of little use to analyze learner needs in terms of linguistic units, such as words, structures, notions or functions, if syllabus content is not to be specified in such terms.

Beyond that basic motivation, however, task-based NAs offer a promising alternative (although not the only one, to be sure) for at least five additional reasons:.

(i) Most 'ready-made' job descriptions produced by domain experts in other sectors, including government, business, craft unions, education, psychology, and the military, are typically formulated in terms of background knowledge, performance standards, and tasks (for examples and discussion, see Long, to appear, chapter 4). So are occupational definitions in the US Department of Labor's *Dictionary of Occupational Titles* (*DOT*, a victim of federal budget cuts in the early 1990s). While an empirical question, it is reasonable to expect that expert insider analyses will more likely be valid than those produced by language teachers and applied linguists, who are outsiders – even the tiny minority of teachers and applied linguists with substantial time, money, and research methods expertise at their disposal.

(ii) However well carried out, linguistically based NAs (for a recent example, see Cameron, 1998) tend to result in lists of decontextualized structural items, not unlike the table of contents of any grammatical syllabus *not* based on a NA, and are of little use to a course designer or materials writer because they provide scant, if any, information on how, or to what ends, the structures are used in the target domain. Filling in the gaps with guesses about use can be highly misleading, as Cathcart (1989) documented in a study of doctor–patient communication. In the terms introduced by Widdowson (1972), real world "uses" of grammatical constructions often differ from the "usages" modeled in grammar-based language teaching materials.

(iii) Similar problems afflict linguistic analyses, and courses based on them, at the supra-sentential, i.e., text, level. Task-based analyses reveal more than text-based analyses about the dynamic qualities of target discourse. Traditional linguistic, or *text*-based, programs reflect a static, product orientation. Texts, after all, whether simplified or genuine, are the *result* of people's attempts to communicate with one another. In the broadest sense, they are the means by which actors no longer present once tried to accomplish communicative tasks. It was the tasks that motivated the texts, not the other way around (for examples and discussion, see Doughty & Long, 2002; Long, 1997, to appear).

(iv) Where ready-made analyses are lacking, new ones are required. Since there is some reason to believe that, with few exceptions, domain experts can provide valid information about the work they do in terms of tasks, but not in terms of language, about which they typically know very little, conceptualizing needs that way helps circumvent two notorious bottlenecks in program design (see Hutchinson & Waters, 1987; Selinker, 1979), the domain expert's usual lack of linguistic knowledge and the applied linguist's usual lack of content knowledge.

(v) The results of task-based needs analyses readily lend themselves as input for the design of a variety of analytic, task-based and/or (a small minority of) content-based second and foreign language courses, whose delivery can be harmonized with what language acquisition research has revealed about universal L2 developmental processes in and out of classrooms. Task-Based Language Teaching (TBLT), in particular (see Doughty & Long, 2002; Long, 1998, 2000, to appear; Long & Norris, 2000), is radically learner-centered not only in its reliance on NA findings to determine syllabus content, but also psycholinguistically, in the steps taken to cater to the learner's internal developmental

syllabus, e.g., in its rejection (unlike almost all so-called 'task-based' commercially published materials) of externally imposed linguistic syllabuses of all kinds, overt or *covert*, in favor, among other things, of learner-driven 'focus on form' (Doughty & Williams, 1998; Long, 1991, 1998; Long & Robinson, 1998; Norris & Ortega, 2000).

The study

Given the paucity of information and of research on methodological issues and options in NA, the developments in SLA and L2 syllabus design noted above, and the potential advantages of task-based syllabuses in particular, a two-part study was undertaken to address the following general research question: What are the relative merits of various sources (especially, insiders and outsiders), methods (both qualitative and quantitative), and source x method combinations, in learner NA in general, and in identifying the language and tasks of airline flight attendants in particular. (Reasons for the choice of this specific target group are explained below.) The research consisted of (i) an extensive survey of the scholarly literature on NA and social science research methods; and (ii) collection and analysis of primary data on the language and tasks of flight attendants.

The literature survey

As was to be expected, the literature survey produced a wealth of information – far too lengthy to be presented here in its entirety. What follows is but the briefest summary, with selected references, where available, to useful original sources on possible NA procedures, and to sample studies (sometimes one or two out of a dozen or more reported) utilizing the procedures. For a more detailed account, see Long (to appear, chapters 4 and 5).

Sources for NAs

Five major options emerged from the survey with regard to sources for NAs (see Figure 1, opposite). The middle column in Figure 1 contains references to useful discussions and evaluations of the source concerned. The right-hand column lists references to sample NA studies utilizing that source (and sometimes other sources in the same study). Choice among sources is an important issue if, as Chambers (1980, p. 27) asserts, "whoever determines needs largely determines which needs are determined."

Source	Source/evaluation	Sample use
Published and unpublished literature	Crookes (1986) Long (to appear)	numerous LSP programs
Learners	Brindley (1984) Brindley & Hood (1990) Nunan (1988)	Beatty & Chan (1984) Ramani et al (1988) Savage & Storer (1992)
Teachers and applied linguists	Lamotte (1981) Selinker (1979) Zuck & Zuck (1984)	Numerous LSP programs
Domain experts	Huckin & Olsen (1984) Selinker (1979) Zuck & Zuck (1984)	Bosher & Smalkoski (2002) Coleman (1988) Ramani et al (1988) Tarone et al (1981)
Triangulated sources	Lincoln & Guba (1985) Long (this volume) Lynch (1995)	Cumaranatunge (1988) Gilabert (this volume) Jasso-Aguilar (1999) Long (this volume) Sullivan & Girginer (2002) Svendsen & Krebs (1984) Zughoul & Hussein (1988)

Figure 1 Sources of information for NA

Published and unpublished literature

If only to avoid reinventing the wheel, it behooves course designers to familiarize themselves with at least the scope of what has over the past 30 years become a vast store of published and unpublished NAs.[1] In addition to NAs themselves, numerous other written sources exist in both the public and private sectors. Most medium-sized and large corporations, for example, maintain detailed job descriptions for their employees. Where a unionized workforce is involved, union offices and/or contracts will usually contain similar information. The same is true of government departments, education departments and universities, militaries (see, e.g., the US Army's *Soldier's Manual of Common Tasks*), hospitals, and many other large institutions. Most are written as lists of *tasks* a job entails, sometimes taxonomized, and sometimes accompanied by minimum *performance standards*, usually expressed in terms of speed and

accuracy. *Skill Level 1* of the *Soldier's Manual*, for example, deals (in 528 pages) with such matters as loading an M203 grenade launcher, identifying terrain features on a map, engaging targets with an M60 machine gun, reacting to a nuclear hazard, and giving first aid for frostbite. Each task lists conditions under which performance is to be assessed, the performance standards expected, training exercises, examples, any specific language to be used while doing the task, and an evaluation procedure and checklist. A useful general source, and one available in most reference libraries, is the US Department of Labor's *Dictionary of Occupational Titles*, which lists task descriptions for some 12,000 occupations based on tens of thousands of on-site job-analysis studies and other data (see the *DOT* entry for flight attendant, below). Such *occupation*-level descriptions, however, are almost always more general, and less detailed, than particular *job* or *position* descriptions.

Learners

It goes without saying that learners have special rights when it comes to deciding the content of courses they are to undergo, ideally assessed before classes begin, at their inception, and as they proceed. Discussions of perceived and/or actual needs among teachers and students can also raise the level of awareness of both parties as to why they are doing what they are doing, lead them to reflect usefully on means and ends (Nunan, 1988, p. 5), constitute one component in learner training (Ellis & Sinclair, 1989), and especially in courses implementing a process syllabus (Breen, 1984), serve as a vehicle for language learning itself. This does not mean, however, as some have suggested (see, e.g., Auerbach, 1995), that learners will necessarily constitute a reliable source, the best source, or the only legitimate source.

Some learners have been surveyed *in situ*, and found to be both articulate and familiar enough with a target discourse domain to provide usable, valid information (see, e.g., Ramani, Chacko, Singh, & Glendinning, 1988; Tarantino, 1988; Tarone, Dwyer, Gillette, & Icke, 1981), but others, e.g., immigrants and recent arrivals in Australia's Adult Migrant Education Program, have proved less able, and believed that teachers should decide what form a program should take (Brindley, 1984; Brindley & Hood, 1990). For obvious reasons, pre-experience learners will usually constitute unreliable sources, even when highly educated. Thus, PRC (People's Republic of China) graduate students provided very different information about their academic purpose English language needs when surveyed before

leaving China, and then again after spending a year at US universities (Beatty & Chan, 1984). Moreover, while experienced 'in-service' informants often make excellent sources on the *content* of their job, training course, field of study, etc., they are more often (understandably) inadequate when it comes to intuitions about their *language needs*. It has, however, occasionally been found possible to improve educated in-service workers as sources on language through use of various elicitation methods, e.g., role-play and guided participant observation activities with a group of Thai aquaculturalists (Savage & Storer, 1992), or a series of carefully planned initial and follow-up questions about the meanings of a journal article in his field with an Israeli geneticist (Selinker, 1979). Finally, even when learners are indeed able to provide useful and valid insights about their present or future needs, better and more readily accessible sources may be available, including experienced language teachers and graduates of the program concerned, employers, subject-area specialists, and written sources of the kinds mentioned below.

Applied linguists

It is absurd to expect applied linguists to know much, if anything, about work in a specialized domain in which they have no training or experience. While few and far between, every comparison of the intuitions of applied linguists and domain experts in this regard that I am aware of has reported serious mismatches (see, e.g., Huckin & Olsen, 1984; Selinker, 1979; Zuck & Zuck, 1984). Such findings accentuate the risks involved in continuing to rely on applied linguists' intuitions in course design and materials writing.

Domain experts

After completing a study of the rhetorical structure of two astrophysics texts, Tarone et al (1981) were clear about the critical importance for NA of expert insider knowledge:

> We cannot stress enough the importance of [the specialist informant's] contribution to our analysis. His knowledge of the subject matter was absolutely essential to our analysis of the rhetorical structure of these papers. (1981, p. 125, fn. 2)

When it comes to language, conversely, the picture is very different. Although exceptions have been reported (Ramani et al, 1988; Tarone et al, 1981), when asked about their language needs, most domain experts have proved unreliable, not just at the detailed linguistic

level, but also where higher discourse events are concerned. For example, Marriot (Marriot, 1991; Marriot & Yamada, 1991) described how a monolingual English-speaking Australian shop assistant in a duty-free store failed to make sales of watches to Japanese tourists (who were in reality interested in buying) due to her lack of Japanese, compounded by her additional failure to recognize discourse cues when the tourists attempted to complete the transaction in English. Interviewed subsequently, the woman (who had worked in the store for four years) claimed she was able to 'get through' transactions with Japanese customers despite their poor English (*sic*), and that their politeness made them easy to serve. She was simply unaware of how her own language and cross-cultural awareness limitations were diminishing her effectiveness. Using task as the unit of analysis (as opposed, say, to asking them about structures, notions, and functions) enables domain experts to provide quality information of the kind they do possess, with linguistic information to be obtained via analyses of target discourse samples (see below). Combining domain experts and language proficiency experts in a team can produce successful task-based language NAs (Lett, this volume).

Triangulated sources

The value of triangulating perceived and/or objective needs among learners and other informants should be obvious, despite its rarity in the NA literature until recently, but the triangulation process itself can take different forms and deserves some elaboration (see Denzin, 1970; Lincoln & Guba, 1985; Lynch, 1995). *Triangulation* is a procedure long used by researchers, e.g., ethnographers, working within a qualitative, or naturalistic, tradition to help validate their data and thereby, eventually, to increase the credibility of their interpretations of those data. The process involves the researcher comparing different sets and sources of data with one another, e.g., by presenting workers', management's, and the observer's own perspectives on the causes of a labor dispute and on changes needed to the parties involved, and asking them to reflect on those interpretations (see Greenwood & Gonzalez Santos, 1992). Triangulation can involve comparisons among two or more different sources, methods, investigators or (according to some experts) theories, and sometimes combinations thereof (Lincoln & Guba, 1985, pp. 305–7).

A hypothetical illustration might help. A NA might sample the opinions of Chilean medical faculty members and students as to the nature and extent of the students' reading needs in English, and compare one with the other, and/or either or both with the reading

requirements for a national medical examination. If faculty and student views were both assessed via a questionnaire, i.e., if method were held constant, that would be a case of triangulation by *sources*. If the faculty and/or student views (sources held constant) were studied via a questionnaire and interviews, that would constitute triangulation by *methods*, as would the comparison of faculty and student opinions as shown by the questionnaire and interview findings with the findings of a document analysis (study of the examination requirements). A comparison of results from faculty interviews, student questionnaires, and the document analysis would be triangulation by *sources and methods*. Not to be confused with any of the above, checking findings from two (or two hundred) more individuals of the same type using the same procedure, e.g., the findings from one faculty interview against those from another faculty interview, simply constitutes what Lincoln & Guba (p. 305) call 'multiple copies' of one type of source, not triangulation of different sources. Similarly, comparing findings from faculty interviews with reading requirements listed on course syllabuses written by the same faculty members would be a case of comparing different methods of accessing the same information from the same source, not triangulation of sources.

Triangulation of methods can involve use of different data-collection procedures, such as logs, non-participant observation, interviews, questionnaires, and testing, or, for those working within a quantitative paradigm, different research designs, e.g., a multiple case study of EAP students' progress through a medical course, and a quasi-experimental, criterion groups design comparing examination scores of students able and unable to read medical texts in English. Researchers in the qualitative, naturalistic mode, Lincoln & Guba (p. 306) point out, could not avail themselves of this option since the design in naturalistic inquiry is emergent, not pre-specified.

Triangulation by sources and/or by methods is an important procedure whose use, to the best of my knowledge, has with very few exceptions been ignored in the literature until recently (see Bosher & Smalkoski, 2002; Jasso-Aguilar, 1999/this volume; Svendsen & Krebs, 1984), although it has been employed in SLA and classroom research (see, e.g., Hawkins, 1985; Johnson Nystrom, 1983; Lynch, 1995). Many NA's for ESP programs involve data from different sources and/or data gathered via different methods. Such studies have found differences, often large differences, in the views of different classes of informants (see, e.g., Iwai, Kondo, Lim, Ray, Shimizu, & Brown, 1999; Markee, 1986; Ogata, 1992; Orikasa, 1989), but most have stopped there, content to report the differences and leave it at