

## Chapter eighteen: Some methods of analysis in IL studies

As explained in chapter 17, IL studies focus on language which is present in the learner's mind or language which learners encounter and which they attempt to process in order to reconstruct their addressers' communicative intentions. The term "language" is here used with two distinct meanings:

- (1) language as a *system*, either as described by linguists or as cognitively present in individuals (cf the discussion of linguistic and psycholinguistic rules in chapter 6)
- (2) language as *observable behaviour*, physical signs and noises functioning as communicative signals by using the code of a linguistic system.

In the following we shall restrict the term *language* to the first of these two, the system, and use the term *performance* to refer to the physically present manifestation of language.

Performance represents one, very important, source of information about language. Describing language on the basis of linguistic performance will be referred to as *PERFORMANCE ANALYSIS*. All the methods described in this chapter are variants of this type of analysis. One alternative to performance analysis is to ask individuals to introspect, ie to state what they know, or how they believe that they process language. Unfortunately, introspective methods have not yet been developed to such a degree within IL studies that one can have great confidence in them. It therefore needs emphasizing that although it is often advisable to supplement a performance analysis with introspective techniques, it is problematic to use introspection as the only method in an IL analysis.

# Learner Language and Language Learning

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## 18.1 Performance analysis

The primary linguistic data in IL studies are of three types:

- (a) learners' native language (L1) performance
- (b) learners' interlanguage (IL) performance
- (c) performance in the target language (L2) which learners are exposed to in and outside the classroom.

In the book we have concentrated on performance analysis of learners' interlanguage, ie on (b). In the crudest form of such analyses, learners' performance is described without any attempt to relate this to other types of performance (eg to the IL performance of other learners, or to learners' L1 performance) or to a target language norm. In such an analysis there are no "errors" in learner performance. But as soon as IL is seen in a norm-related context like an educational situation, the notion of error is indispensable. Performance analyses of IL therefore usually include analyses of both errors and non-errors. We shall first exemplify the basic principle of performance analysis of learners' IL by giving two examples which do not contain any analysis of errors, and delay coverage of performance analysis which includes error analysis until error analysis has been described in 18.2.

Both the following examples illustrate ways of *quantifying* results. The first (in 18.1.1) calculates the frequency of occurrence in data of specific forms or functions. The second (in 18.1.2) investigates how many individuals belonging to certain groups of learners use specific forms or functions. Both examples presuppose that the analyst has already delimited the area to be investigated. This choice may be based on previous experience, eg knowledge that learners often have problems in creating cohesion in their written texts (cf chapter 4). Often the precise formulation of research goals is the result of preliminary *qualitative* investigations, in which the analyst selects phenomena for further study. Whether the researcher then decides to proceed with qualitatively oriented methods exclusively or also uses quantitative methods will depend on the objectives of the analysis. But it is probably the case that quantitative considerations cannot be

completely ignored even in qualitative investigations. Methods of analysis are often neither purely qualitative nor purely quantitative but a combination of the two (for a discussion of these, and related issues, see Hatch/Farhady 1982).

### 18.1.1 Example 1: Description of IL vocabulary

The aim of this part of a more extensive investigation into the development of learners' vocabulary is to describe the frequency of different words in texts written by a group of Gymnasium learners. The texts are essays on 'violence', referred to in chapter 19. One way of describing the vocabulary is to classify the words into word classes. Table 14 shows one of the results from this analysis: conjunctions used by the learners in the group, ordered according to frequency.

Table 14: Frequency of conjunctions in essays written by twelve lgs learners

	Total number	Frequency %
AND	117	37,38
THAT	39	12,46
BUT	38	12,14
OR	35	11,18
IF	22	7,02
BECAUSE	17	5,43
WHEN	13	4,15
AS	7	2,23
SO	5	1,59
BECAUSE	4	1,27
THAN	4	1,27
BEFORE	2	0,63
EITHER	2	0,63
EXCEPT	2	0,63
A	1	0,31
BECAUSE	1	0,31
EVEN THOUGH	1	0,31
TO	1	0,31
UNTIL	1	0,31
WHILE	1	0,31
	313	99,67

As can be seen from the list, different orthographic variants of the same conjunction have been listed separately. It would be a simple matter to conflate those at a later stage of the analysis. What can *not* be seen from the description is whether the conjunctions listed have been used appropriately, how the learners supplement the use of conjunctions by other means for creating cohesion (eg adverbials, pronominalization, lexical variation, cf chapters 4 and 5), or whether the relative frequency of each conjunction is what one would also find in the learners' L1 or in essays written by a group of native speakers of English. These comments illustrate the obvious, but important, fact that although a limited performance analysis like the one just described is often a necessary first step in IL studies, it does not in itself provide much insight into foreign language learning. To attain explanatory power, the description has to be supplemented by further studies, such as:

- comparisons between the results from groups of learners representing different educational levels, to find out whether learners at different levels have different preferences in choosing conjunctions
- analyses of the ways in which the conjunctions are used in the learner texts, in order (1) to relate conjunction use to other means of creating cohesion in texts, and (2) to analyse whether some of the conjunctions are used erroneously
- comparisons between the learners' use of conjunctions in IL and in Danish essays, to investigate whether their IL repertoire matches their repertoire in the L1 or not. Learners' problems in using conjunctions in a foreign language might reflect insecurity in writing cohesive texts in any language.

#### 18.1.2 Example 2: Description of use of different types of noun phrase

The aim of this investigation is to describe how many learners within two groups (grades 8 and 3gs) use different types of complex noun phrases (NP) in writing an essay (the task also studied in 18.1.1).<sup>1</sup> A complex NP is defined as a NP that contains either a qualifying premodifier or a postmodifier or various combinations of these. This

means that *the beautiful lake* and *the paper I lost on the train* are both complex NPs, whereas *that rhinoceros* is not. Table 15 gives the result for NPs in subject position (excluding embedded NPs like *the train* in the example just quoted).

Table 15: Proportion of learners using complex NPs of different types

Types of complex NP	Proportion of learners	
	Grade 8	Grade 3gs
head + 1 postmodifier	100 %	100 %
1 premodifier + head	67 %	100 %
premodifier + head + postmodifier	50 %	73 %
2 premodifiers + head	25 %	9 %
head + 2 postmodifiers	17 %	36 %
others	8 %	36 %
	(N = 12, total sum of NPs = 436)	(N = 11, total sum of NPs = 700)

The description shows that learners at grade 3gs generally use a wider repertoire of complex NP types than learners at grade 8 (the only exception being the type "2 premodifiers + head", eg "the sweet little pussycat", which only one learner at grade 3gs uses). But the analysis itself clearly cannot be used to conclude anything about whether or not learners at grade 8 do not *know* the more complex types of NP, or whether these learners in fact know them but *avoid* using them. Performance analyses like the two we have described (more precisely, "performance descriptions") only scratch at the surface of IL learning and communication.

## 18.2 Error analysis

Error analysis concentrates on those parts of learners' performance that diverge from whatever norm this performance is compared with. Especially in interlanguage studies concerned with foreign language learning in educational contexts, error analysis is an important research tool because errors may provide direct insight into the learning – teaching process.

The main stages in error analysis are:

- (1) error identification
- (2) classification of errors into linguistic categories
- (3) classification of errors according to the causes of errors.

### 18.2.1 Error identification

As was emphasized in chapter 17, errors are only errors relative to a norm. Error identification therefore presupposes the selection of a norm. In theory, *any* norm could be chosen for this purpose, including norms that differ from those holding for native speakers of the foreign language. For instance one might identify as errors only those items which are undesired at a particular level. Such "pedagogical" screening of errors is carried out every day by teachers and serves an important function in giving learners feedback. But in descriptive error analysis it is advisable to operate with norms which do not vary relative to the data in question, for instance by adopting native speaker norms as described in grammars and dictionaries. In this way one has a fairly constant norm against which different types of performance can be described (eg texts from both grades 8 and 9), and one can avoid questions of the sort "could we expect a learner at level ... to know ...?" or "is it fair to consider ... an error?". However, deciding on a native speaker norm for the identification of errors raises a number of problems in itself.

Firstly, native speakers also make errors, in particular when they are under stress or tired. But since they are usually able to correct themselves, "errors" like these are of a different type from errors

typically produced by a learner of a foreign language. A learner who produces a sentence like "can I English can I 'lidt' [æmərɪkənsk]" (= 'if I know some English, then I also know a little American'), is unlikely to be able to correct the use of *can* as a main verb, or the word order. These errors are not the result of performance disturbances but are produced on the basis of the learner's interlanguage system. Both types of error ("slips" and interlanguage errors) are of considerable interest to the IL researcher as they provide complementary information on the underlying representation of language and on processes in speech production.

Second, as anybody with experience of error identification is aware, the native language norm is not always that clear. Particularly with vocabulary, native speakers may disagree as to whether a certain word is correct or appropriate in a given context. Reference to authoritative works provides a useful check on acceptability, but may not always decide the issue. Error identification is therefore best done by a team consisting of both native speakers and people with a good knowledge of the L1. The latter are needed particularly in order to spot COVERT ERRORS. These occur when on the surface of it there is no error, but the utterance does not convey the learner's intention. This can easily happen with "false friends". A learner who says "it is an actual problem" might well mean 'current' or 'topical' rather than 'real'. This might escape the notice of a native speaker, but not someone with a good familiarity with both languages. Even so, there may be cases where it is difficult to decide whether something is to be counted as an error because it is difficult to decide what the learner is trying to say. To be able to handle such cases, it may be instructive to consult the learner as soon as possible after the event, to ask her to introspect about what she intended to say, what she was conscious of, and whether she could have produced a more correct version.<sup>2</sup>

Finally, one should not expect 100% consistency between error identifiers. In one of the PIF pronunciation analyses all our texts were listened to by three people. When a form was noted by two out of the three as being an error we classified it as such for the purpose of the analysis. Another procedure often adopted is that if either of two error identifiers does not identify a form as an error, it does not count as an error in the analysis.

## 18.2.2 Linguistic classification of errors

The aim of the linguistic classification of errors is to specify in which areas of language errors occur. Whether one is satisfied with a fairly rough classification, for instance into orthographic, syntactic, morphological and lexical errors, or tries to achieve a more delicate analysis of errors into many subtypes will depend on the specific aim of the analysis as well as on the size of the corpus. In the PIF project, one objective was to trace the development of learner language on the basis of errors identified in 240 texts written by 111 learners from 11 different groups. This called for a detailed classification into more than 300 error types (see Færch/Grindsted 1982). By contrast, an analysis of essays written by a class of learners could be successfully conducted on the basis of a much simpler error classification system.

It is practical to classify errors in two phases. In the first, errors are grouped into very broad categories, like errors of orthography, punctuation, lexis and grammar. In the second phase, each of these categories is further subdivided into as many error types as is feasible.

The first phase of the error classification process can be integrated into the task of error identification. When errors are identified in the text, they can be slotted into different error categories by means of different symbols. This is illustrated by the extract from a PIF text printed below. The following conventions have been used:

	lexical error	In addition the following symbols have been used for:
<u>          </u>	grammatical error	
<u>          </u>	word order	
<u>          </u>	spelling	
<u>          </u>	word division	
<u>          </u>	punctuation	

V omission  
( ) excess  
→ line run over

MOSTLY THE POLICE AND THE ARMY - (THE) SOCIETY -  
*highjackers*  
WIN THE "GAME", BUT THE HIGHJACKERS ARE OFTEN  
*get*

GETTING THE THINGS THEY WANT - FOR EXAMPLE SOME  
OF THEIR FRIENDS WHO ARE IN PRISON. SOMETIMES

*try*  
[ARE] THE POLICE TRYING AN ATTACK AGAINST THE HIGH-  
*hijacked aeroplanes* of  
JACKED AEROPLANES AND BECAUSE OF THAT A LOT OF PEOPLE  
*highjackers*

GET KILLED BY HIGHJACKERS, WHO WANT TO DEFEND

THEMSELVES. IT'S VERY OFTEN A VERY IMPORTANT DE-

CISION [TO TAKE] FOR SOME "LEADER" WHEN HE HAS TO  
*innocent*

ORDER AN ATTACK BECAUSE SO MANY INNOCENT PEOPLE

*But*

CAN GET KILLED. [BESIDES IT'S NECESSARY TO TRY TO

STOP THE VIOLENCE. ANOTHER THING THAT OFTEN MAKES  
*a lot of people* bomb attacks  
*kills*

A LOT OF PEOPLE DIE IS BOMB ATTACKS. IT'S A VERY COM-

MON THING IN IRELAND - ESPECIALLY *Every* IN BELFAST. [THE  
*day the news reports on fresh cases of*  
DAILY NEWS TELLS ABOUT NEW BOMBS PLACED IN CARS

AND HOUSES. YESTERDAY A BOMB WAS PLACED IN A RE-

STAURANT AND MORE THAN 10 PEOPLE WERE KILLED AND

*badly*

ABOUT 20 WERE [HARDLY] WOUNDED.

As can be seen, the person doing the error identification has suggested corrections of the errors identified. This is important for the second phase of error classification, as it is sometimes difficult to reconstruct why something was identified as an error.

In the subsequent, more detailed analysis, each of these groups of errors is further subclassified. Lexical errors could be grouped on the basis of which word classes they belong to. A simple classification of grammatical errors would be into errors in the noun phrase, in the verb phrase, in adverbial phrases, as well as word order and concord errors. The errors identified in the text above could be classified as follows:

#### *Lexical errors:*

- verbs: tells about, make ... die
- adjectives: new
- adverbs: hardly
- conjunctions: besides

#### *Grammatical errors:*

- noun phrase: the society, a lot people
- verb phrase: are getting, are trying
- adverbial phrase: especial
- word order: sometimes are the police trying, decision to take for some "leader"

#### *Orthographical errors:*

- spelling: aeroplans, inesent
- word division: high jackers, high jacked, bombattacks

#### *Punctuation errors:*

- comma before restrictive relative clause: some of their friends, who are in prison.

### 18.2.3 Classification of errors on the basis of error causes

The last stage in error analysis is the classification into different causes of errors. There are two major dimensions along which errors are usually explained. First there is a distinction between *learner-internal* and *learner-external* causes. Errors may be the result of "internal" cognitive procedures like transfer from the learner's native language or generalization to new contexts of IL rules which the learner already knows (transfer and generalization were discussed in chapter 11). Alternatively, errors may be the result of factors external to the learner such as misleading teaching or teaching materials, or faulty instructions in a research context. In these cases the errors are often labelled "induced" errors (cf Stenson 1975, Kasper 1982).

The second dimension for accounting for errors distinguishes between *direct* and *indirect* causes. This can be demonstrated by an example, namely the familiar overuse of the expanded tense in the IL of Danish learners of English. The direct cause of the error is generalization, a learner-internal factor. The indirect cause might be learner-external factors such as infelicitous teaching, for instance in relation to sequencing (introducing the expanded tense before the simple tense), or to presentation and practice (the teacher using the expanded tense for a series of events).

Another factor which can indirectly influence whether learners produce errors is such psychological traits as an individual's willingness to take linguistic risks rather than concentrating on being correct. A further factor could be a learner's assumptions about which parts of their L1 can be freely transferred to their IL.

Identifying the internal causes of errors in specific cases as being either transfer or generalization is not straightforward. We can explore this issue by attempting to identify the psycholinguistic processes which account for the errors in text 22. The table below lists the errors in the text which have exact formal translation equivalents in Danish. Such errors could therefore be attributed to transfer.

Interlanguage	Danish
aircraft	(svæve)plan
some of their friends, who are in	nogle af deres venner, som er i
prison	fængsel
tells about	fortæller om
hardly wounded	hårdt såret
the society	samfundet
a lot of people	en masse mennesker
sometimes are the police trying	nogle gange har politiet forsøgt
	at ...
decision to take for some "leader"	beslutning at tage for en "leder"
bomb attacks	bombeangreb

These errors amount to less than half of the total number of errors originally identified. The other psycholinguistic process, IL generalization, can account for virtually all the errors in the text, including those having formal translation equivalents in Danish. Some of these are listed in figure 18.

IL performance	IL rule	example
tells about the society	verb + preposition	talk about
a lot of people	determiner + noun	the army
hardly (wounded)	determiner + quantifier + noun	a few people
	adjective + ly = adverb	badly wounded

Fig. 18: Examples of IL generalization

There are two ways of approaching these apparently contradictory results. If one assumes that errors can only have one direct cause – meaning that, for instance, *a lot of people* must be attributed to either L1 transfer or generalization – the problem is one of “causal ambiguity”. The implication of this view, which was until recently very widespread, is that if only we had more direct access to the psycholinguistic processes, we could allocate errors to one of the two internal causes.

An alternative way of handling the problem is to assume that

errors can have more than one direct cause, meaning that transfer and generalization can function together. A consequence of this is that it is not possible to quantify exactly the proportion of errors due to one cause rather than another, which was precisely what some of the early error analysis projects set out to do. Researchers then have to adopt a more qualitative approach and try to characterise the intricate and complex ways in which the various causes of errors interact with each other.

One of the ultimate goals of educationally related error analysis must be to detect external causes of errors, as these provide information about foreign language teaching itself. To be able to do so, more information is needed than what is to be found in learner language texts, eg information about what parts of L2 the learner has been exposed to ((c) in 18.1 above) and how the learner has been exposed to this. Such information may be gathered through analyses of teaching materials used, observations of teaching in the classroom, and interviews with learners and teachers.

To simplify the presentation of methods in this chapter, we first introduced some basic principles of performance analysis and then described error analysis. There is a danger that this is understood to mean that performance analysis and error analysis are mutually exclusive. Although for certain purposes one may prefer performance analysis without analysing errors or analyse errors without relating these to the performance as a whole, it is often the case that an analysis of IL will contain both an analysis of errors as well as an analysis of non-erroneous parts of performance. Thus the example in 18.1 of a performance analysis of the frequency of occurrence of conjunctions in a corpus of learner texts could be extended so as to cover correct and incorrect use of conjunctions. Chapters 6 and 7 contained examples of this type of analysis within grammar and pronunciation.

### 18.3 Contrastive analysis

Error analysis is implicitly contrastive. Learners' IL is compared to an L2 norm, and differences between the two are identified. However, the term contrastive analysis involves more than this. It implies either the contrasting of two linguistic systems or limited parts

of them (the way we used the term in the historical section of ch. 17), or contrasting the performance of two groups of learners in comparable situations ("contrastive performance analysis"). Both types of contrastive analysis are relevant for interlanguage studies.

### 18.3.1 Contrastive analysis of linguistic systems

Learners' L1 and L2 are contrasted in order to generate hypotheses or to explain already analysed data. In the first case, contrastive analysis (CA) is used in a similar way to open-ended data (cf ch. 19) and has to be followed up by more controlled investigations. The hypotheses are based on the assumption that systematic differences between L1 and L2 will lead to greater difficulty than similarities (an assumption which is not without problems, as mentioned in ch. 17). We can illustrate this type of CA by the following example, taken from pronunciation.

A comparison of stops (plosives) in Danish and English reveals that each language has six (/p,b; t,d; k,g/), but that they differ in both their distribution and articulation (the glottal stop does not have phonemic status in RP). The English sets (/p,t,k/ and /b,d,g/) contrast word initially, medially and finally. The Danish sets (the same) only contrast initially, which means that in word medial position, and in word final position followed immediately by another word, only /b,d,g/ occur, in final position before a pause /p,t,k/ occur. One can therefore hypothesize (Phillipson/Lauridsen 1982) that Danes will pronounce

- 1) English medial unaffricated plosives as [bdg]  
     eg both rapid & rabid as [ræbid]  
        waiting & wading as [wɛdɪŋ]  
        vicar & vigour as [vɪgə]

- 2) final unaffricated plosives occurring utterance finally, eg before silence, as [ptk], ie lenis with aspiration,  
     thus both rip & rib as [rɪp]  
           cat & cad as [kæt]  
           leek & league as [li:k]

- 3) word-final unaffricated plosives in other contexts, ie before another vowel or consonant, as [bdg]  
     thus both rip & rib as [rɪb]  
           bought & bored as [bɔ:d]  
           leek & league as [li:g]

Rather than use CA for the purpose of hypothesis formation in research, it has been suggested that the major function of CA is to explain data in a late phase of the analysis of IL (cf Wardhaugh 1970). This function of CA was implied in section 18.2 above, when we referred to errors which could have been caused by L1 transfer. But as we also stated, it is often difficult unambiguously to apply the results of CA to the results of an error analysis of IL.

No matter whether the CA of linguistic systems is *used* in a hypothesis creating or an explanatory way within interlanguage studies, there are a number of theoretical as well as practical problems which need solving before an analysis can be carried out: the problem of deciding what counts as "the same" in the two systems; the problem of "directionality", deciding whether the contrastive analysis is mono-directional (eg going from L1 to L2) or bi-directional; and finally the problem that different languages may have different formal means for expressing identical content. For a detailed discussion of these problems, see James 1980.

### 18.3.2 Contrastive performance analysis

There are three ways in which contrastive performance analysis is used within interlanguage studies.

1. Contrasting the performance of a group of native speakers of one language with the performance of a group of native speakers of a different language.
2. Contrasting the performance of learners using their L1 with the performance of the same learners using their IL.
3. Contrasting the performance of learners using their IL with the performance of native speakers of the L2.



In all cases, it is crucially important for the situations to be comparable to make sure that instructions and objectives are identical, and to attempt to control subjective factors. For example, there exists a real risk that a learner doing the same task a second time in a different language may vary performance to avoid repetition. This is difficult to control but has to be taken into consideration when planning the sequence of tasks as well as when analysing data.

The PIF corpus (ch. 19) contains material which can be utilized for contrasting learners' written proficiency in Danish and in English. The example of types of NP quoted in 18.1.2 is taken from a study which contrasts the interlanguage performance of Danes with the performance of native speakers of English doing the same written task (Grindsted/Rechnitzer 1982). There is also an example of this type of contrastive performance analysis in chapter 4, section 4.3, which has been taken from an extensive corpus that lends itself to all three types of performance analysis. It was collected in an interlanguage project at Bochum University, Germany. The data collection technique used was role-play. The informants were German students not studying English, German students of English, and native speakers of English (students and academics). On the basis of the corpus a number of pragmatic and discourse areas were investigated contrastively, resulting in both descriptions of differences between German and English native language communication as well as in descriptions of interlanguage-specific features, as compared to both L1 and to L2 (see Edmondson/House/Kasper/Stemmer 1982 and Kasper 1981).

Contrastive performance analysis has the principal function of providing quantitatively based information of a kind which cannot be obtained through a contrastive analysis of linguistic systems. For instance in the Bochum investigation it was found that learners generally overused *yes/yeah/yah* and underused *I mean, look, exactly* and *good* when used as "gambits" (cf ch. 4) (Kasper 1981, 269-70).

#### 18.4 Tolerance testing

Tolerance testing is a method of analysis for assessing the effect of learner language in communication. 'Effect' is usually understood as native speakers' comprehension of and reaction to samples of

learner language.

Tolerance testing is a variety of performance analysis in that it is still learners' IL performance which is the object of analysis. It differs from other types of performance analysis described so far in that learner language is analysed from the perspective of the receiver in a communicative event.

We shall briefly discuss one example of a tolerance test, using a method developed by Engh 1971. It was employed in an investigation at Odense University (Jakobsen/Larsen 1977), the objective of which was to assess to what extent errors in learners' written texts affected native speakers' comprehension. The corpus consisted of essays written by Danish teenagers on their plans for the future. A set of sentences containing various types of error was presented to British informants who were asked to rewrite the sentences so as to express what they thought the writer had intended.

One of the learner language sentences was as follows:

It is good if you have been out working in the trade, therefore I will a year in a house.

This was interpreted by three of the British informants as follows:

It is an advantage to have worked in the trade and I therefore intend to work a year in the job.

It is good if you have been out working in a job so I'll do that for a year at home.

It is good if you have been out working in the trade, and therefore I will spend a year with a firm.

It is probable that the Danish learner was in fact contemplating spending a year working as an au pair, that "trade" is a lexical error and the "a year in a house" is a literal, word-for-word translation from Danish.

The main reason for choosing the above method as an example of tolerance testing is that it is simple to carry out. There are, however, limitations to it, because the object of study is isolated sentences rather than continuous discourse, and because it focusses exclusively on the comprehensibility of learner language. In chapter 10, we dis-

cussed a more comprehensive tolerance study which covered comprehensibility as well as "distraction".

### 18.5 Analysing interaction

Most of the methods discussed in this chapter have described learner language in isolation from the interaction learners engage in. One exception to this was the analysis of pragmatic and discourse features in role-play between German learners and native speakers of English. A further step towards including the interlocutor was taken with tolerance testing in the section above.

However, tolerance testing in its existing forms puts the native speaker into the role of an outside arbiter or expert, and does not describe actual interaction between learners and native speakers. One method of investigating the interaction itself is to make recordings of learners talking to native speakers, and then analyse whether learners can put across what they want to say, when and why there are breakdowns in communication, and how learners, with or without the assistance of their native speaker interlocutors, solve their communication problems. An approach which tackles some of these issues is the study of communication strategies, discussed in chapter 9. A different way of investigating learners involved in communicative interaction is to analyse classroom language, whether among the learners themselves or between learners and their teacher. Such analyses are essential in order to clarify the impact of teaching on the development of learners' IL.

Although with interactional data there is a large number of variables to control, and the interplay between participants' contributions is difficult to assess, IL studies will have to refine ways of analysing genuinely interactional data since the main objective of foreign language learning is to develop learners' communicative competence.

#### *Footnotes to chapter 18*

1. The results in table 15 are from Grindsted/Rechnitzer 1982
2. See Gorder 1974.
3. PIF informant no. 28, lgs.