Formal, contextual, and technical aspects of language teaching methodology design are discussed in this article. The author develops a basis for tentative classification of language drills and exercises in terms of linguistic behavior in the light of these aspects. Basic language skills are classified according to three types of stimulus-response sequences: the equivalent-type, transformation-type, and reply-type. Examples accompany description of the linguistic theory. (RL)
LANGUAGE DRILLS AND EXERCISES
- A TENTATIVE CLASSIFICATION -

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On peut considérer le comportement verbal comme un pont entre la forme linguistique et le contexte fourni par la situation. Le choix et l'application des séquences appropriées de stimulus et de réponse pour l'enseignement contribueront de manière évidente à créer les habitudes indispensables au maniement d'une langue étrangère.

Le présent article propose un cadre conceptuel et quelques signes de notation permettant de classifier les variétés possibles d'exercices et de travaux pratiques. Ce système, une fois élargi et précisé, devrait contribuer à rendre plus méthodique la préparation et la rédaction de cours de langues; en outre, il rend possible l'analyse opérationnelle des cours et des techniques pédagogiques utilisés actuellement.


Any language can be investigated on three levels: phonology/graphology, grammar, and lexis. Although they always come into play in a text simultaneously, each of these levels independently contributes to both the contextual and formal meaning of the given stretch of speech: (1) as related to the situation, (2) as conveying linguistic information, of a phonological/graphological, grammatical or lexical sort, by exponents of the categories operating within the recognized units.

One of the principal tasks of the methodologies of language teaching is to work out the most efficient and psychologically motivated process of habit and skill formation in the learners as regards all three levels of L2.

The problem can be seen in at least three aspects: formal, contextual and technical. The first involves the principle of maintaining an equilibrium between the lexical material on the one hand and pronunciation and grammar (which
operate as closed systems) on the other. The second aspect involves the use of linguistic items in meaningful situations. The third aspect refers only to the techniques of teaching and testing, i.e. drills and exercises— their design, distribution and performance. The similarities as well as differences between the learner's vernacular and the foreign language are an extremely important factor here, one that is intimately linked with the occurrence and range of negative transfer, and the ways of avoiding the various kinds of resulting distortion in articulation, rhythm, intonation and structure.

These considerations provide the basis for a tentative classification of language drills and exercises in terms of linguistic behaviour and may suggest ways of developing them with a view to both the immediate and ultimate objectives of the course in L2).

In general, teaching a foreign language should serve to establish the following basic language skills:

<table>
<thead>
<tr>
<th>Receptive</th>
<th>Productive</th>
</tr>
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<tbody>
<tr>
<td>Aural</td>
<td>AUDING</td>
</tr>
<tr>
<td></td>
<td>SPEAKING</td>
</tr>
<tr>
<td>Visual</td>
<td>READING</td>
</tr>
<tr>
<td></td>
<td>WRITING</td>
</tr>
</tbody>
</table>

Within each skill it may be useful to distinguish between two operations at each level of analysis: identification and interpretation, for receptive skills; selection and execution, for productive ones.

The productive skills relate to different types of linguistic response, the receptive skills to different types of linguistic stimulus. One can classify stimulus-response sequences. In the following discussion small letters stand for various kinds of stimulus (S) and response (R). Thus:

\[
\begin{align*}
S_v &= \text{spoken stimulus (which involves auding)} \\
S_w &= \text{written stimulus (which involves reading)} \\
S_x &= \text{situational or non-linguistic stimulus} \\
R_v &= \text{spoken response (speaking)} \\
R_w &= \text{written response (writing)} \\
R_x &= \text{situational or non-linguistic response}
\end{align*}
\]

E.g. "Speaking" may = \(S_x - R_v\) (spoken response to non-linguistic stimulus)

\[
\begin{align*}
S_v - R_v &= \text{(spoken response to spoken stimulus)} \\
S_w - R_v &= \text{(spoken response to written stimulus)}
\end{align*}
\]

(7) The choice of the particular register and style of L2 usually depends on the specific character and aims of the course. Yet, whatever the ultimate objective of the course may be, it is always advisable to base the oral work on the colloquial register of the spoken medium of L2.
"Reading" may = Sw — Rx (written stimulus followed by non-linguistic response)
Sw — Rv (written stimulus followed by spoken response)
Sw — Rw (written stimulus followed by written response).

In any practical situation the linguistic stimulus or response may be in either L1 or L2. This fact can be indicated by adding 1 or 2 to the symbols already introduced, Sv — Rv, Sw — Rw, i.e. Sv1—Rv1, Sw2—Rw 2.

A linguistic response to a linguistic stimulus may be:
(I) an equivalent e.g. Sv = Rv
(II) a transformation e.g. Sv → Rv
(III) a reply e.g. Sv — Rv.

In the following examples the subject’s L1 is English:

(i) Stimulus Sv2: Gdzie jest pan Brown?
   Subject’s response Rv1: Where’s Mr Brown?
(ii) Stimulus Sv2: Gdzie jest pan Brown?
    Subject’s response Rv1: He’s asking where Mr Brown is.
(iii) Stimulus Sv1: Where’s Mr Brown?
     Subject’s response Rv1: He’s talking to a visitor in the garden.

Language teaching should aim at introducing the appropriate stimulus-response sequences in order to achieve the exclusive use of L2 in the phase of intensive oral practice where material that has already been introduced and explained is consolidated. Moreover, students should learn both to react to the given stimuli and to provide stimuli themselves in a way appropriate to normal verbal behaviour:

\[
\begin{align*}
&\text{Sv — Rv} \\
&\quad | \\
&\quad \quad \text{Sv — Rv} \\
&\quad \quad | \\
&\quad \quad \quad \text{Sv — Rv} \\
&\quad \quad \quad | \\
&\quad \quad \quad \quad \text{Sv — Rv}
\end{align*}
\]

e.g. Teacher: Have you got any brother, Tom?
Student: Yes, I have two.
Teacher: Are they older than you?
Student: Well, one is three years older, the other is still a schoolboy.
Teacher: What’s your elder brother’s job?
Student: He’s a doctor. etc.
The following tables present the three types of stimulus-response sequence with reference to L2 exclusively:  

<table>
<thead>
<tr>
<th>I. Equivalent-type</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STIMULUS</td>
<td></td>
</tr>
<tr>
<td>Non-linguistic</td>
<td>Spoken</td>
</tr>
<tr>
<td>Spoken</td>
<td>Sw = Rv</td>
</tr>
<tr>
<td>Written</td>
<td>Sw = Rw</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Transformation-type</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STIMULUS</td>
<td></td>
</tr>
<tr>
<td>Non-linguistic</td>
<td></td>
</tr>
<tr>
<td>Spoken</td>
<td>Sv → Rv</td>
</tr>
<tr>
<td>Written</td>
<td>Sw → Rv</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Reply-type</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STIMULUS</td>
<td></td>
</tr>
<tr>
<td>Non-linguistic</td>
<td>Sx → Rv</td>
</tr>
<tr>
<td>Spoken</td>
<td>Sv → Rx</td>
</tr>
<tr>
<td>Written</td>
<td>Sw → Rx</td>
</tr>
</tbody>
</table>

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Supplementary note: Altogether 56 different sequence types in either L1 or L2, or in both, may be distinguished. For the basic typological assumptions I am indebted to J. C. Catford, School of Applied Linguistics, Edinburgh University. I also acknowledge A. P. van Teslaar's suggestions concerning some aspects of notation adopted in this paper.
Let us briefly consider these stimulus-response sequences and illustrate them with examples relevant to the teaching situation. The following additional notational symbols will be used:

\[(o) = \text{order / request} \]
\[(p) = \text{proposition / statement} \]
\[(q) = \text{question} \]
\[(r) = \text{reply} \]

I. Equivalent-type

a) \(Sw = Rv\). Oral repetition after the model while imitating the informant's pronunciation (or listening to and repeating stretches of speech as recorded on disc or tape).

b) \(Sw = Rv\). Reading aloud. Another variety of this stimulus response sequence can be symbolized:

\[
\begin{align*}
\text{Sw} & \rightarrow \text{Rv} \\
\text{Sw} & \rightarrow \text{Rv} \\
\text{Sw} & \rightarrow \text{Rv}
\end{align*}
\]

to define a drill consisting of reading a text aloud, utterance by utterance, after the teacher or tape;

Examples:

\[
\begin{align*}
\text{Sw}(o) & = \text{Rv}(p) \\
\text{Sw}(p) & = \text{Rv}(p) \\
\text{Sw}(q) & = \text{Rv}(q) \\
\text{Sw}(q) & = \text{Rv}(q) \\
\text{Sw}(i) & = \text{Rv}(i) \\
\text{Sw}(i) & = \text{Rv}(i) \\
\text{Sw}(o) & = \text{Rv}(o) \\
\text{Sw}(o) & = \text{Rv}(o)
\end{align*}
\]

c) \(Sw = Rw\). Copying texts—a very useful kind of homework of a purely mechanical sort.

d) \(Sv = Rw\). Dictation—a form of testing, unless used for pronunciation practice.

II. Transformation-type

a) \(Sv \rightarrow Rv\). Oral drills requiring certain changes in the structure of the given stimulus;

Examples:

\[
\begin{align*}
\text{Sv}(q) & \rightarrow \text{Rv}(q) \\
\text{Sv}(p) & \rightarrow \text{Rv}(p) \\
\text{Sv}(q) & \rightarrow \text{Rv}(p) \\
\text{Sv}(o) & \rightarrow \text{Rv}(p)
\end{align*}
\]
b) Sw → Rv. A combination of reading aloud and drilling as above, generally in longer chains of sequences:

\[
\begin{align*}
\text{Sw} & \rightarrow \text{Rv} \\
\mid & \\
\text{Sv} & \rightarrow \text{Rv}
\end{align*}
\]

e.g. Reported speech in the intermediate and advanced stages or simple adaptation in the elementary stage:

Sw(q) : Where 's my bag? → Rv (q): Where 's John's/his bag? 
(p): John wants to know where his bag is.

c) Sv → Rw. Test exercises in changing Direct Speech from and into Indirect Speech, with the oral stimulus given by the teacher or tape (advanced classes):

\[
\begin{align*}
\text{Sv}(p) & \rightarrow \text{Rw}(p) \\
\text{Sv}(q) & \rightarrow \text{Rw}(p) \\
\text{Sv}(q) & \rightarrow \text{Rw}(q) \\
\text{Sv}(p) & \rightarrow \text{Rw}(q)
\end{align*}
\]

d) Sw → Rw. Written exercises like those under item b). Examples as regards both b) and d):

\[
\begin{align*}
\text{Sw}(p) & \rightarrow \text{Rw}(p) \\
\text{Sw}(q) & \rightarrow \text{Rw}(p) \\
\text{Sw}(q) & \rightarrow \text{Rw}(q) \\
\text{Sw}(q) & \rightarrow \text{Rw}(q)
\end{align*}
\]

III. Reply-type

a) Sv → Rx Orders or polite requests responded to by actions;

b) Sv → Ru Question-answer technique of oral practice or guided conversation:

\[
\begin{align*}
\text{Sv}(p) & \rightarrow \text{Ru}(p) \\
\text{Sv}(q) & \rightarrow \text{Ru}(q) \\
\text{Sv}(q) & \rightarrow \text{Ru}(q)
\end{align*}
\]
and in longer sequences:

1. \(Sv(q) - Rv(r)\)
   \[\begin{align*}
   &Sv(q) - Rv(q) \\
   &Sv(q) - Rv(q) \\
   &Sv(q) - Rv(q) \\
   &Sv(q) - Rv(q) \\
   &Sv(q) - Rv(q)
   \end{align*}\]

The above formula can also be presented by means of the following diagram:

The same can also be indicated thus:

2. \(Sv(q) - Rv(r)\)
   \[\begin{align*}
   &Sv(q) - Rv(q) \\
   &Sv(q) - Rv(q) \\
   &Sv(q) - Rv(q) \\
   &Sv(q) - Rv(q) \\
   &Sv(q) - Rv(q)
   \end{align*}\]
In both cases double underlining = start of new S—R sequence (to be used each
time tape or teacher changes mode or situation for pedagogical reasons ex-
trinsic to the verbal chain); single underlining indicates stimuli that function also as
responses to a prior communication.

Example 1.  A: What are you going to do tonight?
    B: I'm going to watch television.
    A: Do you often watch television?
    B: Oh, yes, I do.
    A: How often, I wonder?
    B: Three or four times a week.

Example 2.  A: How's your brother John, by the way?
    B: He's very well, thank you.
    A: Please remember me to him.
    B: Thank you. And give my regards to your wife.
    A: Thanks very much.

c) Sx—Rv(o,p,q).  Gestures followed by linguistic response. They are ex-
tremely important in the conduct of oral drills not only for saving time but for
communicating significance. In most cases they are used as part of a longer chain
of sequences, in combination with those of the equivalent-type, in drills of
formal meaning. For example:

\[
S_{(p)} = R_{(p)} \\
S_{(p)} \rightarrow Rx \\
Sx \rightarrow Rv(p) \quad \text{etc.}
\]

e.g. Teacher: I'd like to visit France.
    Group: I'd like to visit France. (Choral repetition to establish the correct
    rhythm and intonation of the pattern)
    Teacher: (points to England on the map)
    Student: I'd like to visit England.
    Teacher: (points to Spain)
    Student: I'd like to visit Spain. \quad \text{etc.}

2. Oral description of the given picture or object(person) and
question-answer work applied to the non-linguistic stimulus:

\[
Sx \rightarrow Rv(p) \quad \text{Sx} \rightarrow Rv(q) \\
S_{(q)} \rightarrow Rx \\
Sx \rightarrow Rv(t)
\]
e.g. The teacher points to the picture in front of the class and then asks: "What's the young man in the picture doing?" The learners have a look at the man and one of them, indicated by the teacher, replies: "He's reading a newspaper." etc.

d) Sx—Rw. Written description of objects, persons or pictures.

e) Sw—Rx. Question-answer technique of oral practice with written material used as stimulus:

\[
\begin{align*}
& Sw(p) - Rv(p) & Sw(p) - Rv(q) \\
& Sw(q) - Rv(t) & Sw(o) - Rv(t)
\end{align*}
\]

f) Sw—Rw. Written exercises treated as a repercussion of drills covered in items b) and e):

\[
\begin{align*}
& Sw(p) - Rw(p) & Sw(p) - Rw(q) \\
& Sw(q) - Rw(t) & Sw(o) - Rw(t)
\end{align*}
\]

In numerous cases the above sequence may be expressed as follows:

\[
\begin{align*}
& Sw_2(q) = Rw_2(q) \\
& Sw_2(q) - Rv_2(t) \\
& Sw_2(t) = Rw_2(t), \text{ since the learners often read stimuli aloud and supply the responses orally before writing them down. If a written exercise has not been preceded by intensive oral practice in class (especially in the early stages of language learning), the whole operation is likely to become still more complicated because of the interference of L1:}
\end{align*}
\]

\[
\begin{align*}
& Sw_2 = Rw_2 \\
& Sw_2 = Rv_1 \\
& Sv_1 = Rv_1 \\
& Sv_1 = Rv_2 \\
& Sv_2 = Rw_2, \text{ where } Sv_2 = P:1 \text{ and } Sv_1 = Rv_2 \text{ stand for undesired oral or mental translation.}
\end{align*}
\]

Verbal behaviour can be considered a bridge between linguistic form and situational context. The selection and use of appropriate stimulus response
sequences in teaching materials and procedures will naturally contribute to the development of foreign language habits and skills in the learners.

This paper proposes a conceptual framework and some of the notational elements within which the varieties of possible learning drills and exercises can be classified. With further development and refinement, the system here roughly outlined should prove a useful tool for the orderly improvement of teaching materials; in addition, it makes possible the operational analysis of course materials and teaching procedures.