Behaviorally Challenging Students and Teacher Stress

Onderzoek naar zorg in het curriculum van de Theo Thijssen Academie

Gedragingenlijst voor Leraren; tweede onderzoeksrapport

Probleemouders en de school; een onderontwikkeld terrein

The contribution of the school environment to youths' resilience

Recognizing Resillience

Time-out or switch?

Teachers' Personal Constructs on Problem Behaviour

KG-publicatie nr. 8

Teachers' Personal Constructs on Problem Behaviour

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Voorwoord

De Kenniskring Gedragsproblemen in de Onderwijspraktijk aan de Hogeschool van Utrecht bestaat uit ongeveer tien personen met als lector J.C. van der Wolf.

Het lectoraat is opgericht in 2003 en heeft als taken het verrichten van vooral toegepast onderzoek en het helpen bij de ontwikkeling van curricula voor de onder de Faculteit Educatieve Opleidingen vallende afdelingen.

Door de 'leden van het lectoraat' worden allerlei stukken, artikelen, plannen, nota's etc. geproduceerd die dan in verschillende kringen wor¬den verspreid zodat niet altijd een goed beeld ontstaat van de activiteiten van de Kenniskring. Via deze KG-publicatiereeks wil de kenniskring een vaste groep geïnteresseerden in staat stellen om op de hoogte te blijven van de activiteiten. Verwacht mag worden dat de KG-publicatiereeks uit zeer verschillende, uiteenlopende stukken zal gaan bestaan.

Voor U ligt KG-publicatie nr.8
U wordt van harte uitgenodigd om commentaar te leveren.

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nr.1   Everaert, H.A. en J.C. van der Wolf (2005).
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nr.2   Wolf, Kees van der en Hanne Touw (2005)
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nr.5   Enthoven, Mascha (2005)
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         Recognizing Resilience: Development and Validation of an Instrument to Recognize
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nr.7   Velderman, H & H. Everaert(2005).
         Time-out or switch? (Paper presented at the ECER conference On 9 September 2005,
         University College Dublin)
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nr.8   Touw, J.M.F.; J.T.E. van Beukering & H.A. Everaert (2005)
         Teachers' Personal Constructs on Problem Behaviour (Paper presented at the annual
         meeting of the European Educational Research Association (EERA), Dublin, Ireland,
         September 7-10, 2005)

Teachers' Personal Constructs on Problem Behaviour

Paper presented at the annual meeting of the European Educational, Research Association (EERA), Dublin, Ireland, September 7-10, 2005

Abstract

Present study focuses on revealing and developing personal constructs regarding problem behaviour in classrooms. The main idea is that teachers' opinions about their students and themselves influence the way they interact with them. Their thoughts and ideas about students - their personal constructs - are generally unconscious. We used the Personal Construct Theory from Kelly (1955) and his Repertory Grid Technique for exploration mental constructs. They can give an impulse to the development of thinking and acting of teachers. We think it can help them to build up their professional identity towards 'problem children'. Twenty-nine teachers formed the sample that worked with this method. We investigated the number of unique construct pairs mentioned by the teachers. This number happened to be remarkably high. While assessing pupils, the teachers use primarily personality characteristics. There is hardly any agreement between the teachers' constructs, which complicates their communication about their pupils. We considered the number of construct pairs named by one participant. This number seems to depend on the type of education the teacher is involved in. The type of the school the teacher is working at also influences the average scores on the constructs. We shall also turn to the issue of pupils' sex and its role – if any – in the teachers' scores. No significant differences have been found.

Keywords:

Personal Construct Theory
Constructs
Behavioral problems
Teachers attitudes

Theoretical approach

The main idea in this research project is that teachers' opinions about their students and themselves influence the way they interact with them. Their thoughts and ideas about students - their personal constructs - are generally unconscious. These are formed by one's professional and personal history. By making them explicit, teachers can find out which problem behaviour-type they especially like or dislike. For this purpose, we use Kelly's "Repertory Grid Technique" (REP) based on his personal construct psychology (1955). Kelly argued that each individual uses a unique set of personal constructs in interpreting and predicting events. Different teachers may use different constructs in evaluating the same student. These differences can lead to a different approach. Therefore it is important to know and to learn about one's own constructs and those of colleagues. Kelly's grid technique allows to investigate teachers' judgements about every concrete pupil (Touw & van der Wolf, 2003; Van Beukering, Touw & Everaert, 2005). Below we describe the basics of Kelly's construct theory. "His theory is based on three ideas: constructive alternativism, man as a scientist and double entity choice. Constructive alternativism proposes that reality is subject to many alternative constructions. Man as a scientist says that individuals deduce hypotheses, raise issues, develop methodologies, define instruments, generate data, perform experiments, induce further hypotheses and revise theories in the course of constructing their personal reality. Double entity choice proclaims that when individuals do change, reconstruct reality, they choose between two entities" (McQualter, 1985, p. 181).

Kelly describes his Personal Construct Theory (PCT) in a fundamental work about a changing man in the changing world. He formulates the so-called fundamental postulate as follows: "a person's processes are psychologically channelized by the ways in which he anticipates events."(Kelly, 1963, p.46). Kelly states that there is a theory behind a person's judgement or a person's behaviour and it is based on personal perceptions of events. This is the essence of every individual' personal construct system. "According to the fundamental postulate, man possesses an essential property to be prepared for his future" (Bonarius, 1980, p. 39). So he creates his own vision on the matter and then he knows how he should act. In other words, man tries to remove the unknown from something not yet known. Kelly further developed this postulate in terms of eleven so-called corollaries. In this research we paid special attention to the corollaries marked with an asterisk (*). The corollaries with a 'C' mark were used in the coaching of the students that participated in this research project.

Figure 1 Kelly's corollaries and the ones that are used in this research project

1.	Construction corollary	*	7. Experience corollary	C
2.	Individuality corollary	*	8. Modulation corollary	C
3.	Organization corollary	*	9. Fragmentation corollary	C
4.	Dichotomy corollary	*	10. Commonality corollary	*
5.	Choice corollary	*	11. Sociality corollary	C
6.	Range corollary			

We shall offer a brief overview of the eleven corollaries mentioned. The first corollary called construction corollary (1) forms the basis for the previously mentioned every person's hypotheses i.e. the constructs: "a person anticipates events by construing their replications" (Kelly, 1963, p. 50). The individual's personal construct system helps him to perceive a situation and act in specific circumstances. Different persons can construe the same elements in different ways (Bonarius). People differ from each other by their individual constructs, i.e. the system is particular to an individual (individuality corollary 2). If individuals make similar constructs of the same event and agree on that, we deal with commonality corollary (10). For that purpose, an individual should try to understand the construct of another individual and that implies interaction with another person's individual system (sociality corollary 11). Kelly suggests that constructs can vary in the meanings they cover and their order (organization corollary 3). Not only the constructs are personal but also the way they are organized in the system. Here we come to the range corollary (6) that deals with the usability of the constructs: a construct fits only a finite number of situations (Boei, 1990). An individual develops and uses his personal construct system by choosing between alternatives (choice corollary 5) as successive construals of events occur (experience corollary 7) (McQualter, 1985).

Besides, the construct should be flexible enough to deal with a new event if a change occurs and personal construct systems can vary on this issue (modulation corollary 8). As for fragmentation corollary (9), Kelly wrote about it: "a person can use various subsystems in a certain succession even when they do not have logical connection to each other" (Kelly, p. 83). Kelly shows with this corollary that separate phrases or acts which apparently contradict each other happen to be a part of a system that changes in time on the way to balance. And, finally, Kelly describes the dichotomy corollary (4). Individual personal construct systems consist of double entities. The meaning of specific elements can be established only in contrast with others. Construct is no concept, it is a dichotomic formation. Our investigation shows that dichotomic formations are important for the teachers' becoming aware of the hidden meanings, so that they can better understand what behaviour of their pupils they experience as more or less problematic (Van Beukering, Touw & Everaert, 2005).

Before we present the link from the PCT with our investigation, we would like to explain why Kelly's Repertory Grid seems to be an adequate method for this research project:

- The REP-Grid allows us to use the students' constructs exactly the way they are formulated so that the influence of the investigator is minimal;
- The REP-G rid allows comparisons between the groups of respondents and also with previous evaluations by the same person;
- The REP-Grid is reliable and provides valid data (Boei).

The PCT and our research

We realize that PCT has formed the basis for a therapeutic trend. Our participants do not seek therapy. They seek coaching concerning an educational setting. For that reason, we adapted a

limited part of Kelly's corollaries (see figure 1). The principle of the dichotomy corollary was used because every participant had to formulate the constructs and their opposites. The commonality corollary was used when we asked a group of participants to explain the meaning of the constructs. Such a task proved to be an eye-opener for them, taking into account their belief that other teachers mostly had similar ideas about pupils. In a group task, we experienced an individuality corollary. Giving definitions of their own constructs in one sentence illustrated that almost in all cases the same construct had a different meaning for different persons. It is clear that a participant really develops his own unique individual construct system. And this system originates from the choice between alternatives (choice corollary). Kelly mentions that a person's constructs are connected (organisation corollary). We also investigate the order of the constructs but in a less structured way than Kelly proposes. We stimulated the participants to make a mindmap as well as a professional and personal picture of the way their constructs are linked and are important for them. The order of constructs sometimes show a clear hierarchical structure. For example the construct 'honest' (Dutch 'eerlijk') is the first and the most important one in the eye of one of the participants. If the pupil is not 'honest' in the eyes of this teacher, then positive scoring of other constructs can never compensate for it. As we did not pursue the therapeutic goal, we did not explore the organization patterns of the construct system from the participants. Four PCT corollaries establish a framework for analysis for the coaches that deal with the material produced by participants (see C in table 1). So after REP 2 we checked to what extent the constructs differed from the constructs in REP 1 (modulation corollary).

Method

Sample

Our database consists of the four series of data from 29 teachers. Those were both teachers and students in teachers' training. Altogether they scored 377 pupils. Some pupils were scored several times so that the total number of scores in the database reached 597. The division of sexes is presented in table 1.

Table 1 Graphical description of the sample

	Male	Female	?
Teacher	9	19	1
Pupils	204	170	3

During this investigation the same teacher scored the same class more than once. We call every scoring a series. So for 125 pupils it was one series, for 191 pupils two series and for 61 pupils it was three series.

Measures

To measure the constructs Kelly invented his 'Repertory-Grid'. In the last fifty years, many different variants of the method have appeared based on original Kelly's Grid, for example

Leach and Raybould, 1977; Van der Wolf, 1984; Korthagen,1998; Korthagen, Koster, Melief & Tigchelaar, 2002. In this investigation we follow a variant of the original Kelly's method, with regard for Leach en Raybould work (1977) that established a connection between the teacher's scoring of an individual pupil and his constructs, Van der Wolf (1984), who asked the participants about features in common instead of asking about differences, and Korthagen (1998) who used this procedure with subjects working in couples (one naming, the other writing down). For the coaching purposes and possible influencing the behaviour of the teacher towards pupils we have used other methods. They are described in detail in Touw and van der Wolf (2003); Van Beukering and Touw (2005). Further on we describe three of the seven steps of the investigation method we used. The complete set of seven steps can be found in the paper presented at the PRAR (Van Beukering, Touw & Everaert).

Procedures

Step 1: Making an inventory of the teacher's individual constructs and their opposites

(Step 1a) First of all each participant is asked to write the names of all the pupils on separate cards. Then he is to choose from a set of three randomly picked up cards with names the two pupils that have most in common (Van der Wolf). Then the participant again picks up three cards and asks himself the same question: In what sense two of these three pupils are alike (and therefore different from the third one). In this way he assembles his personal constructs. The participant continues till he has no other ideas to add to the construct.

 (Step 1b) Next step is making an inventory of personal opposites for each construct. From now on the construct and its opposite form a construct pair. The participant can be helped in his looking for an opposite, for instance, by asking him questions which expose his reactions to pupils with specific characteristics, compared to his reactions to children with opposite characteristics (Korthagen, 1998). A standard form is used for making an inventory of these constructs.

Step 2: Mapping personal constructs

Next, the participant orders his own constructs and their opposites from the point of view of "positively experienced constructs" and "negatively experienced constructs" (opposites). Again we used a standard form. It is essential that the construct and its opposite should remain inseparable, the way they are fixed in step 1.

Step 3: Scoring pupils on personal, positively experienced constructs

All positively experienced constructs are recorded in a standard form. This form is used for individual scoring of every pupil. The participant makes copies of the filled-in form, depending on the number of pupils in the class. Then he scores every pupil on his personal construct list with the help of the five-point Likerts Scale (Leach en Raybould (1977). The scores vary from 0 (positive construct not applicable) to 4 (positive construct fits completely).

Hypotheses

The data collected are analysed at the level of constructs. Four questions concerning the constructs from the teachers will be addressed. First of all, we focus on the number of unique construct pairs proposed by participants. Taking into account the fact that all the participants are either working in education or being trained as teachers, it seems logical to expect that their constructs would be more or less alike. Van der Wolf and Van Beukering (to be published in 2006) oppose that teachers lack their own professional language that would reflect the complexity of education practice. It is different, for instance, in architecture, medical sciences and law, which have established a 'good practice' concept that contributes to reasoning in theoretical terms and also to development of professional jargon. Because of these considerations we expect a great diversity in the mentioned constructs.

The second subject has to do with the number of construct pairs named by each participant. The purpose is to investigate if there are any differences in the number of construct pairs of different participants and which variable(s) could cause these differences. Nash (1976) reports that the teacher's repertory consists of 8 to 12 separate constructs pairs. We accept this number as a reference point.

We also looked if the type of school the teacher is working at influences the number of constructs and the average scores the teacher is giving on the constructs. In earlier studies with the same research method we didn't read about any differences. Our nil hypothesis is there are no differences in the number of constructs and the average scores the teacher is giving on the constructs.

And, finally, we are interested if the gender of the pupil plays a role in the teacher's scoring boys and girls within the range of the teacher's constructs. Research into the reasons for boys' performing less well in school is still in its infancy. Sociologists and educationalists have given a great deal of thought to what might be the reasons for boys being disadvantaged. However, current research does not offer a definite answer to the question about teachers' judgements with regard for the pupil's gender. Driessen's investigation reports no differences in this regard in research executed in Holland (2005). Diefenbach and Klein (2002) refer in their study 'Bringing boys back in' to a correlation between the overrepresentation of women in the teaching profession and the poorer performance of boys. Female teachers, they claim, are likely to value the behaviour of boys and girls differently. "Female teachers dominate the school culture and possibly expect and reward the type of behaviour that girls are taught as part of their socialization process, and boys are not (to the same extent). In contrast, behavioural patterns which disrupt lessons and presumably also have a negative effect on performance in school are more commonly found in boys than girls, and female teachers may perhaps find this behaviour more annoying than male teachers if they base their standards on their own gender-specific socialisation). Obviously, they continue, this theory would need to be tested in a relevant study. We were curious about our findings.

Results

Unicity of constructs

The 29 teachers registered 342 positive and 348 negative constructs. Using them, they formulated 571 construct pairs. 478 combinations were unique. Only 54 construct pairs were used more than once. This is remarkably low. The next question is if the repeated construct pairs are spread among all teachers or some teachers have used them several times. Altogether, 13 teachers were involved in scoring the next series. Of these thirteen, 9 were women and 4 men. It turned out that 24 of those 54 construct pairs have been used by the same 11 teachers twice. Those were 9 women and 2 men. That indicates that women seem to be more consequent through time. However, the sample is too small for making definite conclusions; further research is necessary with bigger sample.

Unicity of positive constructs

Then we once again look at the constructs. Of the total 324 positive constructs, 78 were used twice or more in 44 series. There were four positive constructs, which were most frequently mentioned in one or more series by 10 women and 3 men. So 'quiet' (Dutch 'rustig') was mentioned 22 times, 'self-reliant' (Dutch 'zelfstandig') 12 times, 'social' (Dutch sociaal') 10 times and 'cheerful' (Dutch 'vrolijk') 10 times. Thus teachers in half of the series used the word 'quiet'. The use of the word did not necessarily imply the same meaning. To explore this one needs qualitative analysis of the definitions of the constructs.

Unicity of negative constructs

Of the total 348 negative constructs, 90 constructs were used twice or more. There were five negative constructs frequently mentioned in one or more series by 10 women, 6 men and 1 sex unknown. So the word 'restless' (Dutch 'druk') was used 14 times, 'uncertain' (Dutch 'onzeker') 13 times 'lazy' (Dutch 'gemakzuchtig') 10 times, 'follower' (Dutch 'meeloper') used 9 times and 'quiet' (Dutch 'rustig') 9 times. Thus, some teachers used the same construct in the same series.

Remarkable that the construct 'quiet' shows up both among common positive constructs and on the list of the most frequently used negative constructs. It means that some elements of the construct experienced by one teacher as positive are obviously not experienced the same way by another teacher. This finding can be also associated with the individuality corollary, which could mean that the same elements could be construed by different persons in different ways. Therefore it can be very confusing for a child when one teacher uses 'quiet' as a positive construct while the next teacher uses the same construct 'quiet' in negative sense.

Changing the position of constructs

There were positive constructs that were used as negative and vice versa – altogether 53 constructs. We wondered if the same person could do this in the next series. So we studied the data of the teachers that scored two or more series. It turned out that those were the same persons, specifically 2 of the 4 men and 5 of the 9 women, who used the same construct in one series as positive and in the other series as negative, or vice versa. It can possibly indicate that

the personal constructs from male teachers are less stable. Because of the small number of subsequent series, such an investigation would need a bigger sample. We'll give two examples from changing position of a construct, which means four constructs for each example.

- The first example is, the construct pair 'independent' (pos.) – 'submissive' (respectively Dutch zelfbepalend – volgzaam) in the first series and the pair 'susceptible' (pos.)- 'independent' (in the meaning 'obstinate') (Dutch kwetsbaar – zelfbepalend) in the second series used by the same man.
- The second is the construct pair 'influenceable'(pos.) – aggressive (Dutch reguleerbaar – agressief') in the first series and 'predictable' (pos.) – 'influenceable' (Dutch voorspelbaar - reguleerbaar) in the second series used by the same woman.

Both positive and negative use of the same word may mean that teachers do not have sufficient command of the language i.e. they do not master the level which would enable them to use different constructs in their construct pairs which overlap in the construct mentioned before. It is also possible that the construct fits only a finite number of situations in Kelly's range corollary. That is, that the position of the construct is closely associated with the opposite.

The number of constructs

In the next paragraph, effects of teacher and class characteristics on the number of constructs are explored by means of multilevel analysis. We try to identify the contribution of some independent variables (i.e. number of students in classroom, type of school, sex and age of teachers) to the number of constructs after controlling for pre-existing differences between teachers and series. So, two levels were identified: teacher and series. The total number of teachers was 27 filling out 40 series. To analyze the data, we used the lme function for linear mixed-effects models in the nlme package available for the R statistics environment (see Pinheiro and Bates, 2000).[1] In some cases a class was scored twice by different teachers at the same time. It also happened that pupils were scored in two separate series by the same teacher on different occasions. Although, the syntax of the lme functions is flexible enough to deal with complicated cross-classified models, we have limited ourselves to the standard hierarchical nested model. The number of participants per measured variables is relatively small.

Three different models were estimated. First, a null-model with no exploratory variables is fitted to provide estimates of the components of the total variation at each level. The full model incorporated all available exploratory variables. Two independent variables (number of students in classroom and age of teacher) are centred on the grand mean of their corresponding level. By doing so, the parameters are estimated at sensible locations. Right now, we do not have any theory that links the numbers of constructs to some independent variables. The parsimonious model is based on the results of the full model.

Table 2. Estimates for Three Random Intercept Models Explaining the Number of Constructs

Table 2. Estimates for Three Random Intercept Models Explaining the Number of Constructs

|	Null model		Full Model		Parsimonious Model	
	Estimate	*SE*	*Estimate*	*SE*	*Estimate*	*SE*
Fixed parameters						
Intercept	12.99455	0.5400391****	10.94966	1.5160513****	11.010785	0.5125770****
Number of series (second series)			-0.232236	1.0205989		
Number of students in classroom			0.133771	0.0616435*	0.144139	0.0413096***
Age of teacher			-0.021927	0.0439408		
Gender of teacher (female)			0.311952	0.8720049		
Special Educational Needs			4.106049	1.1238924***	3.884977	0.9085301****
Secondary Education			3.667442	1.7083630**	3.010810	1.2026293**
Secondary Educational Needs			6.002507	1.7352814***	5.691266	1.433383****
Random parameters (variance components)						
Teacher level	3.833455		0.967484		0.935166	
Series level	4.660448		2.802520		2.876036	
Residual	0.705559		0.305390		0.306014	
Deviance	199.80		168.96		169.43	

*p < 0.10; **p < 0.05; ***p < 0.01; ****p <0.001

In general, we may conclude that the number of constructs depends upon the number of students in a classroom and on the type of school the teacher is working. We can also conclude that the average number of constructs in teachers working in mainstream primary education is 10,9 – which is in agreement with Nash's (1976) findings (8 tot 12 constructs). The teachers from mainstream secondary education name average 14,6 constructs while teachers in special education system use in their judgements about children under 12 years of age average 15,1 constructs. The highest average number of constructs is found in teachers working in secondary special education, specifically 17,0. Teachers working with primary school children named fewer constructs than their colleagues from secondary education did. Besides, a noticeable increase of the number of constructs is found in teachers working in special education system. The results of the Full Model in Table 2 imply that neither gender nor the age of teachers does significantly contribute to the number of constructs.

The score on the constructs

As mentioned before, we have a special interest in gender relations in classrooms. Preliminary graphical analyses (i.e. boxplots per series, see Figure 2 and Figure 3) gave the impression for female teachers to evaluate girls over boys on their personal constructs.

Figure 2 Score on the constructs from female teachers specified for boys and girls
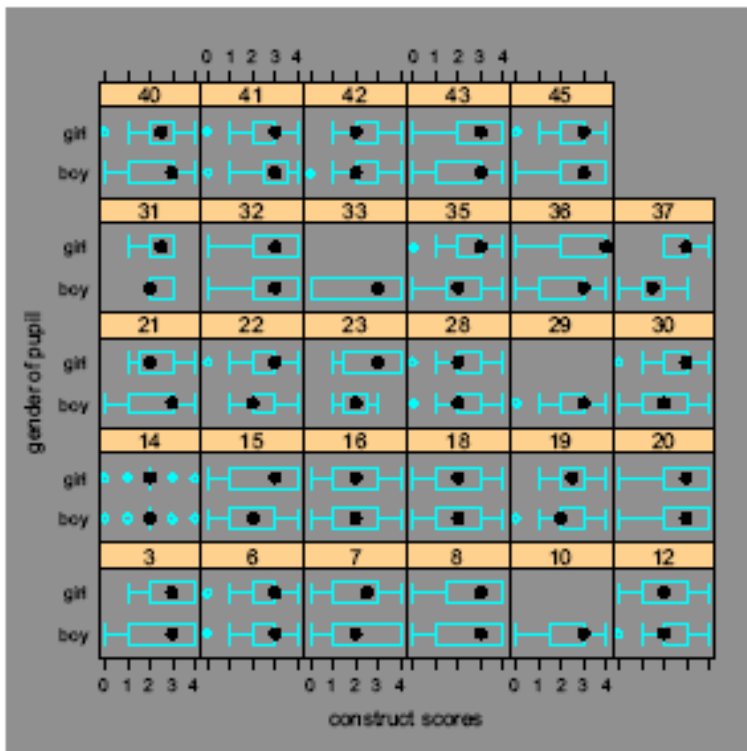
Figure 3 Score on the constructs from male teachers specified for boys and girls
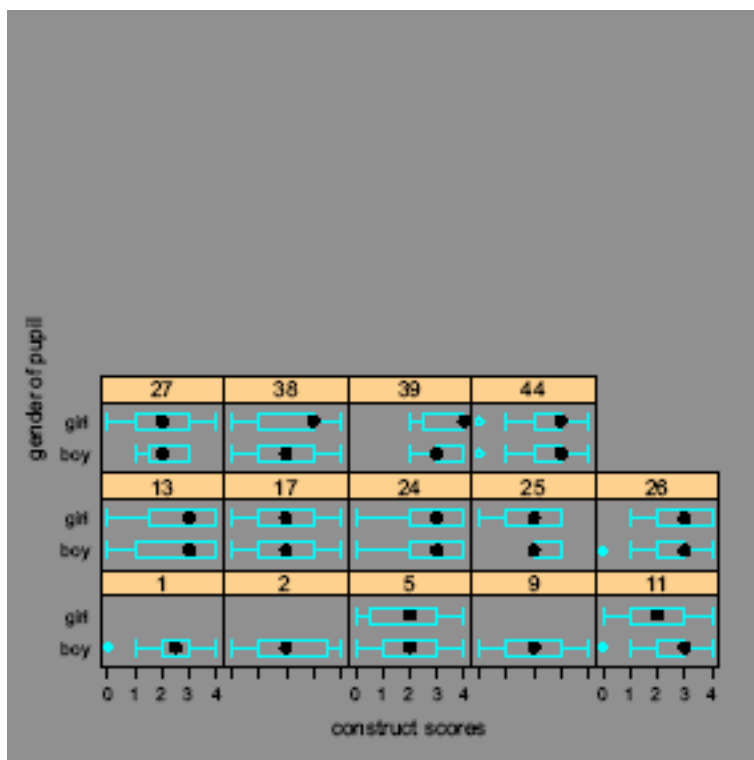
With respect to male teachers there seemed to be no difference in the evaluation of gender of pupils. In order to study this in more detail and in relationship with other covariates, the Likert construct scores are modelled in a nested structure. Three levels are identified: teachers, series and students. For every separate construct in a series, a pupil is scored by the teacher. Our data is based on the scores of 27 teachers on 597 students in 40 series.

Table 3 Estimates for Three Random Intercept Models Explaining the Score of Constructs

Table 3. Estimates for Three Random Intercept Models Explaining the Score of Constructs

	Null model		Full Model		Parsimonious Model	
	Estimate	SE	Estimate	SE	Estimate	SE
Fixed parameters						
Intercept	2.418119	0.04419457****	2.5522232	0.1256585****	2.5261131	0.0538383****
Number of series (second series)			-0.0175828	0.0832721		
Gender of teacher (female)			-0.0360886	0.1008883		
Gender of pupil (girl)			0.0011046	0.0816938		
Gender of teacher and pupil (female*girl)			0.1511745	0.0956209		
Age of teacher			0.0053079	0.0040882		
Age of pupil			0.0061013	0.0152202		
Special Educational Needs			-0.1967667	0.1055854*	-0.1834015	0.0944666*
Secondary Education			-0.3795191	0.1639542**	-0.2999470	0.1074773**
Secondary Educational Needs			-0.2053722	0.1885532	0.1179891	0.1443621
Random parameters (variance components)						
Teacher level	0.017032		0.011530		0.213386	
Series level	0.028140		0.016783		0.018736	
Student level	0.164152		0.161040		0.165299	
Residual	1.135940		1.135757		1.135829	
Deviance	24662.78		24643.28		24655.02	

*p < 0.10; **p < 0.05; ***p < 0.01; ****p < 0.001

The results in Table 3 show that our impression must have been false. There are no significant differences in gender relations between teachers and pupils. However, there seems to be quite some positive interaction effect between female teachers and girls (+.15) we see a trend, the effect itself is not significant.

As we look at average scores of the teachers regarding their pupils, we could expect it would come to the average, specifically 2. However, it turns out that the average score of pupils per school type is higher than average. It is also obvious that teachers in mainstream primary education tend to score their pupils the most positive way. Their scores are the highest among the four types of education, that is 2,55. The teachers working in special education score their pupils almost the same: that is 2,34 for children under the age of 12 and average 2,35 for those older than 12. The lowest scores in the sample, though also higher than 2,0, received the pupils from mainstream secondary education, specifically 2,17. In other words, the average score for pupils from mainstream secondary education shows that they are the ones who least meet the expectations and ideas of their teachers, and this is reflected in the list of constructs. It could also play a role that the teachers involved in mainstream secondary education have less contacts with their pupils and therefore less opportunities to establish a relationship with the pupil and learn him/ her better than in other education types included in this investigation.

Discussion

It is noteworthy that even in our relatively small sample, the participants formulated many unique construct pairs. In subsequent series, repetition of the same constructs was more frequently observed in female teachers than in male teachers. It can possibly indicate that the personal constructs from male teachers are less stable. Because of the small number of subsequent series, such an investigation would need a bigger sample. Besides, there was another issue to investigate, specifically, about any positive effect between female teachers and their judgements concerning girls. We did not find any significant differences. But this subject deserves further investigation.

We are surprised finding differences in the average score of pupils per school type. The average score for pupils from mainstream secondary education shows that they are the ones who least meet the expectations and ideas of their teachers. These teachers have less contact with their pupils than their colleagues from other school types. They have less opportunities to establish a relationship with the pupil and learn him/ her better than in other education types. The peer-group plays a very important role during the puberty and this can lead to annoying behaviour from the pupils towards the teachers. This can also be a reason why these pupils meet the expectations and ideas of their teachers the least.

"Quiet" happened to be the most common construct mentioned. Used both in positive and negative sense. The opposites to 'quiet' proposed by the teachers were diverse. That is worrisome from pedagogical point of view because in guiding children the teachers should be able to 'tune in' with their colleagues. If the diversity is so great about one relatively simple construct, specifically 'quiet', then what would be the degree of unclarity while discussing a pupil

or communicating with pupils in the class? This unclarity can cause problems. That's why transparent communication between teachers is so important. In this investigation we face a big number of unique construct pairs and this fact suggests lack of common language for teachers, the one associated with their profession. In our future research we could try to reduce this big number of unique constructs and bring it down to a limited number of concepts. Perhaps this research can contribute to the conceptual framework of teachers. Development of teachers' professional language could improve the connection between the practical goals and the method to achieve it. It is important that a teacher is able to discuss his approach in theoretical terms as well. Then we come to the issue of the role of theory in professional training, which can be of help only when the teachers are able to combine theoretical and intuitive knowledge (see Van Beukering, Touw & Everaert, 2005).

The number of constructs per teacher and the scores of pupils on basis of constructs seem also to depend on the type of the school the teacher is working at. In a number of investigations involving Kelly's Grid, the researchers report differences between individuals but not between the school types. We conclude that the type of the school the teacher is working at influences the number of constructs and the average scores on the construct. Teachers working at schools for children with special needs seem to have a higher average score than their colleagues at other schools. This could point in a positive direction, the teachers at these schools could be more aware of the complexity of pupils' behaviour. Perhaps they speak more about the pupils with colleagues and school psychologists. This can be helpful for building up their personal construct system. We are going to explore this subject further in the future.

The REP can give an impulse to the development of thinking and acting of teachers. We think it can help them to build up their professional identity towards 'problem children'. We think it is very important for the school carrier of pupils that the teacher assigns them a positive role. In the future we will have a close look at the first construct the teacher mentions. How often is the first construct a positive one? And is it possible to influence the amount of positive constructs that are mentioned first?

All the constructs written down by the teachers were literally present but in many cases they were not really aware of those constructs. Kelly's Grid offers an opportunity to expose these constructs, to remove the veil. We think removing the veil is somewhat different than discovering something or inventing something new. However, the teachers regard this awareness of the constructs they use as essential and new. It opens the way for reflection and coaching. We shall explore this issue in our future research. It also becomes clear in the coaching that the same behaviour can be interpreted in different ways, and our view on the pupils (and their behaviours) and our reactions are influenced by the subjective images and ideas we have developed during lifetime. This self-analysis is necessary to stimulate development of thinking about pupils with 'difficult behaviours' in students, teachers and coaches and trainers.

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Notes

1 *The base software and its contributed packages can be downloaded for free from the Comprehensive R Archive Network located at:* http://lib.stat*.cmu.edu/R/CRAN/. For further details, see also* www.R-project.org*.*