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ABSTRACT
        The purpose of this paper is to analyze the role of
error analysis in specifying and planning remedial treatment in
second language learning. Part 1 discusses situations that demand
remedial action. This is a quantitative assessment that requires
measurement of the varying degrees of disparity between the learner's
knowledge and the demands of the situation. This leads to the
qualitative assessment of the knowledge lacking in the learner, as
measured against the language of the situation. Part 2 discusses the
nature, scope, and problems of error analysis. Of fundamental
importance are: a deep analysis of type of error and reasons behind
it; an understanding of the process of second language learning; and
a description of the learner's model of the target language, as a
basis for remedial treatment. A final conclusion is that the study of
the learner's model needs refinement, as it can now reveal
information only about the learner's code, not about his
communicative competence. (AM)

ERROR ANALYSIS AND REMEDIAL TEACHING.
S.P.Corder

It is now generally recognised that that branch of applied
linguistic activity which is usually called Error Analysis has two func-
tions. The first is a theoretical one and the second a practical one.
The theoretical aspect of error analysis is part of the methodology of
investigating the language learning process. In order to find out the
nature of these psychological processes we have to have a means of des-
cribing the learner's knowledge of the target language at any particular
moment in his learning career in order to relate this knowledge to the
teaching he has been receiving. The practical aspect of error analysis
is its function in guiding the remedial action we must take to correct
an unsatisfactory state of affairs for learner or teacher. It is with
this second function of error analysis that I am concerned to-day. I
want to investigate what role it plays in the specification and planning
of remedial action. To do this we shall need to analyse in some detail
the nature and cause of situations in which the need for remedial action
seems to arise. My talk will therefore fall into two parts - a dis-
cussion of what is meant by remedial teaching on the one hand, and the
nature, scope and problems of error analysis on the other. This will
enable us to come to some general conclusions about the usefulness and
limitations of error analysis in planning remedial courses.

. . . .

In general we can say that remedial action becomes necessary
when we detect a mismatch or disparity between the knowledge, skill or
ability of someone and the demands that are made on him by the situation
he finds himself in. This general definition is true of all fields of
human activity not just language teaching and learning. It could almost
serve as a definition of any learning situation. We reserve the term

remedial, however, specifically for those situations which occur con-
trary to our plans and expectations, where the demands of the situation
could not have been foreseen or, if foreseen, could not have been
avoided - that is, wher they lie outside the control of the language
teaching planners, or the normal curriculum structure in an educational
system.

In our ordinary experience of everyday life, if we, as indivi-
duals, foresee that some situation is going to make demands on us which
we judge we do not have the knowledge or ability to meet, we avoid that
situation; but there are many cases where the language learner has no
choice; this may happen within the educational system or outside it -
where, for example, a learner or a group of learners for whatever reason
have not been able to benefit by the teaching they have received and are
requiredto meet a new learning situation for which they are consequently
unprepared. Or, for example, outside the school system where a learner
or a group of learners are required to make use of their knowledge of the
language in some task for which this knowledge is in some way inadequate,
as frequently happens when students are required to use a foreign lan-
guage in their university studies or in some professional occupation.

The problem which faces those responsible for decisions con-
cerning remedial action is twofold. They must first decide whether,
in any particular case, remedial treatment is called for and secondly,
if it is called for, what the nature of such treatment should be. Let us
take these two problems separately.

I suppose it is true to say that in many situations of language
use there is some degree of mismatch between the knowledge possessed by
someone and the demands of the situation. It is even true of native
speakers. None of us possesses a complete and perfect knowledge of our
own language. There are many situations which we avoid because we feel
we are not equipped to cope linguistically with them. However, for the
most part the mismatch is not so great that remedial treatment is
necessary. This is true of many language learners in many situations -

they will, as we might say, 'get by' in those situations with the knowledge they possess. This level of mismatch is what we would call an acceptable degree of mismatch and does not require remedial treatment.

The second level of mismatch is one in which the learner does not possess the necessary degree of knowledge to cope adequately with a situation, but has a sufficient basis of knowledge, together with such personality features as motivation and aptitude for learning, for him to be able to learn what is demanded by the situation with, or without, specific treatment. This is what we can call a remediable degree of mismatch. Whether we decide that formal remedial teaching is necessary or not in any particular case depends upon many factors - motivation, intelligence and aptitude being one set of factors, the cost-effectiveness of remedial treatment being another. When well-motivated, intelligent and apt students find themselves in such situations, many will adapt quite effectively without treatment. In other cases, if only in order to promote their self-confidence, remedial teaching may be useful.

The third level of mismatch is one in which the degree of mismatch between knowledge and the demands of the situation is too great to be remedied economically. In such cases there is no solution but to remove the learner from the situation. This we can all an irremediable degree of mismatch. Such a situation occurs when a post-graduate student has been accepted for studies in the university where a near-native knowledge of the language is required and his knowledge falls far short of this standard.

Clearly, degrees of mismatch are infinitely variable in practice. The real problem facing those concerned with remedial teaching is to determine in any particular case the degree of mismatch that exists. And here we are up against a serious difficulty. How do we measure this? It is not unlike the problem of measuring the degree of difference that exists between pairs of different languages when we are trying to predict the amount of learning that the speakers of one will have to do when trying to master the other. In such situations we attempt to do this by comparing the two languages systematically. In the attempt to

assess the degree of mismatch we may use language tests - this is what
is often done and such tests are said to be predictive since their·
object isto predict how well a learner·will cope with the new situation.
Such tests are, however, quantitative, not qualitative, and as we shall
see most, if not all, language tests at the present time must take a res-
trictive view of what is meant by a ' knowledge of a language'.   I shall
return to this problem again.   Most often the degree of mismatch is as-
sessed empirically or pragmatically by waiting to see how well the learner
in fact copes with the new situation; or· by self-assessment, when the
learner himself decides how effectively he will cope with the new situa-
tion.   Such self-assessment is usually highly unreliable.

Once the need for remedial action has been established by one
means or another, the problem of the nature of·such action has to be
solved - in other words, we have to decide what aspect of knowledge,
skills or ability the learner·lacks in order to cope with the situation.
Whereas degree of mismatch is a quantitative assessment, the nat re of·
mismatch is a qualitative assessment.   We can call this a problem of·
diagnosis.   This is essentially an applied linguistic problem, since it
involves a study of the nature of the learner's knowledge of the language
(not a measurement of the knowledge); it involves drawing a picture of
what he knows and can do with what he knows.   It requires some theoreti-
cal answer to the question: what do we mean by a 'knowledge of· a lan-
guage'?   It is precisely at this point that, in my opinion, too many
plans for·remedial teaching fail, because they are based upon an in-
adequate model of a 'knowledge of a language' and often lead to merely
repeating, or 're-teaching' what has already been taught and possibly
even already learned, instead of being based upon a careful study of
the linguistic demands of the situation.

In order to discover the nature of the mismatch which requires
treatment we have, then, not only to have some theoretical notion of·
what is meant by a 'knowledge of a language' but also of what is meant

by 'the language of a situation'.

Up till recently the notion of 'the language of a situation' was understood in terms of such categories as style, register, medium etc., but recent work in sociolinguistics has suggested that the attempt to describe the 'language of a situation', such as 'medical English' or 'legal English' as a sort of 'special language' like a dialect, in the sense of a 'special code' having its own syntactical peculiarities and its own vocabulary is, at best, only a partial explanation, and that the ability to communicate adequately in any situation involves more than the possession of a code.   It is fundamentally a problem of knowing how to use a code; what has been called a knowledge of the 'speaking rules', since it is now becoming evident that there are rules for how to use the code and to interpret utterances in the code.   This rather more extended concept of a 'knowledge of a language' has been called 'communicative competence'. That there is more to a 'knowledge of a language' than a knowledge of its structural rules, or of a code, is, of course, well known to teachers, who frequently meet students whose knowledge of the formal properties of the language seem to be rather restricted and who can nevertheless make use of what they know very effectively in quite a large number of everyday situations of language use, while there are other students who appear to have a good knowledge of the language code but nevertheless seem unable to use it effectively in the world outside the classroom. The "language of a situation' then is more than a code; it is analysable in terms of the sort of functions language has in that situation — what language is used for in that situation.   The analysis is in terms of such categories as speech acts or communicative functions. Unfortunately analyses of this sort are still in a fairly preliminary stage.   The sociolinguistic theoretical apparatus for analysis is still at a somewhat primitive level in comparison with that available for the analysis of language systems or codes, and, of course, what we cannot describe we cannot teach systematically.   Lerners may and do, however, learn much that we cannot teach them.

The decision, then, whether remedial treatment is necessary or not is a problem of the degree of mismatch between knowledge of the language and the demands of the situation, whilst the problem of the nature of the treatment depends on a study of what the learner knows and can do with his language and what the communicative demands of the situation are.

Remedial treatment can, in theory, be applied in two directions: bringing the learner's knowledge up to the standard required by the situation or by bringing the demands of this situation into accord with the learner's abilities in the language. The first is the usual solution, but we cannot entirely neglect the second possibility. In most cases an opportunity to alter the situation favourably is not within our power. This is certainly true where the situation is controlled by demands of a non-linguistic sort. For example, we cannot imagine changing the fact that the language of aviation is English, or, even if we accept that, changing the level of knowledge of English that is required by airline pilots - our lives as air-travellers would be at risk! We may, nevertheless, be able to consider altering the situation within a school system where a too rigid curriculum is imposed by authority, one which takes too little account, for instance, of the considerable variability that exists in learners' motivation, intelligence or aptitude. Where remedial treatment is found necessary in a school situation we can say that nearly always it is the system which is at fault and not the quality of the teaching or, least of all, the fault of the individual learner. Where remedial treatment is regularly required in an educational system then there is something wrong with the system, and it is the system which req uires remedy, not the learner. This may mean adopting more realistic norms/standards given the particular sort of student we have, or promoting alternative norms/standards for some sub-group of the student population. The particular solution depends fundamentally on the numbers of students in the various sub-groups, or the ability distribution in the student population.

This leads me to my final point in the discussion of remedial teaching: the explanation of why it is necessary. Generally speaking, those responsible for planning such treatment are required to cope with the problem <u>as it is</u> rather than try to remedy the state of affairs by changing the system. As we have seen, in many cases the situation lies totally outside the power of the remedial teacher to influence. Such, for instance, is the case of students who require a certain degree of communicative competence to pursue higher studies at the university. We cannot expect university teachers to change their linguistic demands for the sake of a minority of students, or prescribe non-existent textbooks in the students' mother tongue in the place of those in English, for example. Nor can we expect the remedial teacher to require that the teaching in the school system shall be adapted to the communicative needs of any single group of learners - for example, that the <u>ordinary</u> school system should train English learners to cope with commercial or technical situations of language use. Problems of this sort are unavoidable precisely because the school language teaching curriculum must be imprecise and general in its objectives in terms of communicative competence. School language teaching curricula can rarely have specific communicative objectives. They will, perhaps inevitably though, train the learners for <u>no</u> particular situation of language use. It is for this reason (the impossibility of establishing clear objectives in most cases) that most language teaching in schools concentrates on teaching the 'code' (i.e. the language system) rather than the 'rules of use/speaking', on the grounds that whatever else a student requires in order to cope effectively with any situation of language use, he must have some 'basic' knowledge of the language code - what is often called, perhaps misleadingly, the 'common core' of the language. It is also for this reason, amongst others of a practical sort, that our measuring instruments (i.e. tests) can only measure adequately this rather restricted aspect of a 'knowledge of a language', and consequently why tests have a rather limited utility as predictors of performance in actual situations of language use. Now it

is true that there are very few situations of language use in which it would be remotely possible to measure a learner's success in his use of the language. But one of these is that of students studying at the university in a language other than their mother tongue. To some degree, in such a situation, the communicative competence of a student in the foreign language must play a part in his academic success, though just how big it is as a factor may be impossible to determine. If such students' knowledge of the language code is measured by existing tests and then the results correlated with the students' results in academic examinations one might be able to find out what part a knowledge of the code (note: the code, not the use of the code) played in the academic performance. Such an investigation has now been undertaken in the University of Edinburgh and it is encouraging to note that a significant correlation between students' knowledge of the code and their academic examination results has been found. This has meant that the language tests we use can be used to predict, although not very precisely, a student's academic success. But what is particularly relevant is that we can now identify fairly well on the basis of our test results which students do not require remedial treatment of their English, which can benefit by it, and which show what I have called earlier an irremediable mismatch between knowledge of the language and the demands of the situation. For these latter there is nothing to be done but to send them away from the university, since it is not regarded as part of the university's teaching function to provide full-time non-intensive language teaching courses in English. In other words, what they require is not remedial treatment at all, but a normal course in English.

We may note, however, that this testing programme in Edinburgh merely measures the degree of mismatch which I spoke about and which enables us to identify that sub-group of students requiring, and able to benefit from, remedial treatment, out of the total group of foreign students; it does not tell us what the nature of the remedial treatment should be. For that, as I have said, we need to know the nature of the

mismatch. In the example given it requires a description of the demands of the academic learning situation in terms of communicative skills. I am glad to say that there are now several groups working on such an analysis. It also requires a technique for analysing the student's 'knowledge of the language', not just his 'knowledge of the code' (which is what our present tests can measure).

It is now time to turn to my second topic, that of error analysis. We do this in order to see to what extent and in what situations 'error analysis', as we can now do it, may help us in assessing the student's 'knowledge of the language'. Error analysis is both an ancient activity and at the same time a comparatively new one. In its old sense. it is simply the informal and often intuitive activity of any teacher who makes use of the utterances of his pupils to assess whether they have, or have not, learned the particular linguistic points that he has been trying to teach - it is, in other words, an informal means of assessing and checking on a pupils progress. Most teachers are perfectly well able to give an account of the typical errors made by the students who pass through their hands; they often build up a useful list of so-called common errors. Notice that this is almost always concerned with the student's knowledge of the code, and practically never with the student's communicative errors or failures. This is because, as we have already said, most classroom teaching still concentrates on teaching the code and not communicative competence, and because teachers are rarely in a position to observe their pupils' performance of the language in real situations of language use. In other words, most teachers simply do not know, from first-hand experience, how well their pupils will perform when they really have to use the language for communication; they can only guess; certainly the ordinary tests and examination results will not tell them reliably. Teachers necessarily rely on this intuitive analysis of the students' knowledge to show them where the main learning problems of their students lie, and also to guide their informal in-course remedial work. This most often takes the form of 're-teaching' that particular

bit of the language which has proved to be a problem - by re-teaching I mean simply teaching again by the same methods and with the same materials the point in question. In the event, very often, a lot of work produces relatively little improvement. After all, if the first teaching did not produce the required results, there is no obvious reason why the second teaching should do so (unless the first attempt was too hurried). Effective remedial teaching of this sort requires that we should under-stand the nature of the pupils's difficulties. In other words, it is not sufficient merely to classify his errors in some superficial way, as is too frequently done, into errors of commission, omission, wrong seq uence and wrong selection, but it requires a deeper analysis of the error, leading to an understanding or explanation of the cause of the error. Only when we know why an error has been produced can we set about correcting it in a systematic way. This is why 're-teaching' as a reme-dial procedure is so often unproductive. Inasmuch as the errors were a result of the method of teaching in the first place, there is no reason to hope that simple re-teaching will quickly solve the problem. If, on the other hand, the errors were a natural result of the learning process, such as analogical errors, or of the nature of the pupil's mother tongue - transfer errors - then only a deeper understanding of the learning process on the one hand, or a linguistic comparison of the mother tongue and the target language on the other, will yield explanations. This is where knowledge derived from linguistic and psycholinguistic theory comes in and why 'error analysis' is now increasingly engaging the interest of applied linguists. This is because, as I said in my introductory re-marks, it yields insights into the language learning process which will eventually have direct relevance in the improvement of language teaching materials and methods, not only in remedial teaching but also in ordinary teaching.

This is the way the applied linguist sees the problem: a lan-guage learner is engaged in the task of discovering the system or code of the target language. He does this by making for himself, usually

subconsciously, a set of hypotheses about how the language works on the
basis of the language data which is available to him, that is, the
examples of the language in their context. He makes use, of course, in
constructing these hypotheses, of whatever information or explanations
may be given him by his teacher or the textbook, including, most im-
portantly, any information from the context or from translation, about
how these examples of the language are to be understood or interpreted.
Inevitably he will form false or provisional hypotheses, either because
the data is insufficient to form correct hypotheses straight away or be-
cause he receives misleading information about the language. (I do not
mean that the teacher gives him false information, but rather, incomplete
information or ambiguous information, so that he may perhaps quite.
logically draw the wrong conclusions.) The hypotheses he forms are the
basis on which his utterances in the language are produced. Inevitably
some of these will be erroneous. The teacher makes it quite clear to
him when this is so. The pupil then attempts to reformulate his hypo-
thesis in a more adeq uate form on a re-consideration of the old data or
on the study of new data or explanations given by the teacher. The pupil
then tries again. This time his utterances may be acceptable, or, once
again, erroneous. He reformulates his hypotheses if necessary. And so
on. Each new hypothesis is, we hope, closer to the true facts of the
target language.

We can see from this analysis that at every moment in a learner's
career he has what we can call a 'grammar', that is, a set of rules for
making sentences. The only thing is, of course, that the rules are not
always those of the target language. He has what William Nemser has
called an 'approximative system' (or others an interlanguage) at each
moment in his learning career. The applied linguist's study of the
learner's language is an attempt to characterise the 'approximative system'
of a learner (or a set of learners) from the data of his utterances. The
applied linguist is thus, through this study, attempting to describe
'the learner's language' at any particular moment. To do this, however,

he has to take into account, of course, not just those utterances which are erroneous in terms of the grammar of the target language but the whole of the learne r's output. The task is fundamentally the same as that of describing the language of the infant learning his mother tongue, or some other unknown language. It is by this means that we can draw up a picture of what, till now, I have called the learner's 'knowledge of the language'. It will be clear now that what this means is the 'model that the learner has of the target language'. The model is inaccurate in various respects, but the model is always complete, it is a working model, a system, a language system, a grammar, and can be used for producing utterances which can be used for communicative purposes, often q uite effectively. Let us be q uite clear about this. The learner's language at any point in his career is systematic and potentially functional. What the applied linguist's study of the learner's language cannot do, any more than conventional tests can do, is say anything reliable about how effectively the learner can use his system in situations of real language use. In other words, the applied linguist's study of 'learners' languages' tells us about their code, it does not yet tell us anything interesting about their knowledge of how to use the code. On the other hand, we have already seen that there may be some connection between a knowledge of a code and its successful use. The conclusion we can draw from this discussion is that, since we must teach the target language code, any technique which enables us to describe the learner's code at any particular point in his career will give us information of a detailed sort on which to base our remedial teaching if we consider it necessary. We do this by comparing the learner's code as we have found it with the standard description of the target language's code and identifying the differences. It is the account of the precise nature of these differences which gives us the information which enables us to 'correct' the language learner's errors in a systematic fashion in our remedial teaching.

Let me now summarise what I have said. Remedial teaching is

adjudged necessary when we discover a mismatch between a learner's (or group of learners') 'knowledge of the language' and the linguistic demands of some situation in which he finds himself. This situation may be a situation of language learning, as we may find it within a school system, or it may be a situation of language use, where the learner will have to use what he knows for real communicative purposes. The degree of mismatch determines whether and how much remedial teaching is necessary and is normally measured by language tests. We have seen, however, that these tests only measure the degree of mismatch in terms of a knowledge of the language code which is itself only part of the knowledge required to use language functionally in a situation of language use. It may, however, be the principal type of knowledge needed to cope with a situation of language learning.

The nature of this mismatch determines the nature of the remedial treatment. This cannot adequately be discovered by language tests, but requires an analysis of the situation of language use not only in terms of the nature of the language code used, but also in terms of the types of discourse functions it involves. A parallel assessment of the learner's code by means of 'error analysis' tells us the nature of the differences between the learner's code and that of the situation, and provides us with the information on which we may base a systematic remedial course. Error analysis, however, cannot yet give us a clear and comprehensive picture of the learner's communicative competence; it does not enable us to predict how a particular learner will cope with the demands of a situation of language use, though it will serve well to say how he will perform in a situation of language learning, as I have defined it.

Let me say finally that the study of the learner's language is still in its infancy; we have yet to perfect our techniques. It requires a good knowledge of linguistics to perform and is, thus, at present not a technique available to most present-day teachers. We have

not yet even started, for lack of both theory and methodology, to study
a learner's communicative competence.   Until we can, the design of re-
medial programmes will remain as it is at present, very much an art, and
dependent upon the experience, skill and ingenuity of the language
teacher.