NEEDS ANALYSIS AS A BASIS FOR CALL MATERIALS DESIGN.

Paul Seedhouse

Abstract

At present CALL focuses almost exclusively on learners’ linguistic needs and is therefore not in harmony with current humanistic views of the learner as an individual with psychosocial needs.

It is suggested that one way of remedying this situation is to use a 'process-oriented' needs analysis for a particular group of learners as the basis for CALL materials design. The article provides an example of this procedure, working from needs analysis to development of aims, materials development, implementation and evaluation.

Possible bases for the design of CALL materials

The design of CALL materials to date has generally been based on two principles:

1) How can I make the best use of the capabilities of the computer (to promote language learning)?

2) How can I produce pedagogically sound tasks (for use on the computer)?

This is not to suggest that the two principles are mutually ex-
clusive: materials designers may use a mixture of both principles.
Both principles have been the basis of many excellent pieces of
software, but both have one important limitation: neither take the
needs of specific groups of learners as their starting point.

A third alternative would be to design CALL tasks on the basis
of the needs of a specific group of learners.

Brindley (1989 p63) states that "One of the fundamental principles
underlying learner-centred systems of language learning is that
teaching/learning programmes should be responsive to learners' needs.
It is now widely accepted as a principle of programme design that
needs analysis is a vital prerequisite to the specification of lan-

Many authoring packages are now available which enable the
teacher to tailor the CALL materials to the individual linguistic
needs of the learners by inputting texts, exercises and vocabulary
items which are particularly suitable for that group of learners.

However, the problem here is that the CALL authoring materials
are catering for only one type of need, namely a purely linguistic
one. Brindley (1989 p63) proposes that there are two orientations to
needs analysis. The CALL authoring approach corresponds to what
Brindley terms the "narrow or product-oriented interpretation of
needs whereby the learners' needs are seen solely in terms of the
language they will have to use in a particular communication
situation." Nowhere in CALL authoring materials do we get a sense of the learners being catered for as individuals in the humanistic sense.

Brindley (ibid) states that there is a second interpretation of needs, which is the "process-oriented" interpretation", the proponents of which are "trying to identify and take into account a multiplicity of affective and cognitive variables which affect learning, such as learners' attitudes, motivation, awareness, personality, wants, expectations and learning styles."

**Humanistic approaches and CALL**

A central problem for CALL is, therefore, that whilst methodology has been developing in humanistic, process-oriented directions, CALL has concentrated almost exclusively on product and remedying linguistic deficiencies. Having set up CALL centres in 3 different institutions, I have noticed that many teachers tend to be reticent and worried about using CALL. Although their primary worry is usually that the equipment will break down, they are also worried that the classroom dynamics and relationships are radically altered, with the focus shifting from human-human communication to human-machine communication resulting in a `dehumanising' of the language classroom.

This `dehumanising' effect is a problem which cannot be ignored if CALL is to gain more general acceptance. The problem is neatly summed up by Brumfit (1985):" It is a curious paradox that just as computers
are being increasingly promoted as aids to teaching of all kinds, including language work, methodologists are pushing for learner freedom, affective responses, and a variety of needs which appear to be precisely those that computers are ill-equipped to respond to."

There are several possible approaches to remedying this state of affairs:

a) One approach would be to use CALL as a resource for classroom interaction. Roe (1985) examines the possible ways of matching tasks with classroom communication networks and Jones's (1986) experiment stresses the importance of the teacher organising the learner interaction rather than expecting the software to produce it.

b) Another approach would be to try to promote more `meaningful', more `human' interaction between the computer and the learner. Cook (1988) has developed software with this aim in mind: "The way of accommodating CALL to communicative teaching suggested here consists of improving its ability to interact with students and to handle information."

c) Another approach would be to promote the use of interactive video. This has the advantage of being able to show human beings interacting in social situations on screen (like video), with additional possibilities of the learner appearing to control the way the story or situation unfolds (the interactive element). Simulations can also be set up in which the characters on screen appear to converse with the
learner, and in which the learner can contribute to the interaction via a microphone. An example of interactive video which already offers all these possibilities is the BBC `Connections' series.

d) Other emerging approaches are virtual reality, the `electronic neighbourhood' and the use of games. For a description of these, see Fox et al 1992.

e) A fifth approach, and the one described in this article, would be to design CALL materials on the basis of what Brindley (1989) calls a `process-oriented' needs analysis for a particular group of learners (see page 2). Such CALL materials would directly tackle the humanistic or psychosocial needs of the learners. The following sections describe an attempt to implement this fifth approach.

An example of process-oriented needs analysis used as a basis for CALL materials design

The rest of this article gives an example of how needs data was, in one situation, collected, interpreted and translated into objectives and materials design. The procedure is not intended as a guide or a model: there are many possible types of needs analysis (outlined in Berwick 1989). Rather, it is hoped that the example will provide the reader with a basis for judging whether learners' needs in the humanistic sense are potentially a useful basis for designing CALL materials or not.

In this case the needs analysis was carried out because the
learners did not appear to be validating or engaging with the main
coursebook which was being used. Normally a needs analysis would be
performed before the start of a course: in this case this did not
happen for operational reasons. It must be stressed that this was a
particular type of needs analysis suited to a particular situation:
the emphasis was on discovering motivation and psychological and so-
cial needs rather than on making lists of individual communicative
needs or linguistic items. In Brindley's (1989 p63) terms, this was a
"process-oriented" needs analysis "trying to identify and take into
account a multiplicity of affective and cognitive variables which af-
fect learning, such as learners' attitudes, motivation, awareness,
personality, wants, expectations and learning styles."

Needs Analysis Data

The learners (3 classes of young learners in Bar-
celona) completed a needs analysis questionnaire: the results are
summarised below.

QUESTIONNAIRE : RESULTS

This questionnaire was completed by 29 of my students in Novem-
ber 1991. Students were asked to answer yes or no and indicate very
important items with a star. The original questionnaire is shown with
the total results written into each column.
**Purposes and Reasons**

*Why are you learning English?*

<table>
<thead>
<tr>
<th>Reason</th>
<th>Yes</th>
<th>No</th>
<th>Star</th>
</tr>
</thead>
<tbody>
<tr>
<td>So I get better marks at school</td>
<td>14</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>So I can pass an examination in English</td>
<td>40</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>So I can travel to other countries</td>
<td>29</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>So I can speak to foreign people</td>
<td>29</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>So I can get a better job when I leave school</td>
<td>27</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>So I can learn about Britain</td>
<td>7</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>So I can understand pop songs in English</td>
<td>18</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>So I can understand films or TV in English</td>
<td>23</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>So I can understand books in English</td>
<td>26</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Because my parents want me to learn English</td>
<td>13</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Because I enjoy learning English</td>
<td>18</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Because my friends go to Instituto Britanico</td>
<td>0</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Because English is an important world language</td>
<td>29</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>I don't know why I'm learning English</td>
<td>2</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>
Ways of Learning

How do you like to learn?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Stars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammar</td>
<td>10</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>Conversation</td>
<td>26</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Video</td>
<td>28</td>
<td>1</td>
<td>16</td>
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<tr>
<td>Computer</td>
<td>25</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Listening from Cassette</td>
<td>18</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Writing</td>
<td>19</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Reading</td>
<td>23</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Learning vocabulary</td>
<td>15</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Homework</td>
<td>4</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Working alone</td>
<td>6</td>
<td>21</td>
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<tr>
<td>Pair work</td>
<td>23</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Group work</td>
<td>28</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Whole class work</td>
<td>22</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Problems

Which areas of English are the biggest problem for you? The lower the number the bigger the problem.

How to pronounce English words | 124
Speaking                        | 130
Listening (understanding English people) | 130
Reading                         | 173
**Discussion of the Data**

"Need is apparently indicated by high-frequency, overlapping responses to choices available on the questionnaire." (Berwick 1989 p60)

The results were strikingly homogenous, even though the learners filled in the questionnaires individually and without discussion. This suggests that the group members had similar needs, and that even at their age (14-18) the learners were definitely aware of having specific needs and were able to identify them.

There is surprising unanimity concerning the prime motivations: `So I can travel to other countries', `so I can speak to foreign people', `because English is an important world language' and `so I can get a better job when I leave school.' Video, computer and conversation are the favoured methods of working, with group work the preferred dynamic. This seems to suggest that the students strongly disfavour traditional learning activities (in contrast to Nunan's
1988 (p90) findings with adult learners) and want to move the focus away from teacher-fronted activities. It also suggests that they are interested in being entertained. Grammar is perceived to be by far the biggest problem, and reading by far the smallest problem, with no significant findings in the other areas.

**Interpretation of the Data**

The data suggests that the primary sources of motivation are psychological and social. The obvious way to cater for their learning purposes is to send them to a summer language school abroad; many students have already done this. However, the problem remained how to cater for the stated psychosocial needs in a Barcelona classroom. The questionnaire shows they are not particularly interested in learning about Britain, so we have to assume that their motivation is that they want to travel and experience things themselves. They are of course speaking to a foreign person (myself) every lesson, but they are certainly thinking of interacting with foreigners of their own age. The impression from their answers is that there is a strong psychosocial dimension to be catered for here. They want to see themselves as the sophisticated, internationally-mobile Europeans of the future, and ability in English forms a vital part of this. Furthermore, they see English as being the language of
youth culture.

The Concept of the Target Speech Community

When attempting to cater for psychosocial needs it can be very useful to try to define the learners' target speech community, so that one can visualize what is being aimed at. The target speech community is the social grouping which the learners are aspiring to become a member of. In the case of this group of learners their target speech community can be defined as follows:

The Barcelona young learner and the Western teenager making contact and socialising with one another under the norms of international youth culture. Barcelona young learner's purpose: to establish social contact, to gain access to the worlds of international travel, youth culture and entertainment, and to have fun.

Using the target speech community as defined above, the coursebook was examined see why they were not engaging with it. The reasons then became clear: although the coursebook is excellent in many ways, it does not include any action in the target speech community of these learners. It does not include any work on travelling abroad, meeting foreigners or English as a world language, and it is written for mature adults.

Development of a Main Aim
Now that the data has been interpreted and the needs more clearly defined, it is possible to develop a main aim. The prime aim is to cater for the psychosocial needs stated and to enable the learners to move closer (in psychological and social terms) to their target speech community. We now need to consider what the practical options are for delivery of this aim.

**Catering for the Main Aim**

Since changing the main course book was not an option in this particular situation, it was decided to produce materials to cater for the stated main aim which could supplement the main course.

If we select 2 out of the 4 prime motivations: `So I can travel to other countries, so I can speak to foreign people,`, a course of action begins to suggest itself. It may be possible to simulate a trip abroad including conversations with foreigners. This would correspond closely to the outlined target speech community.

This brings us on to the preferred methods of learning (computer, video, conversation, group work), which seem to fit fairly neatly together and suggest a methodological direction. CALL programs and video based tasks can be designed to stimulate conversation amongst group members: "Computer simulations can provide a motivating
stimulus for free oral work, as they offer both a focus for oral ac-
tivity and a continually changing scenario for learners to talk
about." (Jones & Fortescue 1987 p63).

Ideally, in this situation, interactive video (which combines
video images with computer technology) could be used. However, there
was no interactive video equipment available. It was therefore
decided to concentrate on producing a simple computer program for BBC
computers, for which equipment was at hand.

So the materials which were written were a computer reading
maze (entitles English Adventures) which simulates a trip abroad
which includes conversations with foreigners. It is a reading maze in
that the learner makes choices which may send him/her back to a pre-
vious page or take him/her towards the way out of the maze. It is a
simulation in that the learner has to imagine that he/she is taking
part in the story on screen and is `spoken' to by the computer. What
actually happens when learners use the software is as follows: the
learner reads page 1 on the screen (arrive at the airport) and is
given choices as to what to do next (get a taxi, go to the informa-
tion desk, accept a lift from a stranger). Depending on which choice
is keyed in, the story unfolds in different ways ie page 4 or 6 or 7
appears on screen next. Each page offers a choice of what to do next.

The main aim is to facilitate the learners' integration
into their target speech community, which includes: making contact
and socialising with other teenagers under the norms of international
youth culture, gaining access to the worlds of international travel, youth culture and entertainment, and having fun.

The computer program does this by including action in these areas in the story. The protagonist has two social/romantic encounters with teenagers of the opposite sex in which both parties exchange personal details. The world of international travel is encountered in difficulties in getting accommodation, problems with changing money and with taxi drivers. The world of youth culture and entertainment is introduced by an episode in a pub - one of the most common forms of entertainment for young foreigners in Britain. An element of fun and adventure is added in the various twists to the storyline: you can end up a film star, a victim of robbery, a hero on the front page of newspapers, get married, or you can have a quiet holiday and go home.

Authenticity

At this point one might object that this 'simulation' of a trip abroad is hopelessly 'inauthentic' and far from reality: there aren't even any pictures. However, the key issue underlying the materials design here is 'learner authenticity':

"Another important type of authenticity (perhaps the most important of all) is what might be called 'learner authenticity'. By this is meant the realisation and acceptance by the learner of the authen-
ticity of a given text, task, set of materials or learning activity.

For learners to authenticate materials, these need, minimally, to fulfil two conditions. In the first place, they need to be recognised by learners as having a legitimate place in the language classroom. Secondly, they must engage the interests of the learner by relating to his interests, background knowledge and experience, and, through these, stimulate genuine communication.” (Nunan 1988 p102).

The materials are aiming to achieve strong learner authenticity precisely because they are based on the classroom activities which have the highest approval ratings and because they engage their prime motivations.

Subsidiary Objectives

We are now in a position to derive subsidiary objectives from this prime aim. Those which branch directly from the main aims are: to develop conversation skills and survival skills for travelling abroad. To develop an extended lexical set relating to travel abroad.

These subsidiary objectives were dealt with by being written into the story line rather than being self-conscious ‘exercises’. Conversation skills are intended to be developed by interaction between learners using the software. However, there is simulation of conversation during the two social / romantic encounters with persons of the opposite sex. The imaginary conversation partner asks a ques-
tion eg "Where are you from?" by printing the message on the screen and simultaneously `speaking' it using the speech synthesis software. The learner is prompted to type in an answer and to ask questions to his/her imaginary conversation partner, and so the `conversation' progresses. The main purpose of these exchanges is to introduce some of the most common exchanges which take place when making contact and socialising with other teenagers under the norms of international youth culture. As can be seen from the evaluation video made of the software being used in class, the learners found these simulated conversations quite fascinating. No great claims could be made for this simulated conversation as a language learning exercise, but the impression from the video was that it was particularly successful in catering for the main psychosocial need and therefore furthered the main aim of the whole task considerably. Having a `conversation' in English by means of a computer coincides very precisely with their self-image as the `sophisticated, internationally- mobile Europeans of the future'.

The story catered for the objective of survival skills by including useful information on travelling, changing money, potential dangers, taxi drivers, emergency phone numbers etc.

To fulfil the objective of acquiring a lexical set related to travel each group of learners was equipped with a set of vocabulary sheets and a bilingual dictionary.
Evaluation

Since this was primarily a consciousness-raising exercise rather than one involved in teaching verifiable linguistic items, the primary method of evaluation had to be that of asking the learners themselves what they felt the task had achieved. It is of course very difficult to assess whether psychosocial needs have been catered for, because we cannot see into learners’ minds. A simple questionnaire was designed. The materials were trialled and evaluated with all 3 target classes. It was felt that the materials would be successful if the main aim was fulfilled ie if the learners had drawn closer to their target speech community, and the psychosocial needs were catered for. The questionnaire results are reproduced below. All students answered that they had learned either a little or a lot about travel abroad and speaking to foreigners, so the aim seems to have been fulfilled to some extent. They were also asked in the post--task questionnaire what they thought the reasons were for doing the task. ‘To learn about travel abroad and speaking to foreigners’ was by far the most popular answer. A video was also made for evaluation purposes of the learners using the software, and this showed that the learners engaged with the task with enthusiasm and learner authenticity was achieved. The evaluation therefore established a direct link between their needs and motivations as identified in the needs analysis, the aims, the materials and what actually happened in the
Conclusions

The problem identified at the start of this article was that CALL's concentration on linguistic forms and its 'dehumanising' effects are at odds with the humanistic, psychosocial focus of much current methodology. This article has demonstrated that one possible means of tackling this problem is to take the learners' psychosocial needs as the basis of CALL materials design. This procedure proved to have two additional advantages: it should ensure that a direct link can be drawn from needs to aims to course design to classroom implementation and evaluation, and it should ensure that the 'learner authenticity' of the materials is maximised.

We can also reach further conclusions about the benefits of needs analysis in this particular case only:

1) In the case of that particular class, the questionnaire results suggested that the learners (although young) had a very clear idea of their own needs and wants. Even in the rather nebulous area of psychosocial needs it proved possible to specify and define them.

2) The needs analysis was carried out in order to solve a particular problem, and it proved successful in identifying the source of the problem.

3) The needs analysis data actually suggested a direction for
materials design to tackle the problem.

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