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ABSTRACT

Although the technology of needs assessment has made progress in recent years, much still remains to be learned about how to determine the kinds of training methods and programs that should exist. Of the technology currently available, most is more suited to application with learner groups that are "closed" and "captive" rather than to learner groups that are "fuzzy" and "free." More work needs to be done on developing a technology for determining what people do and what they value doing. One conceptualization of need that has proved useful in several contexts, including a business training needs assessment, is a model that conceives of need as consisting of the following three components: the competence or ability of an individual to perform a task or skill, the relevance of the task or skill for the individual's particular job role, and the individual's desire to undertake training or education in the task or skill. The most immediate benefit of applying the concept of need components is in being able to determine empirically what activities people do and how they value those activities, with greater convenience and with less negative influence from the characteristics of the target group. (MN)

TOWARD A MULTI-COMPONENT MODEL OF EDUCATIONAL AND TRAINING NEEDS

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The literature of needs identification and assessment is awash with adjectives: basic needs, felt needs, expressed needs, normative needs, comparative needs (Monette, 1977), real needs, educational needs, real educational needs, symptomatic needs (Atwood & Ellis, 1971), universal needs (Knox, Note 1), integrative needs (Leagans, 1964), goal discrepancy needs, social discrepancy needs, essential discrepancy needs, wants or desired discrepancy needs, and expectancy discrepancy needs (Roth, 1977) are just some of the terms that are encountered.

This multiplicity of terms, each with a definition that varies only slightly from the other, seems to have evolved in an effort to classify different shades of need according to various criteria. Despite the proliferation of labels, however, some commonality exists: the definition that a "need" is the difference (or gap) between "what should be" and "what is" (Leagans, 1964) seems to be coming into fairly wide acceptance (Kaufman, 1972, 1977; Kaufman & English, 1979; Kaufman, Stakenas, Wager, & Mayer, 1981; Roth, ca. 1977; Scriven & Roth, 1977; Sweigert, 1971; Witkin, Note 2, Note 3). The variety of terms exists largely in response to different ways of defining "what should be" or "what is".

Conceptualizations abound; however, the literature offers only modest help to one who would operationalize needs assessment. The technology of determining "what is" is relatively well understood, having its foundation in testing and measurement theory, survey techniques, statistics, ethnographic techniques, and so on. This is not to say that the determination of "what is" is always well done (or even that it could be, given particular circumstances), but at least a number of important problems have been studied and methods for their solution proposed. The technology of determining "what should be" is much less well developed.

A would-be needs assessor is frustrated by the relative lack of availability in the literature of techniques for determining "what should be". To be sure, some help exists: there are kits available (Witkin, Note 2; 1977) which prescribe methods that help sort out "what should be" for certain classes of educational institutions (mainly elementary and secondary schools), but as Kaufman points out, the "pat" formulas they usually prescribe can have distinct

disadvantages (Kaufman & English, 1979, p. 199).

Should the determination of "what should be" be left to philosophers, as Dearden (1966) seems to suggest? The practicality of such an approach at a workaday level might be open to question, as philosophic debate tends to take place on a time scale far too extended to be functional for needs assessment purposes. At the same time, judicious application of principles derived through philosophy would seem desirable, where feasible.

Kaufman (Kaufman & English, 1979) offers some advice on how to go about answering the question. His insistence on focussing on results or ends, rather than on means, has done much to expedite the process of determining "what should be". The primary procedure he suggests -- employing partner groups representing the learners, the implementers, and the society/community -- appears viable given certain conditions, yet it does not apply universally: it is sometimes difficult to implement in those situations involving learners outside the traditional K-12 school system, or indeed outside any formal educational institution. Furthermore, a constant concern with such partner groups would be whether or not truly representative data are being gathered: to be functional, the partner groups must be kept relatively small, thereby increasing the probability of biased information.

Gagné (Note 4) enumerates four general methods of determining "what should be" -- rational philosophy, committee consensus, collection of preferences of representative groups, and the empirical-analytic method -- but describes them only in general terms. The last one, clearly favored by Gagné, is really a task-analytic approach, which

> ". . .attempts first to determine what people do and what they value doing -- what activities make up their occupational lives, their civic lives, and their leisure-time lives. From such an empirical base, analysis is made to reveal the kinds of learnable skills and other dispositions employed in these activities. These are then organized into logically coherent bodies of instruction which become the elements of a curriculum (Gagné, Note 4, p. 9)."

Gagné's conceptualization of "what should be" rests on <u>two</u> questions being asked of individuals -- what do you do, and what do you value doing? -- and it is the dual nature of the question that (in part) distinguishes the empirical-analytic method from the collection of preferences of representative groups.

The necessity of the two question approach should be obvious: it would be a mistake to assume that people only do what they value doing, or that they value everything they do.

Attempting to ask these two questions on a large enough scale to ensure representativeness, and to still be able to summarize the host of answers in a meaningful way presents grave logistical problems. This paper illustrates an approach to operationalizing Gagné's double question, using as an example an assessment of training needs in the business sector. The "fuzziness" of the target group involved, and the logistical problems referred to earlier make the operationalization imperfect; still, the approach appears to hold potential for further development and research.

"Closed" vs. "Fuzzy" Target Groups[2]

Adapting the language of the mathematics of sets, "closed" target groups are defined as those groups of potential learners whose characteristics and roles are easily and precisely specified in such a way that group membership can be quite easily determined, and the members readily isolated. "Fuzzy" target groups are composed of members whose commonality is operationally more difficult to describe with any degree of precision, and whose membership is difficult to single out, at least in the practical sense of being able to identify their locations.

The operators of Wang word processing equipment in the head office of Federal Trust form a very "closed" target group. The professors of physics in North America, the school teachers of greater Montreal, and the boys in grades 1 - 6 in Brown County, Indiana, form somewhat "fuzzier", but still quite "closed" groups -- their memberships are quite well-defined or more-or-less easily determined (both with respect to identity and to location) through reference to organizational or institutional records. The brown-eyed boys in sixth grade in Brown County form a still more "fuzzy" group, since school records would not likely include information on eye color, and membership in the target group would have to be determined by using an additional step, such as individual teacher input. The eighteen-to-twenty-two-year-olds in Newfound-

land, the unmarried mothers of Kansas, and the business-people of Saskatchewan form very "fuzzy" target groups. On the other hand, the business-people of Myrnam, Alberta (population approximately 450) is reasonably closed: a trip down main street would rather quickly define the group membership.

"Fuzziness" and "closedness", then, may make reference to the number of salient distinguishing characteristics of the individuals making up the group, the degree of geographical dispersion of the group members, the salient role being played by the members (which admittedly could be called a "distinguishing characteristic"), or some combination of these things.

"Captive" vs. "Free" Learners

Adult educators have often pointed out the differences between "adult" and "non-adult" learners, and have sometimes even included university students in the latter category. The differences have sometimes been over-stated, and the relevance of the age criterion is not always clear, but it is difficult to deny that differences do exist between those students (of any age) who are enrolled in a formal educational program and those who are simply "dropping in" for an educational experience. The salient criterion seems to be that of freedom to partake of or disregard some or all of the educational experience; it is not really a motivation question, although there is undoubtedly some link between "freedom" and motivation, since the more motivated student will partake of more educational experiences in "free" contexts than the unmotivated one.

Thus a first grade class is quite "captive", no matter how loosely defined or pupil-need centered the curriculum is: school attendance laws generally apply to school-age children. Indeed, even pre-schools are relatively "captive" (albeit less so than elementary school, because no legal sanctions apply), since the learner typically has little say in whether or not he or she will continue to attend, that being largely a parental decision. Secondary school, technical college, and university students also form highly "captive" groups. But people attending a university extension course in Canadian literature, or a technical school night class in welding, or a church seminar on morality, form groups of relatively "free" learners, since they will attend or

not attend particular meetings at their discretion. Pharmacists required to take a certain number of hours of continuing education annually in order to maintain their certification, on the other hand, are "captive". Neither subject matter nor host institution greatly influence "freedom": an individual attending a university course (either credit or non-credit) on digital electronics as an extension of his hobby, electronics, is "free"; another individual in the same class, whose employer "suggested" she take the class and even paid the tuition fee, is more-or-less "captive". Age seems to have something to do with "freedom" and "captivity", because children are usually influenced by their parents to partake of or ignore certain learning activities. But, as in the case of the employee in the digital electronics class, it is obviously not the sole determinant. The specificity of the role also influences "captivity": word processor trainees and third grade students have more specific "job" roles than do business-people or unmarried mothers. University students have "job" roles that fall somewhere between those two poles in specificity. Tuition fees are somehow related to "captivity", at least functionally: collecting fees generally increases "captivity"; higher tuition usually creates higher "captivity". Certification (as in the case of the pharmacist) is also related to "captivity"; availability of alternative sources of certification decreases the degree of "captivity" (as in the case where several commercial firms offer secretarial training). It seems, then, that the determinant of "captivity/freedom" has to do with the costs — social, legal, financial, etc. — of not partaking of an educational experience.

The Influence of "Freedom/Captivity" and "Fuzziness/Closedness" on Needs Assessment

Although "fuzziness" and "closedness" are characteristics associated with the group of potential learners (the target group), "freedom" and "captivity" are characteristics associated with the actual learners as they relate with the learning environment. Discussion here will be limited to how these characteristics influence the needs assessment process, although they also influence design decisions (e.g., see Schrier, Note 5).

The degree of "freedom/captivity" has a bearing on the starting point of the determination of "what should be". Basic societal goals change little over

time, as Gagnè (Note 4) demonstrates, and the function of such "captive" learner educational institutions as the elementary and secondary school systems may perforce start with them. In the realms of higher education, and especially in career or job-related education, changes in technology come more quickly, and with them come changes in "what should be". Questions of relevance arise, but since becoming, say, a physician depends upon the sanction of medical practitioners, a relatively captive learning situation ensues: usually there are normative guidelines forthcoming from practicing professionals to help establish the "what should be". For more "free" situations, the picture is less clear. How does one begin to list the range of possibilities from which to choose when the learning situations will involve voluntary attendance, with tuition fees being charged? Popularity of subject matter has sometimes been the determinant (see Gagnè's third category described earlier), but socially responsible educational institutions must go beyond that in an age of accountability. The relevance questions once again rears its head, this time with overtones of social responsibility.

Beyond the environs of the classical educational institution, the question of "fuzziness/closedness" of the target group begins to intrude. Who should be invited as members of the partner group (Kaufman & English, 1979) of learners or of the committee trying to reach consensus on "what should be" (Gagnè, Note 4) when the target population is so loosely defined as to include all the supervisory and managerial people in a city of 150,000? How does one go about even generating a list of people who would be eligible for membership on such a committee? Who should be invited as members of the partner group of implementers when the list of possible implementers includes a wide range of provincial and civic agencies, private schools, technical schools, community colleges, and universities?

Figure 1 illustrates several scenarios or contexts in which the ratios of "fuzziness/closedness" and "freedom/captivity" vary. Each context creates different demands for the way in which a needs assessment can be conducted.

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Insert Figure 1 about here.
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The needs assessment in the "closed", "captive" Context #1 could be quite straightforward, and operationally very much in line with the experience of most instructional developers: a "tight" task analysis of the use of the new word processing system would probably suffice. The task analysis, in turn, would lead immediately to the design of instructional materials or procedures, since it would be relatively safe to assume no prior knowledge on the part of the secretaries, since the system was new. Even if that assumption could not be made, a quick survey of employees would indicate the level at which instruction should begin.

At the other extreme, the "fuzzy", "free" Context #4 defies the task analytic approach: a "tight" analysis would produce a very lengthy document, only a small fraction of which would apply to any given individual in the target group (making it unusuable as the basis for the needs assessment survey). To complicate matters, the target group is so diffuse as to make any attempts to collect needs assessment data suspect on the grounds of representativeness.

Obviously, trying to apply existing conceptualizations of and approaches to needs assessment is fraught with problems in some of these real-life contexts. The degree of "fuzziness/closedness" of the target group and the degree of "freedom/captivity" of the learning environment will necessarily affect the needs assessment process, and may, as will be shown below, affect the very definition of the word "need". Most of the needs assessment procedures in use or being advocated today deal with situations where "closedness" and "captivity" prevail; there is a challenge here to extend the technology to situations where other combinations of those two dimensions apply.

An Ecological Approach to the Definition of Educational Need: Need Components

As noted above, the context will intluence the manner in which the needs assessment is conducted, a notion given credence by Kaufman (Kaufman & English, 1979), who eschews formulistic approaches to needs assessment, claiming that they must be tailor-made for the situation. The concept of need, as Scriven &

Roth (ca. 1977) point out, is itself context-dependent: what is a need given one context may not be a need given a different context. I would like to examine the dependency relationship of the concept of need on a different plane, and suggest that the very definition of the term "educational need" is context dependent. I will argue that an instructional developer in a (closed, captive) industrial training context may well legitimately perceive the concept of need in a very different way than a second instructional developer in a (fuzzy, free) university extension context. Those perceptions, in turn, might differ considerably from that held by a third instructional developer working in a (fuzzy, reasonably captive) privately-owned secretarial school context.

To simplify discussion of those differing (but still legitimate) definitions of need, Misanchuk & Scissons (Note 6) introduced the notion of need components, of which they suggested three: the **competence** or ability of an individual to perform a task or skill; the **relevance** of the task or skill for the individual's particular job role; and the individual's **desire** to undertake education or training in the task or skill.[3]

Referring back to our three hypothetical instructional developers, their definitions of "need", using the terminology of Misanchuk & Scissons (Note 6), might legitimately be those shown in Figure 2. For an instructional developer in an industrial training setting, need may consist only of the components relevance and competence; the desire of the individual to undertake training (by and large) is dealt with by manipulation of sanctions by the employer. On the other hand, an instructional developer in a university extension context must be concerned with prospective clients' desire to partake of the educational experience. Because clients are free to attend (subject to their payment of a fee, usually) or not attend a given educational event, using a definition of need comprising only relevance and competence could lead to largely empty learning environments. Following a similar logic, the commercial secretarial school also requires that its prospective students have a high desire to undertake training — else it would not attract fee-paying students — but it cares little what their competence level is (at least within limits): those who already type at 60wpm are typically welcomed as eagerly (perhaps moreso) as those who hunt and peck. To carry the example one stage beyond the involvement of instructional developers, consider fee-charging "schools" that

teach subjects like astrology and palm-reading. Clearly, consideration to establishing such an institution is based on a definition of need that includes desire, but probably excludes relevance and competence.

Insert Figure 2 about here.

It seems likely that different categories of educational agencies (e.g., universities, community colleges, public schools, government departments, commercial schools, "in-house" training agencies), while accepting and using definitions of educational need that differ from one category to the next, might also show differences among institutions within a category. There is some informal evidence that different agencies do indeed subscribe to different definitions: when Misanchuk & Scissons (Note 6) held a seminar to disseminate the findings of their stu , each of their definitions (comprising varying combinations of the need components) was identified as the accepted functional definition of educational need by representatives of at least one educational agency.

In summary, then, as contexts vary, the definition of educational need may also legitimately vary. Need can be conceptualized as one of or a combination of up to three need components.

Advantages of Specifying Definitions of Need in Terms of Components

Simplified Data Collection

Probably the greatest benefit of applying the needs components approach to needs assessment is that it is possible to simultaneously and conveniently collect empirical data regarding both "what should be" and "what is" (Gagné, Note 4), using a questionnaire in the manner described below. This represents a telescoping of the typical two-stage process that involves using committees to determine "what should be", then some other method of determining "what is".

There is a technical benefit of breaking the definition of educational need into component parts, too: data collection is simplified in many cases because

questions can be asked more specifically. As will be elaborated below, a typical means of collecting data for a needs assessment is to survey potential learners to determine which of a number of tasks or skills they must use in their job roles and to what extent they must use them, how well they perform those tasks/skills, and whether or not they are desirous of receiving additional education or training in them. It may even be desirable (for longer term planning) to ask whether the tasks/skills will form part of jobs that employees aspire to in the near future (see Misanchuk & Scissons, Note 6). Relatively simple questions can be framed to tap each area, making it easy for respondents to answer. Collecting as many as three responses for each task/ skill simplifies the data-collection, but complicates somewhat the data analysis, a problem which is addressed elsewhere (Misanchuk, Note 7).

Accommodation of Different Degrees of "Freedom" and "Captivity"

Agencies catering to "free" learners must be concerned with attracting and holding what are usually fee-paying learners, typically without regard for their competence. Therefore, in general, an R-D model[4] of need — one that includes relevance and desire, but does not include competence — is appropriate for such agencies. On the other hand, agencies dealing with very "captive" potential learners can afford to adopt an R-C model of need; other kinds of sanctions may be available to compensate for the desire dimension, leaving the agency free to concentrate only on relevance and competence.

The use of the needs components conceptualization of needs assessment permits — indeed, encourages — the application of different definitions of the term "educational need", according to the context surrounding the agency for which the assessment is being done.

Clarification of Terminology

As already pointed out, there is some informal evidence that different parts of the real world already use these different definitions of educational need, usually without articulating same. Forcing educational agencies to specify their definitions of need seems in itself a worth-while exercise: at the conclusion of the seminar to disseminate needs assessment findings, described earlier, several people volunteered to the seminar leaders that they then had a much clearer idea than they did before of what they (as representa-

tives of the organizations) meant when they referred to educational needs. The very process of discussing the concept -- especially when two representatives from the same educational agency disagreed initially on the definition of need -- was, in their opinions, very worth doing. In a sense, converging on a definition of educational need is akin to converging on an educational objective -- a process with which most instructional developers are familiar.

Forcing the definition of need is also very valuable to an instructional developer when meeting initially with a new client. Increasingly, employers are expecting instructional developers not only to develop instructional materials and evaluate their effectiveness, but to also take the more primary step of determining what the instructional goals should be. This is clearly a case of determining educational needs. If the instructional developer and the client begin with different definitions of educational need, and especially if these differences are not articulated, problems could arise.

Whether a given educational agency or institution adopts a particular combination of need components as its accepted definition of need is an internal matter for the organization. The necessity of consciously adopting a definition, however, is obvious: "need" may not be defined in the same way for all organizations. Lack of articulation of the definition creates the potential for serious communication problems.

Possibility of Post Hoc Analysis

A technical side benefit of the ability of this approach to accommodate different definitions of need is that while the data can be collected in one pass, it can be re-configured to match any selected definition of need later, provided all components are addressed in the first data collection. Hence, a survey can collect information about all three of the components of relevance, competence, and desire -- and could also tap future relevance, if necessary -- all with one instrument administration (see **Operationalizing Need Components**, below). Data from the survey can be abstracted later to provide meaningful needs assessment information to educational agencies despite their having different definitions of educational need (Misanchuk & Scissons, Note 6).

Operationalizing Need Components

Initial attempts at operationalizing the need components approach (Misanchuk, Note 8; Misanchuk & Scissons, Note 6; Scissons & Misanchuk, Note 9) have shown the concept viable, although not all elements of the process are yet developed to the point where they are entirely satisfactory.

The basic strategy employed is to collect empirical data about what people do and what they value doing as Gagné (Note 4) suggests, through using what amounts to partner groups made maximally representative through survey techniques. It focusses on utility of knowledge rather than on preferences.

The process begins with what can be described as a "vague" task analysis -- a task analysis which is more general in language than the ones with which instructional developers typically work. Because the roles of the "fuzzy" target group members may be quite varied, non-specific language must be used to accommodate the heterogeneity. Hence, tasks or skills[5] of quite a general nature are listed on a questionnaire, and each member of the target group is expected to respond to each task/skill as many times as necessary to provide data for each need component used in the conceptualization. Figure 3 illustrates the level of generality of language used in reference to the role of a first-line supervisor or more senior employee in business or industry. In the study from which Figure 3 was abstracted (Scissons & Misanchuk, Note 9), each member of the survey sample was asked to respond to each task/skill three times -- once in terms of the relevance of the task/skill to the respondent's particular job, once in terms of the respondent's competence at the task/skill, and once in terms of the respondent's desire to undertake further training or education in the task/skill.[6] To prevent the instrument from being overwhelming, only the first two responses were called for at one time; later in the questionnaire, the task/skill list was repeated, along with a question stem intended to tap the respondent's desire to undertake further training or education (see Figure 4).

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Insert Figure 3 about here.
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Insert Figure 4 about here.

Capturing information on the relevance of given task/skills to a contemplated future job-role, suggested as a possibility earlier, would of course necessitate asking for a fourth response.

Responses to the multiple questions (with respect to each task/skill) are pooled, using a technique devised by Misanchuk (Note 7) to yield a single score representing each task/skill. The scores can then be ranked to represent the descending priorities for training and educational activities. Colloquially, these scores can be interpreted as indexes of need.

Effects of "Fuzziness" and "Closedness" on Operationalizing Need Components

"Closed" groups typically could be expected to yield very specific task analyses, while "fuzzy" groups are less likely to do so. The task analysis associated with the operators of Wang word processing equipment in the head office of Federal Trust can be very specific in its terminology; the task analysis associated with management-level business people in Saskatchewan must necessarily be more vaguely worded. Specific terminology for the latter would make for task/skill lists that are too long to be practical, due to the variety in job roles being tapped.

To the extent that "education" is a broader and more inclusive concept than is "training", the "fuzziness" in a target group makes it more practical to focus on education rather than training; consequently the more vague task analysis is appropriate.

Generating the vague task analysis that defines the task/skill list is a critical part of the process of operationalizing the needs components approach to needs assessment which would benefit from the development of some heuristics (Scissons & Misanchuk, Note 10). Experience indicates that it is a bit of an art to determine the level of generality of language that will provide maximal information without creating such a lengthy task/skill list that response rate

is negatively affected.

Summary

Although the technology of needs assessment has made progress in recent years, there is still much less known about how to determine "what should be" than there is about how to determine "what is". Of the technology available, most is more suited to application with learner groups that are "closed" and "captive" than to learner groups that are "fuzzy" and "free". More work needs to be done on developing a technology of determining "what people do" and "what they value doing" (Gagné, Note 4), especially among the "fuzzy" and "free".

The conceptualization of need as consisting of three components -- the **competence** or ability of an individual to perform a task or skill; the **relevance** of the task or skill for the individual's particular job role; and the individual's **desire** to undertake training or education in the task or skill -- proved useful in several contexts, including a business training needs assessment, and can probably be applied to other contexts. It appears not only possible but also reasonable that, using this conceptualization of needs, different organizations might legitimately subscribe to different definitions of the term "need". The most immediate benefit of applying the concept of need components is in being able to determine empirically what activities people do and how they value those activities, with greater convenience and with less negative influence from the characteristics of the target group.

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FOOTNOTES

1. E. H. Scissons contributed substantially to the conceptualization of need components described in this paper, and R. A. Schwier made critical comments on earlier drafts. Their assistance is gratefully acknowledged.

2. In this paper, the concepts of "fuzzy" and "closed" target groups are applied to needs assessment; the same concepts could be usefully applied to evaluation. See, for example, Context #6 in Figure 1.

3. The last component has now been broadened by Scissons (in press) to "motivation".

4. Earlier works (Misanchuk & Scissons, Note 6; Scissons & Misanchuk, Note 9; Scissons, in press) used a naming system for the combinations of need components that appears, with hindsight, unsatisfactory: "relevance weighted wants" and "competence weighted wants" were the names given to the combinations of desire and relevance, and desire and competence, respectively. The use of the word "wants" may be viewed as somewhat pejorative (Dearden, 1966), and should therefore be eschewed, since there may be contexts in which those combinations of need components legitimately represent definitions of need. Additionally, the use of the terms "discrepancy need" to denote the combination of relevance and competence, and "derived need" to denote the combination of relevance, competence, and desire probably leads to more confusion than illumination. I therefore suggest that combinations of need components simply be referred to in terms of the initial letter of their name (e.g., a combination of relevance and competence would be called an R-C definition of need; competence and desire would form a C-D definition of need; all three would comprise an R-C-D definition of need).

5. For lack of a better term, the terms 'task' and 'skill' will be used in this paper to mean approximately the same thing: a job-related activity that can be learned. Obviously, the words are used with considerably less precision in meaning than in most other applications in instructional development. Neither term is intended to imply only psychomotor activities. Tasks or skills — as the terms are used here — include everything from specific psychomotor activities to complex groups of activities that may involve cognitive and/or psychomotor (and perhaps even affective) components. For example, while 'typing at 60 wpm' would certainly qualify as a skill under the definition used here, so would 'preparing an income tax return', or 'counselling employees'. Equally, the terms are meant to apply to such multi-faceted activities as 'using computers', and 'wage and salary administration'.

6. The self-report nature of this data-collection procedure is one of the weakest areas of operationalization to date. More attention needs to be devoted to the identification of methods of collecting reliable and valid data. However, the needs components conceptualization can apply even if data collection procedures are changed.

FIGURES

Context #1 ("closed", "captive"):

Your assignment as an instructional developer with a life insurance company is to develop a training program that will familiarize all new secretaries in the company with the word-processing system used there. First existing staff will be put through the program, then, as new people are hired, they will automatically be subjected to the training as part of their orientation programs.

Context #2 (relatively "closed", relatively "captive"):

Your institution has been awarded a contract by the government to develop a training program for managers of government-funded social housing (group homes, senior citizens' residences, live-in health care facilities, etc.). Simply put, although a few of the several hundred managers now in place have MBA's in administration, most have little or no formal training in the area -- indeed, many have not even completed high school. They are expected to manage facilities housing anywhere from three to 800 people at varying levels of functionality, from completely self-sufficient to totally bed-ridden. One of the requirements of the contract is that you conduct a needs analysis to determine which training needs are most critical, then develop instruction to fill those needs. You are told by government representatives that if an educational program does come to fruition, participation will be "encouraged" by the department supervising the disbursement of funds to the social housing agencies.

(figure continued. . .)

Context #3 (relatively "fuzzy", relatively "free"):

A professional organization of computer specialists, whose membership is largely from the retail business, insurance, and banking sectors, but also includes manufacturing, wholesaling, and education, wishes to initiate a professional development education program for "all computer people in the province", but isn't sure where to begin. Each person on the executive produces a different list of topics that warrant professional development education, according to his or her personal experiences. There is a vague feeling that despite the vast amount of learning about different hardware and software that constantly takes place in a computing environment, it is not so much computing that defines the real need as how to manage people, how to administer, and how to deal with people. You have an opportunity to moonlight a lucrative contract with the organization, but first you have to show them that you are capable of addressing the most widespread professional development needs; to do so, of course, you must know what the needs are.

Context #4 ("fuzzy", "free"):

Acting on behalf of a number of educational agencies, you have undertaken to determine what the training needs are for all first-line supervisors or more senior people in business and industry in the province of Saskatchewan. Because you could be representing technical schools, private firms offering training programs, universities, colleges, and voluntary agencies, your subject-matter scope is very broad, as is the definition of your target group. Any educational programs that result from the assessment would be offered on a fee-for-attendance basis by whatever agency sponsored the event.

(figure continued. . .)

Context #5 ("closed", "free")

Your Vice-President (Academic) has asked you to organize a workshop on ". . .some topics that will both attract faculty members and lead to improvement in their teaching." Your budget is sufficiently small that you cannot consider bringing in outside experts, so you must limit your range of topics to those that can be addressed by your colleagues. Although the Vice-President has a vested interest in seeing faculty members attend, he wouldn't dream of using the weight of his office to force attendance -- it would be bad politics -- and teaching schedules require that you operate your workshop on a Saturday.

Context #6 ("fuzzy", relatively "captive")

Consideration is being given by the Department of Health to mounting a province-wide television commercial campaign that is designed to be educational. Two possible target groups have been identified -- pregnant women who use tobacco, alcohol, and/or other drugs; and people who don't use seat belts. The group of bureaucrats responsible for planning the campaign is split regarding which target group most needs attention. There is only enough money for one group to be addressed. As an expert in needs assessment and evaluation, you are asked to consult on the question. Early discussion indicates that you will probably be asked to evaluate the campaign, as well.

Figure 1: Some typical needs assessment environments that differ in the degree to which they are "fuzzy" and "free".

Instructional Developer	Definition of High Need
#1 (industrial training)	high relevance + low competence
#2 (university extension)	high relevance + low competence + high desire
#3 (secretarial school)	high relevance + high desire

Figure 2: Examples of different legitimate definitions of need as a function of context.

	To what extent is it necessary for the person who performs your present job to be highly skilled in the following areas? 1. essential 2. important but not essential 3. moderately important 4. could get along without it 5. not required		How competent are you in each of the following areas? 1. no skill 2. little skill 3. moderate skill 4. considerable skill 5. a great deal of skill	
introduction to marketing principles	____	[45]	____	[56]
conducting marketing research	____	[46]	____	[57]
developing a market for a product	____	[47]	____	[58]
understanding the consumer	____	[48]	____	[59]
developing advertising and promotion	____	[49]	____	[60]
role of marketing in the manufacturing-wholesale-retail chain	____	[50]	____	[61]
understanding the environment in which business operates	____	[51]	____	[62]
introduction to business principles	____	[52]	____	[63]
international business	____	[53]	____	[64]
starting and managing a new business	____	[54]	____	[65]
how to expand your business	____	[55]	____	[66]

Figure 3: Typical task/skill list and questions tapping relevance and competence.

To answer the question "If a course in each of the following areas were offered in a location or method accessible to you, to what extent would you be likely to take it?", use the following numbers:

1. **Certain to take it**
2. **Probably take it**
3. **May take it**
4. **Unlikely to take it**
5. **Certain not to take it**

introduction to marketing principles	_____	[38]
conducting marketing research	_____	[39]
developing a market for a product	_____	[40]
understanding the consumer	_____	[41]
developing advertising and promotion	_____	[42]
role of marketing in the manufacturing-wholesale-retail chain	_____	[43]
understanding the environment in which business operates	_____	[44]
introduction to business principles	_____	[45]
international business	_____	[46]
starting and managing a new business	_____	[47]
how to expand your business	_____	[48]

Figure 4: Question tapping desire to take further training or education.

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