Problems and solutions in the classification of compensatory strategies

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It has been common practice to classify communication strategies (CmS) by means of taxonomies which are largely product-oriented. In such taxonomies different types of achievement strategies (also known as compensatory strategies (CpS)) are distinguished on the basis of the resources (source language, target language, gestures) which are used to encode the strategy, and the linguistic structure in which the strategy is couched. In this paper it will be argued that these taxonomies are inadequate for a number of practical and theoretical reasons. As an alternative, a process-oriented approach towards the classification and study of CpS will be proposed. This approach distinguishes between two basic strategy types only, *conceptual* and *linguistic*. It will be demonstrated that the choice between these two strategies is largely constrained by the nature of the experimental task and, to a much smaller extent, by the subjects' foreign language proficiency level. It is expected that a systematic study of these constraints in terms of the process-oriented taxonomy described here will increase our ability to explain and predict CpS use.

I Introduction

Foreign language (FL) learners who venture to put their knowledge into practice often run into communication problems due to a deficient FL vocabulary store. The strategies which they employ to solve these linguistic problems are generally known as communication strategies (CmS). In the past ten years or so CmS used in FL production have been the subject of an increasing number of studies (*cf.* the collection of articles in Faerch and Kasper, 1983a). In most of these studies the data have been classified by means of the taxonomy developed by Tarone (1977) or one that was adapted from it (*cf.*, e.g., the taxonomies in Bialystok and Fröhlich, 1980; Bialystok, 1983; Faerch and Kasper, 1983b; Poulisse, Bongaerts and Kellerman, 1984; Paribakht, 1985). In these taxonomies CmS are generally subdivided into: (a) *avoidance* or *reduction strategies*, used by the speaker who

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gives up (part of) his message; and (b) *achievement strategies* which the speaker employs to reach his originally intended goal. The latter have been further subdivided into *retrieval strategies* and *compensatory strategies* (cf. Faerch and Kasper, 1983b; 45–53). In this paper the discussion will be restricted to compensatory strategies (CpS), and more specifically to the use of CpS by FL learners. It should be clear though that CpS use is by no means unique to FL learners. As Kellerman, Bongaerts and Poulisse (1987) have shown, it is possible to think of quite a number of situations in which native speakers of a language need to resort to CpS.

In the first part of this paper some practical problems relating to the applicability of the above-mentioned taxonomies will be discussed. Besides, and more importantly, it will be argued that there are a number of theoretical problems resulting from the lack of sufficient distinction between product and process in these taxonomies. In the second part a new taxonomy of CpS will be presented. This taxonomy was developed as part of the Nijmegen project on the use of CpS by Dutch learners of English (cf. also Kellerman *et al.*, 1987; and Bialystok and Kellerman, in preparation). In contradistinction to earlier taxonomies, it distinguishes between two basic strategies only. It will be argued that these strategies can be directly related to the cognitive processes underlying language use. Finally, some of the factors which are likely to affect these processes will be discussed. It is hoped that the investigation of these factors which is currently being undertaken in the Nijmegen project will eventually make it possible to explain and predict CpS choice.

II Problems with current taxonomies

Tarone's (1977) taxonomy was primarily set up for the purpose of analysing CmS used to refer to concrete objects and Tarone herself noted its lack of generality. She considered it 'a system which seems to provide the best tool to make sense of the behaviour of *my* subjects in *this* communication situation' (emphasis mine, Tarone, 1977: 197). No wonder many researchers who wanted to apply the taxonomy to different data, for example, those elicited in oral interviews or in tasks that involved abstract concepts, felt obliged to set up new categories to capture CmS specific to their tasks. Examples of such new categories abound in the taxonomy described by Paribakht (1985), who introduces strategies like 'use of target language idioms and proverbs', 'metonymy' and 'antonymy', which exclusively occur in connection with the communication of abstract concepts like 'pride' or 'patience'.

Tarone also observed that the distinctions between categories were

not as 'clear cut' and 'mutually exclusive' as she would have liked them to be (Tarone, 1977: 197). Just as she did, many researchers after her 'wrestled with their data' and discovered that many of the definitions applied to 'best examples' only, but were of little help when it came to handling borderline cases consistently. Therefore they redefined some categories and further subdivided others to suit their own data.

As a result of the open-endedness of the existing taxonomies we are now faced with a rather confusing multitude of CmS taxonomies with little agreement on the terminology (cf. the survey in Poulisse et al., 1984, which lists approximately 50 CmS mentioned in the literature). This has made the interpretation and comparison of experimental results a very difficult task.

The second, and more serious problem in connection with current taxonomies relates to the criteria which have been chosen to distinguish between various subtypes of CpS. Some of these criteria are largely product-oriented and it can be demonstrated that this has concealed some obvious generalizations to be made with respect to the cognitive processes underlying CpS use. Others relate to the final (encoding) stage of the speech production process only and this, it can be shown, tends to obscure what happened at earlier stages.

Firstly, consider utterances (1) and (2)[1]:

1) haircutters (hairdressers)
2) ones, who, who erm, could cut people's hair (hairdressers)

Traditional taxonomies would distinguish between these utterances on the basis of their linguistic form. They would classify (1) as *word coinage* (the creation of a new target language word) and (2) as *circumlocution* (a description of the characteristic properties of the referent), in spite of the fact that both refer to 'the cutting of hair' as the criterial attribute of a 'hairdresser'. By focussing on the differences in form, the similarity between the two utterances in terms of propositional content is concealed and the generalization which could have been made with respect to the analytic process underlying these utterances remains unnoticed.

The distinction of *mime* as a separate category to distinguish nonverbal from verbal encoding has a similar effect. It would lead to different classifications of utterances realized by words and utterances realized by gestures. In fact, however, the learner who distinguished a 'flute' from a 'recorder' by moving his fingers sideways first and then in front of his mouth, would not have employed a different strategy,

[1]This and all other examples are from the data collected in the Nijmegen project. 'S' stands for subject, 'I' stands for interviewer. The numbers in the data indicate the length of pauses in seconds. Pauses shorter than one second are marked by a comma. Relevant information on the subject's and the interviewer's behaviour is given between angular brackets, e.g., <laughs>.

but a different encoding system, if he had *said*: 'this is a thing which you play sideways, and this is one which you play in front of you.' In both cases he considers the position of the hands when playing to be the distinctive attribute. Whether he encodes this information verbally or by means of gestures is irrelevant to the preceding analytic process.

Now consider the category of *circumlocution*. In many taxonomies this category (also referred to as *description*) has been conscientiously subdivided according to the types of features mentioned in the description. Hence (3) would be classified as containing two strategies, a *description of form* and a *description of location*, while (4) would be considered a *description of function*.

3) an uh animal in the form of a star and uh you find it uh at the sea (starfish)
4) something to, to kill fly flies with (flyswat)

However, both (3) and (4) mention the most criterial features of the referents. In the case of 'starfish' these happen to be form and place, in the case of 'flyswat' it happens to be function. That different features are mentioned does not mean though that the CpS employed are different. It only means that starfish and flyswats are different. Clearly, a classification according to the features mentioned in the description confuses differences in referents with differences in CpS. It is not surprising then that studies which have predominantly used concrete objects to elicit CpS report the use of a large number of *descriptions of function* (e.g., Bialystok and Fröhlich, 1980). This is a direct result of the fact that concrete objects can usually be distinguished by their functions. A study involving abstract notions would very likely show a completely different picture, because in the case of abstract notions other features are criterial. If, however, in both studies the subjects compensated for unknown words by mentioning the referents' criterial features, the conclusion should be that the subjects used the same CpS in both studies. Again then, this is an important generalization that will be missed if product-related criteria are used to distinguish between CpS types.

Finally, some of the major distinctions made in traditional taxonomies are based on the resources (verbal or non-verbal, L1 or L2) which are used to encode strategies. This may lead the researcher to underinterpret the learner's behaviour. For instance, to classify an utterance like 'bore' (for pneumatic drill) as *L1-based* because Dutch has a word 'boor' meaning 'drill', would be to underinterpret the actual problem-solving process. For, preceding the *L1-based strategy* for 'drill', the speaker decided to use an *approximation* (viz. drill) to refer to 'pneumatic drill'.[2] Clearly then, the process is much more

[2]This interpretation was confirmed by the subject in the restrospective session which was conducted immediately after the data had been collected. For more information on the use of retrospection in this project, cf. Poulisse *et al.* (in press).

complicated than the surface form of the utterance suggests, and what we have here in terms of a traditional taxonomy is not an *L1-based strategy*, but an *approximation* encoded in the L1.

Similarly, the classification of 'nep-hair' as *L1-based* (Dutch 'nep' = English 'fake') would miss the point that the speaker has in fact analyzed the concept 'wig' into its criterial features, namely that it is made of hair and that this hair is not real, before he decided to partly encode it in the L1.

The above examples go to show that quite a few of the distinctions made in traditional taxonomies tend to obscure rather than clarify our insights in the processes underlying CpS use.

III Towards a process-oriented study of CpS

From the discussion in the preceding paragraph one can draw two conclusions with respect to the study of CpS. The first is that it is essential to have a well-defined taxonomy which is sufficiently general to cover a wide range of data. That is to say that the taxonomy should be able to handle both verbal and nonverbal CpS, used by L1 and L2 speakers of different language backgrounds, inside and outside the classroom, when speaking to native and nonnative speakers of the target language and irrespective of the task. A taxonomy which is general in this sense does not require ad hoc additions and will, therefore, comprise a finite number of strategies. To ensure consistent application of the taxonomy by different analysts, and to avoid redefinitions, it is important that the strategies are defined unambiguously.

The second conclusion is that many of the distinctions which have been made in traditional taxonomies add little to one's understanding of the cognitive processes underlying CpS use. And since these need to be understood before one can ever attempt to explain and predict CpS choice, it is necessary to develop a taxonomy which captures differences in the underlying processes rather than the resulting products.

It will be selfevident that a process-oriented taxonomy of CpS should be based on a description of the processes underlying CpS use. To arrive at such a description let us take Clark and Clark's (1977) outline of the process of speech production as a starting point.

Clark and Clark divide the process of speech production into a planning and an execution phase. These two phases, they say, should not be seen as strictly separate: planning continues while earlier plans are being executed. The speech production process is then described as consisting of five steps. The first three of these deal with planning at discourse, sentence and constituent levels, respectively. The fourth step concerns developing an articulatory programme and the final step

covers the execution of this programme, i.e. articulation itself.

Usually, in L1 communication, this process will be largely automatic. In FL communication, however, problems may arise, particularly at the constituent planning phase when the speakers 'must pick the right words, phrases, or idioms to inhabit each constituent' (Clark and Clark, 1977: 224). Very often, the right words are not part of the FL learners' knowledge, so that the communicative process threatens to break down. FL learners who do not want to let this happen can do three things.

(1) They can give up or revise their original discourse and/or sentence plans and employ what in earlier taxonomies have been called *avoidance* or *reduction strategies*. The use of such strategies involves a complete reiteration of the speech production process.

(2) They can either implicitly or explicitly appeal to their speech partner to provide the missing word. In the case of these *interactional strategies* the first speaker's language production process is cut short and it is the interlocutor who has to solve the lexical problem.

(3) They can resort to CpS in an attempt to execute their original speech plans. There seem to be two basic strategies. One is to operate on the concept for which they do not know the appropriate word, the other is to exploit their linguistic knowledge. I will refer to these strategies as *conceptual* and *linguistic* respectively.

In the case of a *conceptual strategy* the speaker analyses the concept by decomposing it into its criterial features. He then refers to it by means of these features, either by listing (some of) them, or by using the word for a related concept which shares some of the criterial features. In the first case, his approach is *analytic*. The assumption is that the listener will use the features to infer the intended concept. The analytic approach is illustrated in (5):

5) S: ja, it's **green** and uh, **you** usually uh, **eat it with uh potatoes**
I: mm
S: erm 2
I: that is **a vegetable?**
S: yes, uh ja erm, **Popeye uh eats it** uh
I: <laughs> oh ja
S: erm
I: ja, I know what you mean now, spinach ja
S: oh ja, spinach ja (spinach)

If the speaker refers to a related concept, his approach is *holistic*. The related concept can be superordinate or subordinate to the intended referent, e.g. 'vegetables' for 'peas' or 'hammer' for 'tool', but it can also be at the same hierarchical level, e.g. 'table' for 'desk'. Very often the speaker will warn the interlocutor that the word he uses does not fully express his intended meaning by using a hedge like 'it's a sort of', or 'it's like a'.

Often, the *holistic* and the *analytic* approaches are combined, in which case the speaker refers to a related concept and then specifies in what way this differs from the target concept. Examples are:

(6) big uh 1 big uh, **cars**, they're not uh really cars but **big and high** cars (trucks)
(7) he did on 1 uh, some **hair** 1 and **he** kon, **could put, off it** (wig).

The speaker who uses a *linguistic strategy* manipulates his linguistic knowledge. In the case of an L2 learner this will be knowledge of the syntactic, morphological and phonological rules that apply in the L1, some knowledge of these rules in the L2 (and possibly L3s), and knowledge of similarities and dissimilarities between the L1 and the L2 (and L3).

One can distinguish two subtypes of the *linguistic strategy*. One is the use of L2 rules of morphological derivation to create (what the subject assumes to be) comprehensible L2 lexis. I will refer to this subtype as *morphological creativity*. It has resulted in utterances such as 'appliances' (letters of application), 'representator' (representative) and 'shamely' (shameful).[3] The other linguistic subtype exploits the similarities between languages. If, for instance, two languages are closely related, words or phrases may be transferred from one language to the other (cf. Kellerman, 1977). The utterances resulting from this *strategy of transfer* may or may not be phonologically and/or morphologically adapted to the FL. Examples are '/itə'laʒ/' (shop window, Du: etalage), 'middle' (waist, Du: middel) and 'go by uh, tennisclub' (join the tennisclub, Du: bij tennis gaan). It should be noted that both subtypes of the *linguistic strategy* may result in correct FL lexis, as is the case with 'appliances' and 'middle'. Considering that we operate from the learners' point of view, and not from the researcher's, this is irrelevant to the identification of these utterances as CpS and to their classification.

Although *conceptual* and *linguistic strategies* have been distinguished as the two basic approaches towards the solution of lexical problems, this does not necessarily imply that all utterances can be classified as either purely conceptual or purely linguistic. For instance, in the case of 'clothes-maker' (Eng: tailor) it is possible that the two processes interacted. The fact that the Dutch word 'kleermaker' is transparent (its meaning can be inferred from the two component parts) may have contributed to it being literally translated into English.

[3]In our *oral* data there are very few instances of *morphological creativity* (34, which amounts to a mere 1%). It should be noted however, that Zimmermann (1987) in a study of *written* data elicited from advanced German learners of English by means of a translation task, quotes many errors which he classifies as 'form-oriented approximations'. Many of these errors closely resemble what we have called morphological 'creations'.

The same goes for 'flowerist' (Eng: florist). The existence of a Dutch word 'bloemist' (Du: bloem = Eng: flower) may have triggered the semantic analysis of the intended referent as 'a person having to do with flowers' and the subsequent combination of 'flower' and '-ist' on the assumption that '-ist' is a morpheme denoting 'person' (cf. novelist, typist).

Although this interpretation of these two utterances is not necessarily the only correct one – retrospective data proved similar cases to be the result of the substrategy of *transfer* – it is important to realize that interaction of the conceptual and linguistic processes may occur.

The Nijmegen data have revealed that the two strategies can also be applied cyclically. This often occurs when a speaker runs into a second lexical problem in the course of trying to solve the first one. He then seems to go through the same process again. Thus, in example (8), the subject who had adopted a *conceptual strategy* to convey the item 'reel of cotton', was confronted with another problem, viz. 'thread'. He solved this linguistically first, by transferring the Dutch word 'draad' into English, pronouncing it as 'dread'. Apparently, this solution did not satisfy him, for he decided to tackle the problem once more. This time he approached the problem conceptually, and came up with his final choice 'rope'.

8) uh, it's a wooden thing you can put on, uh 1 some, uh dread, on 1 uh, rope (reel of cotton)

In fact, the same cyclic operation occurred in the example discussed in section 2, where the intended referent 'pneumatic drill' was rendered as 'bore'. The subject first opted for a *holistic conceptual strategy*, viz. 'drill' for 'pneumatic drill' and subsequently employed a *linguistic strategy* to compensate for the word 'drill'.

IV The taxonomy put into practice

The distinctions between *analytic* and *holistic conceptual strategies* on the one hand, and the *linguistic strategies of transfer* and *morphological creativity* on the other hand, proved to cover the data well (see Appendix I for an example). Even though a variety of tasks had been used to elicit the data, there was no need for any ad hoc additions. This suggests that the taxonomy is sufficiently general.

As to the taxonomy's applicability, there were few problems apart from the possible interaction of the *analytic strategy* and the *strategy of transfer* mentioned above. To determine the intercoder reliability a subset of the data, consisting of 403 CpS, was coded by two researchers independently. There was 93% agreement between them.

The intracoder reliability proved to be even higher. Recoding of the same subset by one of the researchers, a year after the original coding had taken place, was consistent with the first coding in 97% of the cases.

V Constraints on CpS selection

Having observed that there are two basic strategies employed in the solution of lexical problems, the first question that comes to mind is: 'who uses which strategy when'? To answer this question one could consider a number of factors which may determine CpS choice. So far, studies on CmS have concentrated on factors such as: *L2 proficiency level* (Bialystok and Fröhlich, 1980); *L1 background* (Tarone, 1977); and *L1 or L2 communication* (Paribakht, 1985). Other factors which have been mentioned in the literature are *personality* and *task*. These factors influence CpS use in different ways. Some determine which strategy is used while others determine whether and with what frequency strategies are used, and how much information is contained in them. To illustrate this point I will discuss the factors *task* and *proficiency level*, since these are the factors which are being studied systematically in the Nijmegen project.

1 *Task*

In the Nijmegen project four different tasks were used to elicit CpS from each of the subjects. They were:

I) to name or describe 20 pictures of concrete objects for which they did not know the English names, in such a way that a native speaker of English who would later listen to the tape would be able to identify them;
II) the same as task I, but this time 12 abstract figures had to be described (both in Dutch and in English);
III) to retell in English four one-minute stories told to them in Dutch;
IV) to have a 20-minute oral interview with a native speaker of English.

It is clear that these tasks pose different demands as to the amount of information which should be given by the subjects. In tasks I and II, it is crucial that the listener understands the message, because success of the task depends on his ability to select the right picture. Therefore, the learners have to give detailed information on each and every single item. In task III, on the other hand, it is possible to bypass small lexical problems, or deal with them superficially, and still successfully perform the task as a whole. The same goes for task IV. Since the emphasis was on maintaining conversation, the subjects could choose to leave out information which they did not consider directly relevant, or which demanded too much effort.

As a result of these differences in task demands we find different strategies. The strategies in tasks I and II are mostly *conceptual* and tend to contain much more information than the *conceptual strategies* in tasks III and IV. Strategies with brief output, such as *holistic conceptual strategies* and *linguistic strategies*, only occur at the subordinate level in tasks I and II (i.e. embedded within another CpS), while in tasks III and IV they abound, both at the superordinate and subordinate levels. So, clearly, the subjects adapted their CpS to the task demands, and gave no more information than was strictly required.

2 *Proficiency level*

The subjects in the project were of three different proficiency levels. There were 15 second-year university students of English and two groups of 15 secondary school pupils who had been learning English at school for just over four and two years respectively. Not surprisingly, the number of CpS used is related to proficiency level, since speakers of a lower proficiency level have more lexical problems. The number of subordinate strategies in particular is strongly related to the subjects' FL proficiency level. Many low-proficiency subjects encounter new lexical problems while describing the features of the first problematic concept. As a result they have to use more subordinate strategies. Presumably in an attempt to keep superordinate strategies as brief and comprehensible as possible, the subjects predominantly use *holistic* and *linguistic strategies* as subordinate strategies.

Contrary to our expectations, we did not find that use of the *linguistic substrategy of transfer* was related to the subjects' FL proficiency level. Although the lowest proficiency group and the middle group were found to transfer approximately three times as many items from Dutch to English as the high proficiency group, this difference virtually disappeared when the relative use of the *transfer strategy* by each of the three groups was compared. Certainly in the case of superordinate strategies, where utterances resulting from the *strategy of transfer* constitute 8%, 10% and 12% of the total number of CpS used by groups 1, 2 and 3 respectively, the difference is almost negligible.[4]

VI Conclusion

Having demonstrated how factors like task and proficiency level

[4]For detailed quantitative analyses of the data, see Poulisse and Schils (in preparation).

affect CpS use, I would like to emphasize the importance of studying these and other factors systematically. It seems that a process-oriented taxonomy such as the one presented in this article can be a useful tool in such studies. It has the practical advantage of being very general and, therefore, applicable to a wide range of CpS data. More importantly, however, it manages to keep processes and products apart, so that it becomes possible to make generalizations at the process-level. Such generalizations need to be made if one wishes to give a full explanation of CpS use, one that also accounts for more basic differences than those that appear at the surface level.

The discussion of two factors which constrain CpS use revealed the importance of an adequate distinction between process and product. It appeared that 'FL proficiency level' mainly affects the number of CpS used by the subjects, while 'task' seems to determine not only the sort of CpS that is used, but also how much information is given in it. Clearly then, factors such as these affect CpS use at different levels. A product-oriented taxonomy does not bring this to light. A process-oriented taxonomy does, and hence enables one to direct one's attention to those factors which constrain the processes underlying CpS use. Eventually, this will put studies in which a process-oriented taxonomy is employed in a much better position to explain and predict CpS use.

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Appendix I

The following extract serves to illustrate the use of the taxonomy presented in this paper. It is taken from one of the interviews of the Nijmegen project. Utterances resulting from CpS use are in bold print. The following abbreviations have been used: anco = analytic conceptual, hoco = holistic conceptual, ho + an = a combination of a holistic and an analytic conceptual strategy, litra = linguistic transfer. There were no instances of morphological creativity in this extract. The subject's intended meanings, recovered with the help of her retrospective comments, are given in the margin.

S: it (= the horse she rides on) is not my, uh my horse, but from the **manege** riding-school: litra
I: from what?
S: from, **the building, there** riding-school: ho + an
I: oh ja
S: **where I am doing that**
I: the club or the stables there
S: ja, uh 1 **eerst** it was uh of 1 uh a man at first: litra
I: mm
S: the club, and, he can pay for the horses, and now, us club, has uh buy it
I: mm
S: and now we have own horses . . . uh 1 there are people who 1 makes the horse for the, who 1 uh help with the horse and, makes, uh, his, **the house of the horse** clean stable: ho + an
I: mm
S: and we must, uh do, the, saddle, **where you can sit up** uh, that we must do on the horse saddle: anco
I: put it up on top you mean?
S: ja
I: oh ja
S: yes, and, uh, **that what he has on his head <pretends to put something over her own head and shoulders> dus dat**
I: mm
S: **With the, uh where you can uh may, hold the horse on** harness: anco
I: mm
S: that we must do on it
I: mm
S: and then we go in 1 uh 1 **where we, go riding** ring: anco
I: mm . . . . and can you go fast?
S: yes, erm, so, I think, seventy, kilometer 2 uh when you 1 **pro** hour per: litra
I: ja?
S: when you **go very fast** gallop: anco
I: ja, that is fast 1 h'm 1 and do you have to wear special clothes then?
S: uh yes, uh a trouser 1 and a cap
I: mm
S: on your head, and 1 uh, and uh 2 **pullover, is this? <points at her jumper>** jumper: hoco
I: ja
S: that's uh make, nn nothing, you can do, uh the thing you want to do, uh on, and then 1 uh **large shoes** boots: ho + an
I: mm
S: 2 uh for that the, hairs of the horse, don't uh, **put** in your feet prick: hoco

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