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ABSTRACT
       "Learning Together in Multicultural Groups" (Dutch
acronym, SLIM) is a Dutch version of the Complex Instruction project
at Stanford University (California). An evaluation was conducted of
the implementation of classroom processes and teacher guidance as
specified in the Complex Instruction Method, using a case study
approach where processes in the classrooms and interaction processes
during teacher guidance were studied through direct observation and
audiotaping. The study involved one school, two teachers, and three
classes in The Netherlands. Complex instruction is designed to
overcome the problems of differential student participation and
learning, particularly for students from minority backgrounds.
Although SLIM teachers and coaches tried their best to implement the
Complex Instruction method and the accompanying teacher guidance
(inservice education), their success was limited, especially with
regard to student status treatment. This outcome stands more or less
in contrast to the experience of Complex Instruction and its
evaluation in the United States, and several factors are mentioned as
possible causes for this partial success. Although many improvements
need to be made, Complex Instruction still appears to be a promising
educational model, even in the European context. (Contains 23
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Abstract

This paper reports on the evaluation of the "SLIM-project" (Learning Together in Multicultural Groups). SLIM is a Dutch version of the Complex Instruction project at Stanford University. The evaluation concerns the implementation of classroom processes and teacher guidance as specified in the Complex Instruction method. The global research question is: *Has the Complex Instruction method been implemented in the classroom process and in teacher guidance?* The research question was formulated according to the characteristics of the Complex Instruction method. The study may be described as a case-study in which (i) processes in classrooms and (ii) interaction processes during teacher guidance are described in detail on the basis of direct observation and audiotaping. The study involved one school, two teachers and three classes. Although teachers and coaches tried their best to implement the Complex Instruction method and the accompanying teacher-guidance, their success was limited; especially in regard to status treatment. This outcome stands more or less in contrast to the experiences with Complex Instruction and its evaluations in the United States. Several factors are mentioned as possible causes for this partial success. Although the case studies were not successful in every respect and in spite of the fact that many improvements will have to be made, Complex Instruction still appears to be a promising model; also in the European context.

Introduction.

As a result of immigration from all parts of the world the Dutch population is getting more and more heterogeneous. The importance of intercultural education has grown, while at the same time, in the normal educational context, a new national curriculum was introduced for 12- to 16-year olds in which the focus is on cooperative learning. These new developments clearly call for an education method which combines intercultural education with cooperative learning. Such a method was developed for the American context by Elizabeth Cohen et al. at Stanford University, under the name of 'Complex Instruction'. It is the potential application of this method in a Dutch context and, in particular, the implementation research (by Projectgroep SLIM, 1994) it has inspired that is the subject of the present study.

This paper reports on the evaluation of the "SLIM-project" (SLIM being a Dutch acronym whose English translation is "Learning Together in Multicultural Groups"). SLIM is a Dutch version of the Complex Instruction project as reported in Cohen, 1986 and Cohen & Lotan, 1995. The project is a result of cooperation between the University of Amsterdam, the 'Hogeschool Midden Nederland' (the 'Midden-Nederland College for Teacher Education') with Stanford University in California. On the Dutch side the division of labor in the combined project was as follows. The University of Amsterdam was responsible for the evaluation research, while the Hogeschool Midden Nederland was given the task of developing the curriculum materials, the teacher guidance involved and the implementation of the programs in the schools. The SLIM-project resulted in two experimental secondary education programs in mathematics and mother-tongue teaching.

The main question for the evaluation concerns the implementation of the experimental programs and the implementation of teacher guidance (in- service education) by school-counselors. The research focus is on classroom processes and interaction (guidance) processes between the counselors and teachers. The study may be described as a case-study or as a form of process evaluation, as formative research or as a formative inquiry (Walker, 1992).

The theoretical perspective and the program characteristics are first described, followed by a formulation of the research question, the experimental design and the research context. The results and conclusions are presented in the penultimate section and illustrated by means of protocol samples. In the last section the results are discussed, first, from an innovation- theoretical point of view and, secondly, from a cultural perspective. The paper closes with recommendations for the future development and implementation of Complex Instruction in the Netherlands.

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Theoretical perspectives

Research into cooperative learning and development of groupwork models is undertaken from various theoretical perspectives. Slavin (1992) lists the perspectives of motivation, social cohesion, cognitive development, cognitive elaboration, practice and class organization; Perrenet (1995) adds the perspectives of adaptation and constructivism to this list. Arguments are given for the potential benefits of interactive learning processes. However groupwork does not work well all the time. Johnson & Johnson (1992), for example, describe various types of ineffective group processes.

According to Webb (1982, 1991), Salomon & Globerson (1989), Webb & Farivar 1994) not all students benefit from working and learning in small groups. Learning depends in part on the nature of student participation in group work. Students learn more by giving elaborated help to others and learn less by receiving low-level elaboration from others. In the theoretical part of Leechor's study (1988) indications were found that low-achieving students may not benefit from working in small groups. In addition, other studies found that the better students profit more from group work compared to students with lower aptitudes (Terwel & Van den Eeden, 1992; Terwel, Herfs, Mertens & Perrenet, 1994; Van den Eeden & Terwel 1994).

A specific explanation for these findings is given by Cohen & Lotan (1995). From a sociological perspective they argue that within small groups status orders emerge. These are based on perceived differences in academic status. Within small groups high-status students interact more frequently with other students than low-status students. These differences in interaction can lead to differences in learning outcomes (see also: Good, Mulryan & McCaslin, 1992). Complex Instruction, the method selected for implementation, is designed to overcome the problem of differential participation and learning, especially for students from minority backgrounds. All measures are directed towards the motivation, stimulation and involvement of all students in the process of learning. Special attention is given to students from different linguistic backgrounds. The method is aimed to make students benefit from the individual differences by presenting the differences as a positive contribution to the learning process.

Characteristics of the program

The characteristics of Complex Instruction lessons are the following (Cohen & Chatfield, 1991):

1) *Multiple-ability tasks*.

The groups work on so-called multiple-ability tasks. To complete these tasks not only conventional academic abilities such as reading, writing and computing are necessary but abilities such as reasoning, creativity, planning, manipulating, exactness of expression and drawing are important as well.

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2) *Status treatment.*

Given the variety of necessary abilities every member of the group can be expected to be competent in some, but not all aspects of the tasks in hand. In such a situation the low-status students will also be regarded as valued resources and thus will become part of the interaction. The teacher is required to stimulate this process by making statements of the kind 'None of us has all of these abilities but each of us has some of these abilities'.

If status treatment is combined with the characteristic of multiple-ability tasks, chances will increase that low-status students will make a useful contribution to the group process. Teachers should especially observe the low-status students and where there is an opportunity to do so, assign certain competence tasks to these students. In addition, teachers should make specific comments to the class on how significant the relevant skill or ability of the student was as a contributing factor in the successful completion of the group task and refer to the importance of that ability in society in general. Status treatment is assumed to increase the status of low-status students. Higher status should lead to more frequent interactions with other students, which in turn enhances their learning.

3) Three stages: *class orientation, groupwork and class wrap-up.*

A complex instruction unit consists of a series of lessons around the same concepts. Class orientation, groupwork and class wrap-up are contained in each lesson. Every lesson starts and ends with a class discussion around the central concepts and the working process. Groupwork takes place in between at different learning stations; for every lesson each group works at another station. The closing remarks are based on reports and demonstrations of the products of some of the groups; together these two stages are called 'wrap-up'. The discussion at the start of the lesson functions both as introduction and as an expression of motivation; at the end of the lesson it provides reflection and integration.

4) *Groupwork roles.*

Group members take alternating roles including those of facilitator, recorder, provider of resources and reporter. Roles make the group members responsible for their work, relieve teachers from management tasks and allow them time for observation and evaluation.

5) *Groupwork rules.*

Rules are the organizing factors in group activities as well as roles. Examples of rules are 'You have the right to ask anyone in your group for help', 'You have the duty to assist anyone who asks for help' and 'Help other group members without doing any work for them'.

6) Heterogeneous group composition.

If there are differences within the group relating to backgrounds, experiences and relevant abilities, group members may use each other as resources to complete the tasks.

7) Intercultural education in ethnic heterogeneous classes.

The Complex Instruction Model was developed not only for socio-economically heterogeneous classes, but especially for those with racially, ethnically and linguistically mixed backgrounds.

In conjunction with the instruction model a teacher training and guidance program was developed, with coaches observing lessons by means of an observation system. The guidance sessions are based on the gathered data. The observation system measures student behavior (of the whole class or of consecutive groups) and teacher behavior. Examples of observation categories for student behavior are: (i) talk or talk and manipulate; (ii) manipulate without talking; (iii) read or write. Examples of categories for teacher behavior are: (i) facilitates; (ii) asks factual questions; (iii) stimulates higher order thinking. The teacher-guidance directs the teacher to strive for certain norms. Teacher-coaches are trained in observation until inter-observer reliability has reached .90 (Cohen & Chatfield, 1991).

Research questions

The evaluation concerns the implementation of classroom processes and teacher guidance as specified in the Complex Instruction method. The global research question is: *Has the Complex Instruction method been implemented in the classroom process and in teacher guidance?* The research question was formulated according to the characteristics of the Complex Instruction method in the classroom as mentioned above. With regard to teacher guidance the focus was on the use and feasibility of the teacher-observation system, its reliability and the effectiveness of the guidance. There were two evaluation rounds. The first round contained a formative evaluation. On the basis of the formative results a checklist was developed in the form of a list containing items concerning classroom processes and teacher guidance that require special attention during further implementation.

The final evaluation took place in the second round. This started with the observation system and focused on improvements in the implementation of the Complex Instruction method, depending on the findings of the formative evaluation.

Experimental design and research context.

This is a case study in which (i) processes in classrooms and (ii) interaction processes during teacher guidance are described in detail on the basis of direct observation and audiotaping. The study involved one school, two teachers and three classes. One class participated in the first (formative) evaluation, and consisted of 10 boys and 13 girls. This class followed mathematics as well as mother-tongue instruction as specified in the special designed curriculum according to the characteristics of the Complex Instruction method. The mathematics teacher and the mother-

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tongue teacher were trained and guided by teacher coaches from the Hogeschool Midden Nederland. One of the coaches was trained in Stanford, who, in turn, had trained other coaches in the Dutch context.

Two classes participated in the final evaluation, a mathematics class and a mother tongue class. The mathematics class consisted of 12 girls and 9 boys. The mother tongue class consisted of 10 girls and 11 boys, with the two teachers mentioned before. In all classes about a third of the students had non-European backgrounds, mostly North-African (Moroccan).

The mathematics and mother tongue curriculum materials were developed by educational domain specialists from the Hogeschool Midden Nederland. During the evaluation period three mathematics units and three mother-tongue units were used. The majority of the units were newly developed; only one unit was based on Stanford curriculum materials. Mother-tongue subjects dealt with included reader-oriented information, communication and information processing. In the mathematics lessons the following topics were treated: scales, building-construction principles and coordinates. A single unit consisted of about 10 lessons of 45 to 60 minutes. All topics were treated on the basis of real-life contexts. The curriculum materials themselves were not evaluated in this study. Learning results were also excluded.

Data, conclusions and reflections

Data were gathered in class (20 lessons out of 68) and from teacher-guidance sessions (6 out of 16). Students' verbal utterances were audiotaped, elaborated in protocols and analyzed. Examples of classroom and small group interactions and descriptions of teacher-guidance processes are given below.

The results of the formative evaluation (Perrenet & Terwel, 1993a and 1993b) are as follows.

1) Multiple-ability-tasks were set and students succeeded in approaching the tasks from different perspectives while using different abilities. However teacher statements concerning multiple-ability tasks such as 'None of us has all abilities but each of us has some abilities' were not observed.

2) Status treatment was not implemented at all. Occasionally a high-status student was praised, but low-status students received no praise at all.

3) The three stages (class orientation, groupwork and class wrap-up) were implemented in most of the lessons.

4) and 5) The degree of implementation in the classroom was not high enough for the characteristics 'Groupwork roles' and 'Groupwork rules'. These characteristics were implemented to some extent, but the criteria were not met in full.

6) The heterogeneous group composition was fully implemented (as far as the given class composition allowed).

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7) Intercultural education was realized: the class consisted of students from different cultural background and teachers respected and utilized differences in ethnic origin.

During teacher-guidance the results of the teacher-observation instrument were used in a different, more qualitative way compared to the Stanford example. Moreover, the manner of use differed between mathematics and mother-tongue guidance. Also, criteria for inter-observer reliability were not met in full. After guidance, teacher behavior changed in the desirable direction most of the times.

The results of the final evaluation (Hezemans, Perrenet & Terwel, 1994) show that there is some progress.

1) Again, multiple ability tasks were set and, in fact, students used different abilities. However, different abilities were not under discussion.

2) Here too, little attention was paid to status treatment; one aspect, praising students, was present to some extent in that groups were sometimes praised as a whole..

3) The three stages (class orientation, groupwork and class wrap-up) were present regularly; however, not always combined in single lessons.

4) and 5) Improvements were registered regarding the aspect of groupwork roles. Students adhered more to their roles and teachers delegated more responsibilities. However, students still had trouble carrying out the tasks required by their roles. The execution of groupwork rules was observed only rarely.

6) Heterogeneous group composition was realized in full.

7) Intercultural education was implemented to some degree.

Overall, the Complex Instruction method was not always realized to a high degree in the class-room. Teacher-guidance took place less intensively compared to the first round. Only one guidance-discussion was observed, which took place after the completion of the series of observations; consequently the degree of teacher-behavior change in the desirable direction could not be measured. New measurements of reliability were not conducted. However, a well-structured program was developed for the training of (future) coaches and the optimization of teacher-guidance. Agreements were made about the degree to which the observation system should be used and rough standards were established for the various observation categories.

The results of the study are summarized in table 1.

	low	medium	high
1. Multiple-ability tasks			X
2. Status treatment	X		
3. Three stages			X
4. Groupwork roles		X	
5. Groupwork rules		X	
6. Heterogeneous group composition			X
7. Intercultural education		X	

Table 1. Degree of implementation of the characteristics Complex Instruction

Protocol samples

The first protocol: 'Folder For A Day-Trip' (mother tongue)
The first protocol (Perrenet & Terwel, 1993a) shows a group at work with some support from the teacher. The subject is Dutch Language. We observe five mixed groups each with four to five members. The tasks for the various groups have been written on the black board. There is also a planning-scheme for the rotation of roles such as captain, reporter, etc. Although big posters have been delivered to the school containing the group rules (including rules such as 'Help other group members without doing work for them'), these have not been put on the wall.

The theme of the unit is the construction of a 'Folder For A Day-Trip'; the central concept is 'reader orientation'. The various groups work on planning a day-tour for a fictitious highest primary-school grade. Every group has to work with another destination. Today our group has to work on planning the route. Our group consists of two girls (G1, G2) and two boys (B1, B2). Both of the girls are low-status students: they have low mathematics grades and low mother-tongue grades as well. One of the boys (B1) has a North-African background and is often the most dominant member of the group, especially in relation to both girls.

Every group member has a project batch. According to these batches G1 is captain, G2 is reporter, B1 is controller and B2 is the provider of materials. B2 gets a basket marked 'Transport'. In the basket are books with railway and bus timetables, and, in addition, a city map. The four students start with a random exploration of the contents of the basket. G2 sits aside a little, talking with a girl who belongs to the next group. After a while she turns to the others.

G1: What do I have to do? (There is no reaction. G1 continues her
conversation with the girl of the other group, until she tries again).
G1: What do I have to do?
B2: You have to read.
G1: OK, I will read (She tries to pull a piece of paper away from B2. The

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teacher (T1) arrives).

T1: Who is captain here?

G1: Me!

T1: No you're not, you're reporter.

T1: (addresses G2)
Where is your batch? OK. (And to the group as a whole):
Is it clear to you all what your assignment is?... No?
(Again to G2):
Try to organize that.

B1: Yes sir! Ah, there are many trains ...

B2: to B1: You know what it says here (pointing at his buss-booklet)? Pets
should be packed in portable boxes or bags.

G1: What??
(The teacher is back again).

T1: Do you know now what the assignment is B2?

B2: No, I have not read it yet.

T1: Don't you think it's about time you should?

G1: (to B2) You read it.

T1: But I think it would be better if you two read it together.

G1: Please, read it now.

B2: You could read this time; I did last time.

G1: OK, I'll read.
(Starts reading aloud what the assignment is. G2 is listening to her. B2
and B1 are looking at there own materials).

G1: The class will visit the theme park Duinrel in The Hague ...

B1: (ignoring her): Where is Amsterdam? Oh yes. Oh no, it should be The
Hague. Trains departing at 8.32, 9.02, 9.32, ..
(To B2): Which route do you take?

B1: I travel by bus of course. Did you know how much an annual season ticket
costs? 2,530 guilders!

As we can see from this first protocol a lot of energy goes into unstructured exploration. The girl
with the role of captain (G2) does not take any initiative. The teacher attempts to implement the
various roles. There is not much co-operation. Complex Instruction was only introduced a few
lessons ago.

The second protocol shows the same group a few weeks later and this time concerns part of a
mathematics lesson. We will see that the roles have become more important for the students. Just
as in the other class, the posters with group rules are not on the wall yet. There is a planning
scheme and the subjects are on the blackboard again.

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The second protocol: "The House" (mathematics)

The second protocol (Perrenet & Terwel, 1993a) shows part of a group presentation in front of the class and gives an impression of the process leading to that presentation. The theme of the unit is *The House*, with the central mathematical concept of *Scale*. During the last two periods - lessons last 60 minutes at this school - this group has studied photographs of very different houses in several countries. They have had to answer questions about the real dimensions and about the reasons for the use of particular materials by the constructors. After that the group had to build a scale model of a house with these questions in mind. The group is the same as in protocol 1 and consists of two girls (G1, G2) and two boys (B1, B2). During this assignment both girls were heavily involved in the construction process, producing loud noises with their hammers. During the previous lesson G1 had to fetch tools from some other location in the school because of her role in the group for this assignment. The teacher had to insist on it, because the girl was afraid to do it. She came back successfully and very proud. At the start of this lesson she has to go again and G2 begs the teacher to go with her. However, the latter tells her to be silent because it is not part of her role in the group. Her role is to report on the activities of the group and to show the product.

The teacher (T2) announces the presentation. When the whole group stands in front of the class G1 is holding a model of a small house made of wood, cloth and cardboard. It looks as if there is only one room with some primitive furniture; there are big nails pointing down from the ceiling. Some jokes are made about the house by the class. It is interesting to see that G2 as the reporter reacts most strongly, together with the other girl. In other cases the dominant boy B1 does most of the talking, independently of his formal role in the group.

G1: So, we had to build a house with wood and things like that. We used a piece
of cloth and she (pointing at G2) had to go for hammers and nails and I was
not allowed to go with her. And this is the result. ... And we worked hard,
everybody did what he had to do.
(Students from the audience ask for explanations about the pieces of furniture and a girl shouts
that a plumber would have been useful).

T2: I want to know why you chose these measures and why you chose these materials ..
G1: (interrupting) because it looks nice!
T2: (continuing) .. because that was also one of the things of this task, that you had to think hard about the material you were going to use. That had to do with the country where the house is supposed to be and for instance what the weather is like there.
At this point there are some giggles and non-serious answers.
T2: I want you to answer seriously, otherwise this presentation is not worth much.
B2: We used lots of wood and only a little bit of cardboard, because wood is more solid. ...
T2: Can you tell me why your house looks like a garage-box.
G1: That was easier.
B2: Because it was raining. ...
T2: I don't see any windows. (Again only giggles and non-serious answers).
T2: Well then, tell me something more about your cooperation.
B2: Very nice.
T2: Give me some examples of what went very well.

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G1: When we went shopping for wood!

...

T2: One of the questions to be answered in this presentation was to tell in a clear way what you did with the concept of scale in relation to the house. To be honest I did not hear much about that yet. There have been eight lessons so far in which we have worked with scales and I want to hear what you know about it.

The group members first point at each other for an answer. Then G1 gives it a try.

G1: It is 6 by 4 or something like that, 6 by 5.

B2: 6 by 8.

T2: What do you mean by that?

B2: That's the scale.

T2: Yes, but what does it mean?

G1: Well, 5 along here and 6 this way (pointing alongside the house).

A girl in the class is putting up her finger and the teacher lets the girl have her turn.

G3: It is only possible in centimeters, 6 by 5, but how about the real measurements?

B3: That's in kilometers (laughter from the rest of the class).

T2: If I have understood you right, your scale is ...?

G1: 6 by 5.

T1: 6 by 5.

B1: (speaking for the first time) I think 3 by 4, so actually height 3 and length 4.

The teacher brings the discussion to a close; members of the class applaud warmly. The teacher then continues with a class discussion about scales and dimensions. This takes up the remainder of the class.

The following comments are in order. Clearly the teacher is not satisfied with the product and with the quality of most of the answers. However in our opinion an opportunity was missed for status treatment to both of the low-status girls right after the well-meant applause of the class at the end. In the following simulated teacher statement we have included the elements of publicity, specificity, and importance of considered abilities in relation to the professional world.

T2: "I hear they liked your presentation. What I liked so much what you did make nor your deep understanding of what 'scale' is. We will discuss that later. What went very well was how you worked together, your enthusiasm and how B1 was not the only boss in the group this time. We all saw during the last lesson how G2 proudly came back with her carpenter's tools; planning for the right tools and materials is half the job. After that it was impossible not to hear you two girls working together. People like carpenters will always be important in our society, we'll always need houses and a good carpenter has to do much more than only hammering in nails: think hard about scales for instance and find out a lot about tools and materials. And don't think it's only a man's job; I know a really professional woman carpenter. And then today we saw how G1 really did her best as a reporter. Your group maybe put more energy in constructing the house and less in thinking about it, but today you really tried to sell it. That's important for later. It is not enough to make things well; you also have to show people why it is good. And to do that you have to know a lot about what goes on in people's heads. And now back to scales ...".

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The third protocol: a guidance session
The third protocol shows a part of a guidance-session (Hezemans, Perrenet & Tervel 1994). Coach and teacher reflect on a presentation by a group of students in front of the class (not the presentation described above). According to coach (C) as well as teacher (T2) there had been a clear opportunity for status treatment. However, according to the coach, the teacher did not act adequately. (The city of Paramaribo mentioned is the capital of Surinam, a former Dutch colony).

C: About that last presentation we observed, with the Moroccan girl. We saw that ... it was very good what the girl did. That other girl too, she asked several questions. She was a Hindustani I believe, or Moroccan too. She verbalized so well too in front of the class, it just took my breath away.
T2: She was there for the first time ... only two weeks in the Netherlands, dropped in at the deep end right away from Paramaribo.
C: I have to tell you now that I was also confronted with my own prejudices, you see, when I heard those people talking in Dutch ... that 's a factor too of course ... But anyway, you tried to give positive feedback afterwards. What a pity you did not do it right away.
T2: When she was reading?
C: Yes, like "Wow!". Or maybe more than "Wow!", but that should have been enough of a compliment in itself. You should show ... while, what you did again, you asked a question.
T: Yes.
C: Do you remember what you asked?
T: No.
C: Actually, it was something like "What went well during your work in the group?" You knew that you had to say something with "well" ... And I also observed that you wanted to give positive feedback. You knew you that was required.
T: Yes, I had made a note about it.
C: You had a written statement on you?
T: Yes.
C: So, why did not you produce it then?
T: I did, but nobody realized it, apparently.
C: Oh, you mean that question.
T: my remark concerned the way in which they handled that presentation task. The fact that the leader said "You read"; she read very well and the whole class listened very attentively.
G: Instead of feedback about what that girl was doing at that moment you got out of that situation and attended to what had happened in the group. ... What do you think was undesirable about that?
T: Nothing much, I suppose.
C: That you did it in that particular way. It was such a pity... It was like, yes..... at that moment the girl was doing very well indeed, and that demands immediate feedback. At such a moment you have to be able to be alert and improvise something fast. Or if you can't do that just say something like "Gee!"
T: Like "You did very well".
G: But you diverted attention from that moment to something else. Yes, you should practice to be more direct.

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As noticed earlier, status treatment was not implemented as intended, although there were a few occasions (see the samples) in which status treatment was indicated. The question is why status treatment was not implemented. Was it difficult for the students to receive and accept status treatment? In the Netherlands students are reluctant to be the teacher's favorite for fear of being rejected by their peers as a result. This attitude of students, which is part of the culture of Dutch education, may also form a barrier to teachers giving status treatment.

Another complication in implementing status treatment concerns the quality of the work (i.e., the processes and products) of the students. The second sample clearly shows how difficult it is for the teacher to give positive feedback about the poor outcomes of the cooperation in the small group and the lack of clear understanding of the concept of scale.

Status treatment contains three elements: (i) the treatment must be given and it must be public; (ii) the feedback has to be direct and specific; (iii) the teacher should make references to positions or occupations in society which command respect and have a certain status. It is conceivable that these requirements are not fully understood by the teachers.

With regard to the teachers, several factors could be involved:
a) cognitive: not knowing the essentials of status treatment and social interaction;
b) strategic: not being able to handle the situation and to give specific feedback;
c) affective: experiencing emotional barriers as regards being having to be direct and evaluative;
d) cultural: not accepting the ideology behind status treatment.

However, it is plausible that the reasons for the lack of implementation also lie in other factors. We will elaborate on these in the broader context of the discussion below.

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Discussion

Although all the teachers received training and guidance it is conceivable that the rather sophisticated characteristics of Complex Instruction (especially the ones regarding status treatment) require more training, practice and feedback than was possible in the relatively short time available. Being alert and responsive is very difficult in classes of great complexity, where a constant stream of impressions calls for quick reactions.

Teachers and guidance counselors tried their best to implement the Complex Instruction method and the accompanying teacher-guidance, however their success was limited; especially in regard to status treatment. This outcome stands more or less in contrast to the experiences with Complex Instruction and its evaluations in the United States. Several factors suggest themselves as possible causes for this partial success. These can be divided into three main categories: (A) innovation factors, (B) social factors and (C) cultural factors.

(A) Innovation factors: From an innovation perspective at least three factors should be mentioned.
1) A conception of Complex Instruction that is carefully thought out and shared by teachers and counselors. Although the teacher-supervisors (coaches) had a thorough understanding of Complex Instruction, their ideas were not shared in full by the teachers who had to implement the method in their classes.
2) Another factor is time. In Stanford more time is spent on the training of Californian teachers and teacher-coaches. Also more time is spent with the students in practicing roles and rules.
3) The factor of scale could also play a role. The scale of the SLIM-project was small. Only two teachers with a few classes in one school participated, which made the project vulnerable. In the school as a whole and even in the other lessons of the participating teachers procedures were as usual. The project is still in its initial phase. Expansion is being achieved by involving more schools, more classes, more teachers and different domains.

The deficiencies in the three innovation factors mentioned earlier might be remedied by more training, more time and a broader scope. However, two more fundamental problems can be mentioned.

(B) Social factors: the social factor of inequity in education and society. We will demonstrate the problem of inequity in participation and interaction by differences in interaction styles between male and female students. In several occasions there was gender inequity in small group interaction. Several times there was dominance by male students in small group interaction. However sometimes girls took responsibility and leadership but the teacher missed the momentum to give status treatment (see second and third sample of protocols) . From research on gender we know that there often is gender inequity in participation in mixed-sex classrooms and in small groups. Research have consistently shown that female and male students interact differently in mixed-sex classrooms. Male students are more often involved in interactions than girls. How can these differences be explained? In their development history boys and girls have learned interaction styles that tend to be "restrictive" and "enabling" respectively. If these different interaction styles come together in mixed-gender groups, boys will dominate in group interactions. It is not the

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interaction style that causes this effect, but the interaction between interaction style and learning environment (gender-composition of the classroom and or small group). Within their same-sex groups, both males and females are often highly interactive. Dominance and leadership are common place for female students in their own sex-group. In addition to the strong environmental factor of sex-composition, it can be said that the culture of the classroom can strengthen or mitigating the effects of gender-composition of the class (Canada & Pringle, 1995). In order to realize status treatment it is important that teachers are aware of these dynamics.

(C) Cultural factors: that is, the philosophy of Complex Instruction as contained, for example, in the ideas and procedures relating to status treatment. The SLIM-project attempted to adopt the (American) theoretical background of the model, whose roots lie in American sociological and organizational studies. However, American and Dutch culture differ in important respects. Hofstede's studies (Hofstede 1984, 1991), for example, provide an explanation for the problems with the implementation of status treatment. Hofstede studied possible differences between various countries along the following cultural dimensions: power distance, individualism, masculinity and uncertainty avoidance. Despite growing contacts between countries, these differences do not appear to be decreasing to any significant extent. We will show the relevance of Hofstede's research by first explaining the meaning of the four dimensions within the context of education.

The first dimension, power distance, reflects the degree of inequality between student and teacher; for example, the degree to which teachers are in the center of the educational process compared to students.

The second dimension, Individualism, has collectivism as its opposite pole. In an individualistic society it is natural for students to speak for themselves in class; in contrast to a collectivist society. In the latter educational values and educational traditions have strong roots in the student's social background.

The third dimension, masculinity, has, among other things, to do with the degree of segregation between male and female students' educational careers and with the degree to which bad school results are disastrous for a student's educational career. In a masculine-oriented society brilliant teachers are admired most, students are more assertive and ambitious, and strive to be the best of the group. In a feminine-oriented society students are more modest and strive for the group average.

Finally, the fourth dimension, uncertainty avoidance, is reflected in the degree of structural cohesion in the educational system. In a society low on uncertainty avoidance there is no single correct answer to questions, and teachers are allowed to admit ignorance when faced with certain questions. The contrary holds for a country high on uncertainty avoidance.

According to Hofstede, American and Dutch culture are very similar as regards the three dimensions of power distance, individualism and uncertainty avoidance. However there is a remarkable difference in the masculinity dimension. Dutch culture is more feminine-oriented than American culture, which does not necessarily mean that there is more equity in school carreers and in classroom interaction in the Netherlands. Since there is a close relationship between striving for the best in the classroom and the offer and acceptance of praise, complements are more natural in the American than in the Dutch educational context. As a result status treatment fits in more naturally with the American than with the Dutch school culture. Dutch teachers hesitate before giving praise and it is difficult for them to react in an alert way to the relatively rare occasions when low-status students achieve praiseworthy results.

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Recommendations

The SLIM-project should pay more attention in future to the theoretical background of the Complex Instruction model, theories about inequity in social interaction and endeavor to adapt this groupwork model to Dutch culture. The problem of matching educational models with local cultures deserves more attention in general. The smooth transfer of an educational model from one culture to another will often prove impossible. Even the underlying mechanisms (for example, the interaction process mechanism, which was the *raison d'être* for the selection of the Complex Instruction model) need not be the same and should be re-examined in the present case. Although communication between national cultures is intensifying and many countries are showing an increasing number of intercultural characteristics, the differences between countries in terms of norms and values can still be very considerable.

Although the case studies were not successful in every respect and in spite of the fact that many improvements will have to be made, Complex Instruction still appears to be a promising model; also in the European context.

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