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## Adaptational Processes in Verbal Communication

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### ADAPTATIONAL PROCESSES IN VERBAL COMMUNICATION

Adaptational processes between communicator and addressee in verbal communication are a chance for improving communication accuracy, often even a necessity and indeed a fact, taking place in most situations and in most fields of verbal communication. In spite of this they were neglected during decades of empirical research and conceptualization in the field of referential communication.

Although the “role taking approach”, which in the tradition of Piaget (1926) dominated referential communication research till the 70s, had as its basic assumption the idea of adaptation to the other (taking the role of the other, see Mead 1934), among the many correlational and experimental studies about the relation between role-taking and communication accuracy there was scarcely one which explicitly dealt with communicational adaptation specifically (Dickson 1981, 1982). Role-taking was assumed and investigated as a necessary and even sufficient condition for the (ontogenetic) development of referential communication. But the adaptation of the communication itself, of the verbal means the communicator uses to fit the communicative needs of his addressee, was rarely thematized. Flavell (Flavell *et al.* 1968) was one of the first few investigators who proposed an explicit model of the process by which a communicator may take into account the communicational needs of his addressee. His model of “coding-then-recoding” postulates that the communicator first makes a covered encoding for himself, which, in a second step, is followed by a recoding with reference to the relevant role characteristic of the addressee, in order to fulfil his communicational expectations (probably in the sense of stylistic needs) and to produce an effective message.

When, in the 70s, the role-taking approach was criticized and seemed to become obsolete and replaced by the communication skills approach, the situation of adaptational aspects as a topic for referential communication seemed to be even worse: Even the basic idea of adaptation, namely role taking went out of fashion (see Dickson 1982).

Herrmann (e.g. 1976) was one of the few who, at the same time, were interested in adaptational aspects of communication analysing, for instance, "situational determinants of speech level".

His conceptualization and research on adaptation applied to the situation and at the same time to features of the addressee and the addressee-communicator-relationship. Herrmann (1982) discussed and investigated questions like the variation of language and speech, their systematization and organization. He sometimes used the term "register". But he did not yet seem to be interested in a question, in an aspect of adaptation in communication, which some years later was explicitly conceptualized and empirically investigated by Ophoff (1986) and which goes back to the coding-then-recoding model of Flavell.

Assuming there are variants of language or language usage within one language community, which are systematically related to features of the communication partner, to the social relation of the communication partners with each other and to the situation and topic they are communicating about (see the results of Herrmann and co-workers, see Sociolinguistics), what kind of mechanism, or better, process is operating when a communicator selects a variant of speech production relevant for and fitting to his specific addressee (in a specific situation and on a specific topic)? How does it work?

Ophoff (1986) has proposed a conceptual framework and empirical research which gives some initial answers to this question. Ophoff's model of adaptational processing and the first empirical results testing the model (published 1986 in German) are described below and are augmented with the results of newer investigation not yet published, which tests the same model in a quite different way.

#### **THEORETICAL FRAMEWORK AND A MODEL OF PROCESSING ADDRESSEE ADAPTED COMMUNICATIONS**

There are at least three different 'mechanisms', or better, processes to improve communication accuracy:

a. Normative regulation. This means trying as much as possible to keep within the rules of a language which communicator and addressee have in common. This I call a static point of view, insofar as specific traits and states of the addressee are not taken into account, only the language as a system.

b. Feedback regulation. Here the feedback from the addressee is used as a (dynamic) means for correction and selection of suitable verbal means.

c. Role taking and register selection. This is a sort of link between the first non-process and the second process. It combines the static rule orientation of the first with the dynamic flexibility and partner-specificity of the second, applying – ultimately on the basis of feedback experience – a social-cognitive skill for the selection of an adequate variant of speech for a specific partner. This third process is the one I will focus on.

Before I come to Ophoff's model of role-taking-based adaptation to communication partners, I will describe a framework of underlying assumptions.

1) For most people, especially for the better-educated, there exists more than one verbal form for what they want to say, to be more exact, for the transformation of the propositional basis of an utterance into that utterance. There is no doubt that many people are able to speak English or other languages besides their mother tongue. But there are different possibilities, too, within one language, e.g. sociolects and dialects, special terminology's in disciplines like Psychology. I will collect all these under the term "variants of language".

2) If an individual has the choice between such variants, it will mainly depend on his addressee, which one he chooses. At the same time it often depends on the situation, the topic *etc.*

N.B.: The aim of such a selection is not always better communication accuracy. The intention may even be to produce misunderstanding, to exclude people from understanding or something like that. This is the reason why I prefer the term "partner-tactical" instead of "partner-specific" adaptation. But in my conception the intention makes no difference for the process of adaptation, the process in question here. In cases where the addressee is different from the communicator and in some sense inferior in his communication development or skills, there is a chance, maybe a necessity to improve (or reduce, dependent on the intention) communication accuracy by the process of role-taking and selection of verbal tools.

With regard to the role of role-taking in communication, Flavell, already in 1967, postulated the following constituents:

1. **EXISTENCE:** Communicator and addressee first have to expect deviating linguistic competence and habits from the person opposite, especially in certain situations, e.g. in a foreign country, in special regions of one's own country, in special environments, dealing with certain topics *etc.*

2. **RELEVANCE or NEED:** Communicator and addressee have to realize that an analysis of the communication-relevant features of their partner is

necessary in order to identify his linguistic and language-connected abilities. Only then can specific communication goals be reached.

3. **ABILITY or PREDICTION:** An analysis must be performed. Classification must be made according to communication-relevant criteria, such as nationality, social class, age, education, *etc.* Based on these conclusions must be drawn concerning the linguistic means that are suitable.

4. **PERFORMANCE or MAINTENANCE:** The results of the analysis must remain conscious and available to counter a tendency to egocentric viewpoints and means of communication.

5. **APPLICATION:** The results of the analysis must be used for the given behaviour goal.

Flavell's constituents have proved to be a helpful tool for experiments involving manipulation of the informational basis of role-taking in order to find the effect on communication accuracy (e.g. Ophoff 1986).

However, these are not sufficient to answer the question, how does the adaptational process work through role-taking? To put it more precisely, at what point or points in the sequence of communicational decisions does role-taking become effectual?

Up to the 80s the only answer to this question had been Flavell's coding-then-recoding model (see p. 1). Ophoff (1986) criticized Flavell's model, contrasted it with his model of register selection and made a decisive experiment on the question which of the two models would fit the data under which conditions. The criticism was, that coding-then-recoding (CTR) would be an extremely uneconomical and inelegant process, so that fluent communication, as mostly observed, would be impossible. The term "register" which Ophoff used in his contrasting model, had some tradition, mainly in British Linguistics and Sociolinguistics (e.g. Hasan 1975) and most of all in the meaning of functional style, of language- or speech-variants with reference to social situations (Reid 1956).

As mentioned above, Herrmann (1982) used the term "register" too and brought it over to the meaning it has in Ophoff's model. Here, registers are conceptualized as at least partly alternative subrepertoires within the communicator's whole repertoire of verbal means, into which the propositional bases of an utterance can be transformed (see Herrmann 1982, p. 32). Ophoff supposed registers to be chosen like the registers of an organ, simulating violins or flutes or trombones in order to play the same melody or a similar one.

Before the operational definition of "registers" in the two experiments, a description of what is meant by this term:

Registers are subrepertoires, more or less circumscribed parts of the whole repertory of verbal means a language user has at his disposal. They each contain an interconnected complex of linguistic elements and structures

separable from other subrepertoires, and are identifiable in this sense. Registers are relatively stable over time and can be activated for special communication situations. They can be switched in different situations.

Registers are – at least partly – quasi-equivalent with regard to the content, the propositional basis to be verbalized. They are intra-individual representations of inter-individually defined language variants, such as sociolects, dialects, age-dependent verbal competences, styles, *etc.* They have systematic character corresponding to the psychological or sociological correlates of language users, e.g. nationality, socioeconomic level, age, sex, *etc.* Registers, in this sense, restrict the verbal means of a communicator throughout an entire situation with a specific addressee, instead of forcing him to code and then recode part by part (see Flavell's coding-then-recoding). Thus they guarantee the economy and fluency of communication.

The postulated conditions for this sort of selection and adaptation process are in line with Flavell's constituents of role taking:

a. Communicator and addressee differ in their verbal skills or verbal development stage or the verbal codes they are used to, so there is a need and a possibility for adaptation.

b. The communicator has the competence to use different codes, subcodes, verbal styles, *etc.*, in short: variants (such as languages, dialects, sociolects, technical languages *etc.*).

c. By role taking, the communicator is able to identify and select the variant best fitting his specific addressee in a specific situation for a specific topic with a specific intention *etc.*

d. This fitting can be described as the correspondence between the selected intraindividual variant of the communicator and the interindividual (sociolinguistic) variant under which the addressee can be categorized best, which is appropriate to the situation, *etc.*

e. Register processing is the most elegant, fluent and economical way to perform this adaptation between communicator and addressee, especially to realize Flavell's constituents "maintenance" and "adaptation".

f. Only in cases where the communicator is not sufficiently competent with the appropriate variant or the communication task is too difficult for a sufficient solution to be found within this, variant coding-then-recoding is used as last resource instead of register processing.

The following hypothetical example may serve as an illustration: In a conference a teacher will probably use his "best" repertoire of adult, sophisticated, maybe academic and professional terminology. This is not his whole repertoire as he will probably avoid using slang or other language inappropriate for this situation, this topic, this social situations, *etc.*

When the same teacher goes into a class of second graders for example, he will switch his register and use a code dependent on age and development of his pupils. He will restrict word and sentence complexity to the level children about that age are accustomed to and competent with. Afterwards, when the teacher returns to his home and wife, he again switches his code, otherwise he would provoke communication problems and maybe other problems with her.

The problem now to conceptualize and investigate empirically is not only a question of how the outlined process of adaptation works in general, by coding-then-recoding or by register-selection, but also under which conditions the one or the other may take place or dominate, perhaps in mixed processing. Only in a case where a well-established, adequate register for this partner is available to the communicator and where this register is suitable for finding a adequate solution for the communication task will register processing come into effect.

A priori register processing over complete partner- and topic-situations has at least two advantages:

1. An adequate communication with the addressee is guaranteed from the beginning to the end of the situation (see Flavell's "maintenance").
2. Choosing the register and then keeping within it avoids complicated multiple steps of translation, correction *etc.* which would burden the communication with interruptions and influences.

A more detailed elaboration of the coding-then-recoding process will illustrate how long-winded, uneconomical and influent the communication process would become.

In the communication skills approach mentioned above there is one skill that played a main role in research: the comparison skill. In this context, Rosenberg and Cohen for example (1966) postulated a two step process of referent communication (see p. 10 for an example):

1. A message that is suited as a clue for the referent is sampled.
2. Then a comparison takes place to see whether the clue fits better to the referent than to the nonreferent(s).

If one combines this proposal – which was empirically tested by Rosenberg and Cohen (1964) – with the coding-then-recoding model, the result is a three step process in the case of necessary partner adaptation:

- 1) sampling of the clue,
- 2) comparison of the associations between clue and referent on the one hand and between clue and nonreferent(s) on the other,
- 3) recoding the clue with reference to the specific partner.

Whenever only one of the three steps is insufficient the other two have to be made once again. The conclusion to be drawn from this is that coding-then-recoding should only be used as last resource. Only in a case where the communicator is not able to find a sufficiently good solution

directly within a partner specific register (perhaps the partner does not have a sufficient command of the register, perhaps the difficulty of the communication task does not allow a good solution within this register) is he forced to use another, more complex and perhaps partner-inadequate register or perhaps his entire verbal repertoire to find a communicative solution at all. Then as an ultimate attempt at partner adaptation he tries to translate or transform his communicative message as well as possible into words and structures his addressee may be able to understand.

Thus the contrast between the two models, register processing or coding-then-recoding, is not a general either/or one. It depends rather on the availability of an adequate register, on the difficulty of the communication task and maybe on other conditions. It may be even that the communicator organizes register processing as a whole, but at some critical point in the communication he regresses to coding-then-recoding. This experience is familiar to everybody who has tried to talk in a foreign language which he does not have a good command of. If, in fluent conversation, he does not find a word in the foreign language, he thinks of or even articulates the word in his mother tongue loudly and then looks for a possibility to translate or circumscribe it.

Before presenting the two experiments and their results, some remarks as to their common rationale. Both investigations use latent time as an indicator of the complexity of the encoding process. This complexity is postulated as larger in the coding-then-recoding model than in the register-processing model, and so are latent times. Latent time here is the time between the presentation of a stimulus (a word or word-pair) within a defined communication task and the beginning of the verbal response of the communicator producing his message.

#### EXPERIMENT I

**SUBJECTS** were 40 students of Psychology in Giessen, between 19 and 34 years of age and almost evenly distributed according to sex.

**MATERIAL:** Subjects had to find solutions for two kinds of communication items differing in character and difficulty.

- A. Items of the Rosenberg and Cohen-type (R & C).
- B. Associations.

ad A. Stimuli are pairs of words which are similar or synonymous. One of them, the "referent", is underlined. Communicators are instructed to write down a "clue word" on the line under these word pairs, which – later on – best helps the addressee to find out which of the two was the "referent", now no longer underlined.



	explanation	interpretation
e.g.		thinking
	-----	-----
e.g.		opinion
	-----	-----
e.g.		empirical
	-----	-----
e.g.		exact
	-----	-----
		useful
		-----
		natural
		-----

“Thinking” probably is not a good clue because it doesn’t differentiate between the referent and the nonreferent. “Opinion” probably differentiates but in the wrong way. It probably points to “interpretation” rather than to “explanation”. “Empirical” seems useful in differentiating and pointing to the referent word. But it is a technical term, comprehensible to students, but not, for instance, to second graders. This is reason why this “clue” has to be recoded, maybe into “exact” or “natural”.

This type of item is quite difficult, especially for verbally under-developed children. Quite clearly it is decidable a priori or at least empirically, which clue fulfil the comparison-criterion, which fulfil the criterion of adaptation and which do neither.

ad B. An “association” is the first different word which comes to mind after a stimulus word has been presented. In the present context the association items can be called “precommunicative”, because they only represent the “sampling stage” in the Rosenberg and Cohen-model (see p. 8) and not the “comparison stage”, which makes the communication complete.

Example: Subjects are given a single stimulus word like

explanation

They only have to associate another word, maybe

good

or

relativity

As will be seen later on, both types of items are given to the subjects (communicators) under different instructions referring to the addressees, e.g. adults or 6th-Graders. Under this criterion, the clues/associations can fulfil or not fulfil the adaptation criterion, but the latter present no difficulty

with regard to the comparison criterion. The two types of items are introduced as item variables later on.

Now to the design of the experiment. The independent variables are:

1) Addressee variable. Subjects (students) are instructed to give a response (communicative utterance) to adult addressee (like themselves, “ego mode” or “e”) and to 12 years old addressees (“alter mode” or “a”).

2) Mode of sequence. Subjects are in two groups: one group does the ego mode first and alter mode second, the other group does the reserve.

3) Items variable. Both types of item are given to all subjects. Thus in a repetition design both types of task are performed by the subjects in both orders, completely permuted over 4 randomized blocks of 10 subjects each.

HYPOTHESIS. They depend and differ according to the two models which are being tested, register processing or coding-then-recoding.

Dependent variable is always latent time.

Hypothesis 1 (referring to the addressees):

The coding-then-recoding-model predicts

$$\text{latent times}_{\text{ego}} < \text{latent times}_{\text{alter}}$$

because a recoding-step is added to the latter.

The register model predicts

$$\text{latent times}_{\text{ego}} = \text{latent times}_{\text{alter}}$$

because of direct access to the different registers.

(Only other circumstances like the size and accessibility of the registers could make a difference, which is neglected here because it is assumed that the students at least subjectively have something like a register of about 12-year-old addressees. This is a necessary and sufficient condition for the process in question regardless of whether this subjective register would really be appropriate for the addressees).

Hypothesis 2 (applying to the mode of sequence):

This is a bit more complicated and needs some comment. A differentiation has to be made between thinking the response (the implicit response, in

The former (here called “primary recoding”) from (e) to e is a smaller step than the recoding from (e) to a.

$$(e) \rightarrow a > (e) \rightarrow e$$

Expressed in other words: (e)  $\rightarrow$  a exceeds and therefore implies (e)  $\rightarrow$  e, but not *vice versa*. From this it follows that ego responses in second position profit more from alter responses in first position than *vice versa*.

So the coding-then-recoding model postulates what I call an asymmetric facilitation effect:

$$(\text{latent times}_{e_2} < \text{latent times}_{e_1}) < (\text{latent times}_{a_2} < \text{latent times}_{a_1})$$

In contrast, the register-model predicts no differences at all or only a priming effect:

$$\text{latent times}_{e_2} < \text{latent times}_{e_1} = \text{latent times}_{a_2} < \text{latent times}_{a_1}$$

Hypothesis 3 (applying to the moderating effect of item-difficulty):

If there are any differences in latent times (as the coding-then-recoding model predicts) they will appear in the difficult R & C-type of items rather than in the easy association items. A concrete illustration: When the subject is not able to find an adequate clue-word within the alter-register (for 6th-Graders) they fall back on their more sophisticated student repertory in order to produce some sort of clue and then afterwards try to recode it for their 6th-Grade addressees. This sort of resort will rather occur with the difficult R & C-items than with the associations, where it is neither necessary nor possible.

RESULTS are mentioned here only generally and without tables, because they have already been published in German (Ophoff 1986). For the difficult items of the R & C-type the data follow the coding-then-recoding model:

- In the ego-mode latent times are on the whole significantly about 12% shorter than in the alter-mode.
- The ego-mode profits from the second position significantly more than the alter-mode does (only 2,3 sec. versus 7,2 sec.). In contrast to this the data on the associations follow the register-model.
- The addressee-mode has not effect (only 2% random difference between ego- and alter-mode).
- The effect of order here is also random.

DISCUSSION. In the case of the precommunicative associations task, where there is no difficulty at the comparison stage at all, the register

process comes into effect. In the case of the difficult R & C-items, where a satisfying communicative solution often may not have been found directly within the partner adequate register, communicators seem to be forced to fall back on coding-then-recoding: They first make sure that they find some sort of satisfying solution in their broader and more sophisticated repertory in order to fulfil the comparison criterion. Then afterwards they try once again to meet the adaptation criterion for their addressees by recoding.

## EXPERIMENT II

This experiment was performed some years later (and was not yet published). It uses another way to test the models insofar as the operationalization is totally different and so are the subjects and the items.

Subjects were 40 students of Psychology at the University of Giessen put randomly into two independent groups of 20. In Group A there were 11 males and 9 females, in group B 10 of each sex. The ages were quite varied with a mean of 27 in Group A, of 23 in Group B.

Group A received 10 association items, Group B 10 Rosenberg and Cohen-type items.

Items were presented on a tape recorder and stimuli and responses were registered on another for the analysis of latent times. There were three independent variables similar to those in Experiment I:

1) Mode of addressee. This variable is expanded now. Apart from the instruction to produce a message for "people like you" (instead of "adult addressees" as "ego mode" in Experiment I) two "alter modes" were introduced:

- "12-year-olds" and
- "Psychologists" (for the subjects the term meant "students of Psychology").

The latter gave the possibility to use the technical (expert) language of Psychology. (As the results show, it has to be looked at rather as a second "ego mode").

**HYPOTHESIS:** The coding-then-recoding model predicts differences in latent times favouring the ego mode (similar people),

$$\text{latent times}_{\text{ego}} < \text{latent times}_{\text{alter}}$$

while the register model does not:

$$\text{latent times}_{\text{ego}} = \text{latent times}_{\text{alter}}$$

Quite independent of the model, it is plausible that the communicators, student of Psychology, are more sophisticated in the “Psychologist’s” variant than in the “12-year-olds” variant. It is further assumed that the former will be more salient to the subjects and more differentiated and useful in giving solutions even for the difficult communication task of the R & C-items.

$$\text{latent times}_{\text{Psych}} < \text{latent times}_{12\text{-year-olds}}$$

The most important difference between Experiments I and II is the:

2) Mode of sequence. Instead of just changing the ego- and alter-positions, there are now two completely different arrangements: The items have to be responded to in “vertical” versus “horizontal” order. “Horizontal” means each item is responded to in all three addressee modes in succession. “Vertical” means all items are responded to in one of the addressee-modes first, e.g. in the ego mode. Then all item are responded to in the second addressee-mode and so on.

HYPOTHESIS: The horizontal mode forces the subjects to simulate coding-then-recoding and prevents them from register processing. Thus differences in latent times derived from different mastery and different qualification of registers to produce a solution are levelled or stopped from coming into effect.

$$\text{horiz latent times}_{\text{ego}} = \text{horiz latent times}_{12\text{ y.o.}} = \text{horiz latent times}_{\text{psych}}$$

In contrast, the vertical mode simulates, evokes, makes salient and perhaps trains register processing. In this way a better mastered and qualified register is processed and shortens latent times.

$$\begin{aligned} \text{vert latent times}_{\text{ego}} &< \text{vert latent times}_{12\text{-year-olds}} \\ \text{vert latent times}_{\text{Psychol}} &< \text{vert latent times}_{12\text{-year-olds}} \end{aligned}$$

Because we cannot predict exactly the relationship between the “ego-mode” and the “Psychologists-mode” all latent times are put together and are predicted to be shorter in the vertical mode than in the horizontal mode.

$$\text{latent times}_{\text{vert}} < \text{latent times}_{\text{horiz}}$$

3) Once again, as in Experiment I, Hypotheses 1 and 2 have to be differentiated according to the types of item, associations without and R & C-items with the difficulty of the comparison stage. Specifically in the case of the R & C-items, the differences between the vertical and the horizontal mode will be smaller than those of association items, at least

because a sort of register for 12-year-old children will probably not be so suitable for allowing a solution to these difficult items. But the Psychologists Register may do as well as the subject's Self-Referring register does.

$$(\text{lat. times}_{\text{vert}} < \text{lat. times}_{\text{horiz}})_{\text{R \& C}} < (\text{lat. times}_{\text{vert}} < \text{lat. times}_{\text{horiz}})_{\text{Ass}}$$

**RESULTS:** There is no difference in latent times between ego- and alter-modes in general, neither in any type of item nor in any mode of sequence.

Table 1

## ASSOCIATIONS

a) Statistical characteristics within the mode of sequence: 'vertical' N = 20

Mode of addressee	M	SD
'Ego'	4,063 <sup>a</sup>	2,104
'12 years olds'	5,221	3,292
'Psychologists'	3,821	1,637

$\alpha \leq .05^b$

b) Statistical characteristics within the mode of sequence: 'horizontal' N = 20

Mode of addressee	M	SD
'Ego'	5,002	2,272
'12 years olds'	4,770	2,474
'Psychologists'	4,532	1,882

c) Statistical characteristics for modes of sequence N = 20

Mode of sequence	Mittelwert M	SD
'vertical'	4,3685	2,114
'horizontal'	4,7683	2,022

$\alpha \leq .01^c$   
(logarithms)

<sup>a</sup> Units are seconds.

<sup>b</sup> Scheffé-test after an analysis of variance ( $\alpha = .0125$ ).

<sup>c</sup> *t*-test for dependent samples.

This is no strong indication in favour of the register process, because the absence of (significant) differences may have methodological causes.

However there is a significant difference between modes of addressee where there are shorter latent times for “Psychologists” than for “12-year-olds” in both types of item.

This fits in with the hypothesis that our subjects at least subjectively feel better prepared to master the “Psychologists” variant and process it in the manner of a register than they do with the “12-year-olds”-variant.

Probably the differentiated “Psychologists” terminology is better suited even for finding solutions for the difficult R & C-items. Further more, this terminology is probably well-known to students of Psychology, who often identify themselves closely with their “profession”. In this sense it may be looked at rather as an ego- than an alter-mode. Howsoever: The probably well-established and well-suited addressee mode “Psychologists” is processed faster only in the vertical condition which indicates register processing (not disturbed by the horizontal mode).

Table 2

## ROSENBERG AND COHEN-TYPE OF ITEMS

a) Statistical characteristics within the mode of sequence: ‘vertical’ N = 20

Mode of addressee	M	SD
‘Ego’	9,463 <sup>a</sup>	3,433
‘12 years olds’	11,587	4,404
‘Psychologists’	8,000	2,829

$\alpha \leq .05^b$

b) Statistical characteristics within the mode of sequence: ‘horizontal’ N = 20

Mode of addressee	M	SD
‘Ego’	10,386	3,394
‘12 years olds’	10,811	4,159
‘Psychologists’	9,420	3,313

c) Statistical characteristics for modes of sequence N = 20

Mode of sequence	M	SD
‘vertical’	9,683	2,837
‘horizontal’	10,205	3,062

<sup>a</sup> Units are seconds.

<sup>b</sup> Scheffé-test after an analysis of variance ( $\alpha = .0008$ ).

As to the mode of sequence: the vertical mode was processed all in all about 10% faster than the horizontal mode. This is statistically significant when calculated with logarithmus of the data, but only in the case of associations.

For the R & C-type of item the difference was much smaller (about 5%) and not significant even after logarithm transformation. The difference between the differences was random (like some others), probably because of the small N. But it can be assumed that only the easy association items gain a non-random advantage in latent times from the fact that the vertical arrangement of the items facilitates register processing. In the case of the R & C-items this does not seem to occur because these items, which demand a fulfilment of the comparison criterion, are not so easy to process within the register for 12-year-old addressees.

A corresponding difference between the types of item was found in Experiment I.

In addition: Some results of the two investigations, especially the mutual effects of the modes of addressees and the modes of order, together with the item-types, give heuristic hints with regard to the fundamental discussion of the role-taking versus the communication skills approach (see Dickson 1981):

At least with heterogeneous communication partners and need for adaptation, the contrasting approaches seem not a to be question of either/or. My proposal is rater a functional integration, following Shantz (1981) for example: Role-taking does not guarantee communication accuracy per se but comes into effect combined with communication skills such as the "comparison skill". And *vice versa*: Communication skills may remain suboptimal or altogether ineffective if they are not guided by role taking.

One practical consequence for education or training is that role taking or communication skills do not have to be learned exclusively either/or, they do not only have to be taught and practiced separately each but also in a functionally related and combined manner as has been demanded in the instructions and tasks of our experiments.

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#### PROCESY ADAPTACYJNE W KOMUNIKACJI WERBALNEJ

Procesy adaptacyjne zachodzące w komunikacji werbalnej między nadawcą a odbiorcą stwarzają nowe możliwości poprawy dokładności porozumiewania się. Artykuł przedstawia teoretyczne założenia modelu kodowania i odkodowywania Flavell'a, który Autor poddaje krytyce prezentując własny model, określony jako *register selection*.

Stosownie do założeń swojego modelu Autor przedstawia wyniki dwóch badań eksperymentalnych obejmujących 40 osobowe grupy studentów psychologii w Giessen, które porównuje z wynikami badań przeprowadzonych w 1986 r. W konkluzji dochodzi do wniosku, że proponowany model zapewnia bardziej płynną i dokładną komunikację werbalną.

**Słowa kluczowe:** mechanizmy komunikacji, dokładność komunikacji, badania eksperymentalne.