# Teachers' causal attributions in problematic situations

# Chapter 13

# Teachers' Causal Attributions in Problematic Situations

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## Introduction

Teachers are confronted with many problematic situations during their teaching practice (Veenman, 1984; Peters, 1985). Their behaviour in these situations is substantially influenced by their thought processes (Clark and Peterson, 1986). One aspect of this teacher thinking is the interpretation of such problematic situations; an important part of this judgement process concerns the search for a causal explanation. How could this situation occur? What are the causes of it?

This causal attribution process for experiences or observed events is believed to be a basic cognitive process; analysing the causal structure of events facilitates control over the environment. As such, causal attributions are important determinants of future behaviour, affects and expectations (Kelley and Michela, 1980; Harvey and Weary, 1984; Ross and Fletcher, 1985).

In education, a major part of the research on causal attributions focuses on causal explanations by students for their success or failure in school tasks. Attributional theories of motivation have stimulated this line of research (e.g. Weiner, 1979).

It seems reasonable to assume that causal attributions which teachers make for performance and behaviour of students, but also for their own performance, will have a profound influence on their teaching behaviour and motivation. In fact, a number of theorists mention (causal) attributions as a factor in their models of teacher behaviour (e.g. Bar-Tal, 1979; Shavelson, 1983). Moreover, a number of studies actually found a relationship between teachers' causal attributions for success or failure of their students and their teaching behaviour towards these students, e.g. praise and criticism (cf. Peterson and Barger, 1984; Clark and Peterson, 1986).

## Causal Attributions by Teachers

Most of the research on causal attributions by teachers has concentrated on attributions for student performance. Teachers are asked for causal explanations for the successes or failures of their students (e.g. Ross, Bierbrauer and Polly, 1974; Ames, 1975;

Bar-Tal and Guttmann, 1981; Darom and Bar-Tal, 1981). Although the results of these studies are not conclusive, teachers tend to attribute success of students to students' ability and effort, as well as to their own teaching. Failure is attributed to several causes, mostly external to the teacher.

Furthermore, a limited number of studies have been carried out to investigate teachers' causal attributions for (problem) behaviour of students. Vernberg and Medway (1981) found that teachers, when interviewed, mention family circumstances and pupil factors as the most important explanations for problem behaviour of pupils in elementary schools. School factors, or more specifically, teacher or teaching factors, are seldom mentioned. Guttmann (1982) asked elementary schoolteachers to rate the importance of 26 causes for described problem behaviour of a fictitious student. Teachers tended to blame the misbehaving child and his parents, but played down the importance of reasons associated with other children in the class and reasons associated with themselves. Brophy and Rohrkemper (1981) investigated teacher thinking about and strategies for coping with problem students. They found that elementary school-teachers attributed problem behaviour of a fictitious student external to themselves, mainly to pupil factors. Furthermore, they suggest that teachers' attributions are influenced by the kind of problem and are related to the coping strategies that the teachers mention.

It is remarkable that teachers' attributions for their own behaviour and teaching performance have received so little attention in research on causal attributions in education. Only one study was found concerning these attributions. Guskey (1982) asked teachers to judge the importance of four possible causes as an explanation of a situation in which they were 'particularly successful or unsuccessful with a group or class of students'. Teachers attributed their successful performance more to their own ability and effort – failure more to the difficulty of their task.

To summarise the results of research on causal attributions by teachers, it can be stated that problem behaviour of students is mostly attributed to external causes (e.g. student factors and family circumstances). It should be noted that most of this research is done with elementary school teachers. The only study concerning teachers' causal attributions for their own performance suggests that teachers are inclined to ascribe their failures to external factors.

The overview of the literature shows the lack of research into teacher attributions for student behaviour and for their own behaviour or performance in secondary education (cf. Bergen and den Hertog, 1985). Another point that can be made in relation to the research discussed is that the effect of method used seems profound. Open questions seem to lead to more attributions that are external and to disregard of school and teacher factors. With structured questionnaires, teachers tend to attribute to internal aspects. Elig and Frieze (1979) have compared open-ended and structured response measures. They conclude that the latter are preferable. However, preceding a structured response measure it is necessary to make a selection of relevant causes. Free response methods seem the best way to collect relevant causes in a new domain of situations or a new group of respondents.

## Research Questions

As far as we know there are no studies using free response methods to collect the causes teachers give for the occurrence of problematic situations during their teaching. We set up an open inventory study as a first step in our research on teachers'

causal attributions with respect to problematic situations they encounter in their teaching practice.

The research questions of this inventory study are:

1.      What kind of causal attributions do teachers make in problematic situations?
2.      Is there any relationship between certain teacher characteristics (sex, teaching experience) and the kind of causal attributions made?
3.      Do teachers give different causal attributions for teacher–student situations using an open-ended interview versus an open-ended questionnaire?

## Subjects

Twenty-six teachers (13 men and 13 women) from five schools for secondary education in the area of Nijmegen (the Netherlands) participated in the interview study.

The questionnaire was sent to 201 teachers of secondary education in the Netherlands. Seventy-one teachers (35.3 per cent) completed the questionnaire and returned it (49 men and 22 women).

## Material

In the interview study as well as in the questionnaire study, we wanted to confront teachers with problematic situations. The selection of relevant problematic situations was based on Peters (1985) who distinguished six clusters of problematic situations within the teaching profession.

For the interview study we formulated four brief 'situation indications' relating to two clusters of Peters (1985), but that lie within the core of the teaching profession. The situation indications all emphasised the interaction between student(s) and teacher. The indications referred to situations within versus outside the classroom and with one student versus several students. In the interview study, we chose these brief indications rather than full descriptions because during the interview teachers should be able to describe problematic situations of their own, situations they had actually encountered themselves.

The interview was semi-structured. The interviewees were confronted with the four indications in a random order. Following each description, they were asked to recall a problem situation they had encountered in their teaching that corresponded to the given description. Having explained the problem situation the subject then answered eight questions. Here we only discuss the following two questions:

1.      'What are the causes for the occurrence of this situation?' (If necessary: 'Can you give any more causes?')
2.      'How problematic is this situation to you?' (Four-point scale from hardly problematic to very problematic.)

For the questionnaire study ten situation scenarios were written; these are complete descriptions of situations, also based on Peters' inventory (1985). The ten descriptions all include a problematic situation between the teacher and another person: teacher–student (cluster I), teacher–colleague (cluster II) and teacher–principal (cluster III). In the questionnaire, the ten scenarios were also presented in random order. After each situation, respondents were asked 'What are the causes for the occurrence of this situation?'

In addition to this open question, they were asked to judge every situation in terms of its problematicity (5-point scale: from 'not problematic' to 'very problematic'), its recognizability (5-point scale: from 'not recognizable' to 'very recognizable') and its frequency of occurrence (5-point scale from 'never' to 'very often').

## Procedures

**Interview Study**

The twenty-six interviews were conducted by two interviewers, who were well-informed about the purpose of the study. All interviews were recorded on tape, except for two (these two teachers refused to be tape-recorded, so the interviewer had to take notes during the interview.) The average duration was 1 hour.

Every interview tape was processed by both interviewers independently. This resulted in two preliminary protocols. A third, definitive protocol was compiled afterwards. The reason for this procedure was that it proved difficult to determine the exact number of causes given by a subject in the course of an interview. Respondents were inclined to give long answers in which the causes were not always clear-cut. Therefore, the two interviewers independently defined the number of causes given in each interview and afterwards the two protocols were compared. Differences were discussed and the definitive number of causes was then fixed in consultation with both interviewers, resulting in a definitive protocol for each interview.

**Questionnaire Study**

The questionnaires were sent directly to the teachers' home addresses. In the instructions, teachers were specifically asked to identify themselves with the teacher in the situation described, in order to guarantee that the respondent would put him/herself in the position of the teacher in a problematic situation.

The causes written down at the first question were often put in longer sentences. As in the interview study, we had to define the number of causes. After two practice sessions on a small number of situations, the answers to the first question were divided in meaningful units, by two independent judges not involved in the interview study. The degree of agreement was computed, with the formula of Osgood, Saporta and Nunnally (1956): $2 \times 0_{12} / 0_1 + 0_2$ (where $0_{12}$ is number of agreed causes between judge 1 and judge 2: $0_1$ and $0_2$ are the number of causes of judges 1 and 2, respectively). This agreement was 0.96. Again, the differences were discussed and the definitive number of causes agreed on in consultation.

## Procedure of Categorising the Causes

In order to categorise the causes of the interview study (223) and the questionnaire study (1367) we developed a category system. This whole procedure is described by den Hertog, van Opdorp, Vreuls and Bergen (1986). The definitive category system comprises nine main categories: Teacher, Student(s), Colleague(s), Principal(s), School, Policy of education, Parents and family situation, Combination of teacher and others, Other external aspects. Within each main category, several subcategories are identified; in all, there are 64 subcategories.

All causes were first categorised independently by two persons. At the main category level they agreed on 200 causes (89.6 per cent) in the interview study and

1143 causes (83.5 per cent) in the questionnaire study. At subcategory level, they agreed on 151 (67.7 per cent) and 858 (62.7 per cent) of the causes respectively. The causes that could not be classified in one subcategory unanimously were judged by a third person who was unaware of the previous judgements. In that way most of the causes were classified: at main category level 99.1 per cent and 98.9 per cent of the causes in the interview and questionnaire study respectively, at subcategory level 88.3 per cent and 87.7 per cent respectively. In the interview study two causes could not be classified at main category level, in the questionnaire study 28 causes. These causes were excluded from further analysis, leaving 221 and 1339 causes respectively.

In order to check the stability of the classification process a sample of causes (55 of the interview study, 305 of the questionnaire study) were classified according to the same procedure after a period of 2 months. The percentage of agreement at the level of main categories was 96 per cent for the interview study and 81 per cent for the questionnaire study; at the level of subcategories it was 71 per cent and 73 per cent respectively.

## Results

### Situations
In the interview study, the 26 teachers formulated 100 problematic situations. (In four cases, it was not possible for the respondent to formulate a situation that fitted the situation indication.) The mean value of how problematic the situations were rated was 2.15 (score 1 to 4 from hardly problematic to very problematic) in the interview study. In the questionnaire study the ten situation descriptions were judged on three scales, namely 'how recognizable', 'how problematic' and 'how often'; the mean scores are shown in Table 13.1. The situations in cluster I (with reference to teacher–student interaction) are judged most recognisable, and most likely to occur. The situations in cluster III (with reference to teacher–principal interaction) are judged most problematic, but unlikely to occur and less recognizable.

### Causes
In the interview study, a total number of 223 causes were gathered. In this number 15 causes are included that were given to the added question 'Can you give any more causes?' Because this question may have raised different answers from the original question for causal attributions, we excluded these 15 causes from further analysis. Thus, the average number of causes per situation per respondent in the interview study is 2.08.

Table 13.1. Mean scores for 'how recognizable', 'how problematic' and 'how often' per cluster of situations in the questionnaire study (N = 71)[a]

| Cluster | How recognizable | How problematic | How often |
| --- | --- | --- | --- |
| I Teacher–student | 3.6 | 3.0 | 2.7 |
| II Teacher–colleague | 2.9 | 2.9 | 2.2 |
| III Teacher–principal | 2.3 | 3.4 | 1.5 |

[a]All scores range from 1 (= not recognizable; not problematic; never) to 5 (= very recognizable; very problematic; very often).

Table 13.2.   Percentages of causes in the nine main categories (MC) for males, females
and total sample for the interview[a] (N = 26) and the questionnaire study[b]
(cluster I) (N = 71)

| MC | Interview | | | Questionnaire cluster I | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| Teacher | 25.2 | 24.3 | 24.7 | 33.5 | 47.5 | 38.0 |
| Student(s) | 48.5 | 51.5 | 50.0 | 43.0 | 32.6 | 39.7 |
| Colleague(s) | - | 3.9 | 2.0 | 5 | - | 0.4 |
| Principal(s) | - | 1.0 | 5 | 1.3 | 1.1 | 1.2 |
| School | 5.8 | 12.6 | 9.2 | 4.4 | 4.4 | 4.4 |
| Policy of education | 1.0 | 1.0 | 1.0 | 4.6 | 7.2 | 5.4 |
| Parents | 7.8 | 1.9 | 4.9 | 5.7 | 2.8 | 4.7 |
| Combination | 1.0 | 1.9 | 1.5 | 1.0 | 1.7 | 1.2 |
| Other aspects | 10.7 | 1.9 | 6.4 | 5.9 | 2.8 | 4.9 |

[a]Total number of causes is 206. Number of causes for both males (N = 13) and females (N = 13) is 103.
[b]Total number of causes for cluster I (4 situations): 569. Number of causes for males (N = 49) and females (N = 22): 338 and 181 respectively.

In the questionnaire study, a total number of 1367 causes were gathered. The average number of causes per situation per respondent is 1.94 over all situations, and for each cluster I, II and III, 2.04, 1.88 and 1.79 respectively.

### Categorisation in Main Categories

Table 13.2 gives the percentages of causes for the nine main categories for all subjects of the interview study and questionnaire study (cluster I). It also shows the percentages for males and females. In the interview study, most of the causes fall in the main category 'Student(s)' (50 per cent) and in category 'Teacher' (24.7 per cent). There are no noticeable differences between male and female teachers. For the questionnaire study (cluster I, 'teacher–student interaction'), most of the causes also fall in the main category 'Teacher' and 'Students' (38.0 per cent and 39.7 per cent respectively). A difference between male and female teachers can be discerned here: Male teachers attribute more to students than to themselves; for female teachers this is reversed: they attribute more to themselves than to students. The results of cluster I of the questionnaire and the results of the interviews can be compared, because they both refer to teacher–student interactions. Most striking is that the above effect for male and female teachers in the questionnaire study is not present in the interview study.

Table 13.3 shows that for cluster II (teacher–colleague interaction) a very large part of the causes falls in the main category 'Colleague(s)' (62.2 per cent) and only a small part in main category 'Teacher' (14.6 per cent). In cluster III (teacher–principal interaction) a large part of the causes can be seen in the category 'Principal(s)' (45.6 per cent) and almost a quarter of the causes falls in category 'Teacher' (23.3 per cent).

Table 13.3 also shows that teachers are more likely to attribute the situation to their interaction-partner in a problematic teacher–colleague situation than in a problematic teacher–principal situation. The influence of sex that appears in cluster I does not appear in clusters II and III.

Table 13.3.   Percentages of causes in the nine main categories (MC) for males (N = 49),
              females (N = 22) and total sample (N = 71) for clusters II and III of the
              questionnaire study[a]

|  | Cluster II | | | Cluster III | | |
| MC | Male | Female | Total | Male | Female | Total |
| --- | --- | --- | --- | --- | --- | --- |
| Teacher | 14.0 | 15.9 | 14.6 | 23.0 | 23.9 | 23.3 |
| Student(s) | 1.1 | 1.5 | 1.3 | 7.0 | 4.3 | 6.2 |
| Colleague(s) | 62.3 | 62.1 | 62.2 | 1.2 | 2.6 | 1.6 |
| Principal(s) | 1.5 | 1.5 | 1.5 | 44.5 | 47.9 | 45.6 |
| School | 11.3 | 14.4 | 12.3 | 10.9 | 11.1 | 11.0 |
| Policy of education | 1.9 | 0.8 | 1.5 | 0.8 | - | 0.5 |
| Parents | - | - | - | 2.0 | 1.7 | 1.9 |
| Combination | 4.2 | 1.5 | 3.3 | 5.9 | 7.7 | 6.4 |
| Other aspects | 3.8 | 2.3 | 3.3 | 4.7 | 0.9 | 3.5 |

[a]Total number of causes for cluster II (3 situations): 397. Number of causes for males and females: 265 and 132 respectively.
Total number of causes for cluster III (3 situations): 373. Number of causes for males and females: 256 and 117 respectively.

Table 13.4.   Percentages of causes over the nine main categories (MC) for teachers with
              0–4 years, 5–10 years and 11 or more years of experience, in the interview
              study[a] and the questionnaire study[b]

|  | Interview | | | Questionnaire cluster I | | |
| MC | 0–4 years | 5–10 years | ≥11 years | 0–4 years | 5–10 years | ≥11 years |
| --- | --- | --- | --- | --- | --- | --- |
| Teacher | 20.3 | 27.5 | 27.6 | 42.5 | 38.2 | 36.9 |
| Students | 48.1 | 52.2 | 50.0 | 37.0 | 39.7 | 40.3 |
| Colleague(s) | 1.3 | 2.9 | 1.7 | 1.4 | - | 0.3 |
| Principal(s) | - | - | 1.7 | 1.4 | 1.4 | 1.1 |
| School | 10.1 | 7.2 | 10.3 | 2.7 | 5.1 | 4.4 |
| Policy of education | 1.3 | - | 1.7 | 8.2 | 5.1 | 5.0 |
| Parents | 3.8 | 5.8 | 5.2 | 5.5 | 3.7 | 5.0 |
| Combination | 2.5 | 1.4 | - | - | 2.9 | 0.8 |
| Other aspects | 12.7 | 2.9 | 1.7 | 1.4 | 3.7 | 6.1 |

[a]0–4 years: N = 10, 79 causes; 5–10 years: N = 8, 69 causes; >11 years: N = 8, 58 causes.
[b]0–4years: N = 8, 73 causes; 5-10 years: N = 19, 136 causes; >11 years: N = 44, 360 causes.

The question whether there is a relation between teaching experience and causal attributions is treated in Table 13.4. For the questionnaire study, we confine ourselves to cluster I (teacher–student interaction) for reasons of comparability.

In the interview study, hardly any difference can be noticed, except for the main category 'Other aspects', in which the teachers with little experience (0–4 years) have more causes than the teachers with more years of experience.

In the questionnaire study there is a slight tendency that, with increasing years of experience, teachers increasingly attribute the situations to student factors and less to themselves.

Comparison between the two studies shows that a similar tendency is not found in the interview study.

### Categorisation in Subcategories

The results at subcategory level are presented in Tables 13.5 and 13.6. It appears that if teachers attribute problematic situations to themselves (see Table 13.5) in the interview study, then it is mostly the 'approach' in that situation or in the lesson (35.3 per cent) that is seen as the cause.

However, there is a difference between male teachers and female teachers within this main category. Female teachers attribute the situations almost equally to 'approach' and to own 'character' (28 per cent and 24 per cent respectively), whereas male teachers attribute them mostly to 'approach' (42.3 per cent) and less to their own 'character' (11.5 per cent). Other minor differences can be seen for the subcategories 'role conflict', 'personal circumstances' and 'effort'. As to cluster I of the questionnaire study, it is evident that if teachers attribute a situation to themselves it is to the 'approach' in that situation (81.0 per cent). In this study, there are no appreciable differences between men and women. A comparison of the results of the two studies shows that although 'approach' is the largest subcategory in both studies, the percentages of the two studies differ substantially (35.3 per cent vs. 81.9 per cent). In relation to this difference, it should be noted that in the interview study the causes are more evenly distributed over subcategories (e.g. character 17.6 per cent, personal circumstances 11.8 per cent, affects 11.8 per cent) than in the questionnaire study. Furthermore, the sex differences found in the interview study are not present in the questionnaire study.

Table 13.5.   Percentages of causes within category Teacher, per subcategory (SC) for male, female and total sample, for both the interview[a] and the questionnaire study (cluster I)[b]

| SC Teacher | Interview | | | Questionnaire (cluster I) | | |
|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total |
| a. Ability | - | - | - | 10.0 | 5.8 | 8.3 |
| b. Character | 11.5 | 24.0 | 17.6 | 3.1 | 3.5 | 3.2 |
| c. Effort | - | 8.0 | 3.9 | - | 1.2 | 0.5 |
| d. Approach | 42.3 | 28.0 | 35.3 | 83.8 | 76.7 | 81.0 |
| e. Personal circumstances | 19.2 | 4.0 | 11.8 | - | 1.2 | 0.5 |
| f. Role conflict | 3.8 | 12.0 | 7.8 | - | - | - |
| g. Task load | - | 4.0 | 2.0 | - | 4.7 | 1.9 |
| h. Affects | 11.5 | 12.0 | 11.8 | - | 1.2 | 0.5 |
| i. Various | - | - | - | - | 1.2 | 0.5 |
| z. Indefinable | 11.5 | 8.0 | 9.8 | 3.1 | 4.7 | 3.7 |

[a]Male: N = 13, 26 causes; female: N = 13, 25 causes.
[b]Male: N = 49, 130 causes; female: N = 22, 86 causes.

Table 13.6.   Percentages of causes within category Student(s) per subcategory (SC) for male, female and total sample, for both the interview[a] and the questionnaire study (cluster I)[b]

| SC Student(s) | Interview | | | Questionnaire cluster I | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Male | Female | Total | Male | Female | Total |
| a. Ability | 6.0 | 9.4 | 7.8 | 6.6 | 15.3 | 8.8 |
| b. Character | 24.0 | 41.5 | 33.0 | 32.9 | 16.9 | 28.8 |
| c. Effort | 14.0 | 9.4 | 11.6 | 18.6 | 18.6 | 18.6 |
| d. Behaviour | 20.0 | 13.2 | 16.5 | 6.0 | 3.4 | 5.3 |
| e. Personal circumstances | 14.0 | 3.8 | 8.7 | 5.4 | 6.8 | 5.8 |
| f. School background | 8.0 | 7.5 | 7.8 | 4.2 | 11.9 | 6.2 |
| g. Solidarity | - | - | - | 10.8 | 15.3 | 11.9 |
| h. Task load | 2.0 | - | 1.0 | 2.4 | - | 1.8 |
| i. Effects | 2.0 | - | 1.0 | - | - | - |
| j. Various | - | 1.9 | 1.0 | 1.2 | - | 0.9 |
| z. Indefinable | 10.0 | 13.2 | 11.6 | 12.0 | 11.9 | 11.9 |

[a]Male: N = 13, 50 causes; female: N = 13, 53 causes.
[b]Male: N = 49; 167 causes; female: N = 22, 59 causes.

If teachers attribute the situations to student- characteristics (see Table 13.6) in the interview study then it is especially to 'character/personality' (33 per cent) and to 'disturbing behaviour' (16.5 per cent). For male teachers it can be seen that attributions are almost equally divided between the subcategories 'character' and 'behaviour' (24 per cent and 20 per cent respectively). For women these percentages are: 41.5 per cent to 'character' of students and 13.2 per cent to 'disturbing behaviour'. Men also give more weight to 'personal circumstances' of the student as a cause for problem situations than do women.

The percentages of the questionnaire study show that if teachers attribute the situations to student aspects this is mainly to 'character' of the student (28.8 per cent) and to 'effort' (18.6 per cent). However, a difference between male and female teachers can be noticed: female teachers attribute situations almost equally to 'character' and 'ability' of students (16.9 per cent and 15.3 per cent respectively), whereas male teachers attribute them more to 'character' of students (32.9 per cent) and less to 'ability' (6.6 per cent). Comparison of the two studies for this main category leads to the following remarks. The results are similar for most of the subcategories for the total samples. However, subcategory 'behaviour' has more causes in the interview study than in the questionnaire study (16.5 per cent vs. 5.3 per cent) and 'solidarity' gets no causes in the interview study versus 11.9 per cent of the causes in the questionnaire study. Furthermore, it is striking that in the interview study the subcategory 'character' of the student is filled mostly by causes mentioned by females and less by causes mentioned by males (41.5 per cent vs. 24 per cent), whereas the questionnaire study shows the reverse trend (men give more 'character' causes than women).

The results at subcategory level for clusters II and III of the questionnaire study show that if teachers attribute problematic teacher–colleague situations to themselves then it is mostly to their own 'approach' (62.1 per cent); this also applies to teacher–principal situations (cluster III: 67.8 per cent in subcategory 'approach'). If teachers

attribute the situations to their interaction-partner in the teacher–colleague cluster it is mostly to the 'relationship between colleagues' (21.5 per cent) and to 'character' of the colleague (19.8 per cent). In cluster III (teacher–principal situations) if teachers attribute the situation to their interaction-partner, it is mainly to the 'approach' of the principal (34.7 per cent). Furthermore, the subcategory 'character/personality' of the principal is important (24.7 per cent).

There are no relevant differences between men and women, except in one case: in teacher–principal interactions male teachers are more likely to attribute the situation to their own 'ability' than to their 'character' (13.6 per cent vs. 7.1 per cent). For female teachers, this is reversed (7.1 per cent vs. 14.3 per cent).

## Discussion

Looking at the results of these studies we see that the causal attributions teachers make for problematic interaction-situations are mainly aspects of both interaction-partners in that situation. In the context of these studies this means: aspects of the teachers themselves and aspects of a student, a colleague or a principal. More generally, this suggests that the explanation for an occurring event (e.g. a problematic interaction) is sought mainly in the interaction-partners and less in non-personal factors.

In both studies, it is clear that teachers are inclined to attribute the situations mostly to the interaction-partner and less to themselves. This result suggests a 'defensive' causal attribution pattern: a problem situation (perhaps comparable to a situation of failure) is attributed to factors external to the teacher.

Research on causal attributions for success and failure (as reviewed by Zuckerman, 1979) shows that attributions for success are usually relatively internal and attributions for failure are usually external (cf. Kelley and Michela, 1980).

In our review of research on teachers' causal attributions, we noticed that pupil (problem) behaviour is mainly attributed to factors external to the teacher; for student performance, we see results that are more mixed. However, in our questionnaire study we found in cluster I (i.e. problematic teacher–student interactions) that teachers attributed the situations almost equally to themselves and to their students, despite the fact that our problem descriptions mostly reflected problematic behaviour of a student.

One can speculate that the result found in cluster I is caused by the fact that in these situation descriptions the problematic behaviour of students is embedded in a larger situational context together with information about teacher behaviour. Moreover, sex differences seem to play a role in these results; we will return to this later.

The results at subcategory level show that if teachers attribute a situation to themselves, then this is due mainly to 'approach'; if teachers attribute it to their interaction-partners then it is often due to 'character'. This resembles an attribution bias described in the literature: if events are attributed to other persons, this is mainly done in terms of qualities of these persons, thereby underestimating the influence of situational effects; when attributing to oneself, one tends to overestimate these situational aspects and to play down one's own stable qualities (Jones and Nisbett, 1972). In our studies, 'character' can be seen as representing more stable qualities and 'approach' can be seen as more situation-dependent.

We must be cautious in interpreting the findings at subcategory level because the categorisation procedure showed that it was more difficult to classify causes at this level.

A possible relationship between the sex and the causal attributions of teachers can only be noticed in cluster I of the questionnaire study; there, women are more likely to ascribe situations to themselves than to students; for men the reverse is the case. In more general research on causal attributions sex differences are also described: women are more likely to attribute failure to aspects of their own, men are more likely to attribute failure to external aspects (cf. Frieze, 1980; Zuckerman, 1979). In our study this relationship was only found in cluster I of the questionnaire study; possibly such an effect is related to the kind of interaction situation. No other relevant differences between male and female teachers can be deduced from the results. For the teacher characteristics 'teaching experience', no convergent tendencies are found.

In all, there are (relatively) substantial differences between the results of the interview study and the questionnaire study. This seems to be the consequence of a number of differences between the methods used in these studies.

First, in the interview study the teachers gave their attributions orally (and were also asked orally to do so by the interviewer). In the questionnaire study, situations were presented on paper and teachers gave their attributions likewise. Thus, in the interview study attributions were given more spontaneously, whereas in the questionnaire study teachers had more time for reflection on their answers. The more spontaneous response seems to lead to fewer internal attributions (i.e. to aspects of the teacher him/herself). Other studies that made use of open-ended (or more specifically oral interview) questions also found that teachers seldom mentioned themselves or their teaching as a factor explaining student performance or student behaviour.

Second, in the interview study teachers were able to formulate their own situations. Possibly these personally experienced and memorised situations led to more involvement than the more neutrally formulated situation description used in the questionnaire study, and this greater involvement in a situation may lead to fewer internal (teacher-related) attributions.

A third important difference between the studies is that in the interview study causal attributions were made to one hundred different situations (because of the fact that every respondent formulated his own situations). In the questionnaire study, all respondents were confronted with the same ten situations. This may be the reason that teachers' attributions in the questionnaire study are more influenced by special features in the formulated situations, whereas this effect is 'averaged' in the interview study. Moreover, this influence of the situation features means that when other features in the descriptions were given a more prominent place this could lead to other causal attributions.

Although these differences limit the comparability of the results of the two studies, the procedure with different designs for the two studies contributed to the main aim of this inventory, namely to obtain a broad collection of causes for problematic situations.

It is difficult to compare the results of our studies with previous research on teachers' causal attributions because most of this research concentrates on causal attributions for student performance or uses structured questionnaires with a limited number of causal elements. Cooper and Burger (1980) also collected causal attributions with an open-ended question. However, their causal attributions were made for student performance, not for interaction situations; this leads to other categories and another distribution of causes.

As we have described, very little research is done on causal attributions of teachers for their own behaviour and performance. Future research should focus on

these attribution patterns of teachers and their relationships with motivational and behavioural consequences. More specifically, it would be practically and theoretically interesting to explore the possibilities of applying Weiner's (1979) achievement motivation theory on teachers' attributions for success and failure in their teaching task.

Our future research will use the causal attributions collected in this study to develop a structured response-questionnaire. Making use of the advantages of such a structured instrument (cf. Elig and Frieze, 1979) we will further explore teachers' causal attributions for different interaction situations in their teaching practice and the consequences for teacher behaviour, work satisfaction and stress.

With respect to the research questions of this study, we can conclude that:

1.  Teachers attribute problematic interaction situations mostly to aspects of themselves and of their interaction-partners, less to non-personal factors; furthermore they attribute situations more to aspects of the interaction-partner, than to themselves;
2.  No systematic relationships were present between the teacher characteristics of sex and teaching experience;
3.  Differences in results between the interview and the questionnaire study are due to a variety of differences between the two methods used.