Masterthesis

Teacher Competences and Teacher Beliefs in relation with Cooperative Learning in Primary Education

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Abstract

Cooperative learning is a widespread and promising teaching procedure. In practice, however, its success is not guaranteed. Many researchers list factors for success with cooperative learning, which are foremost about the design of the cooperative task. The problem may lie with the skills and attitudes of the teachers. This case study is designed to compare teacher competences and beliefs to their work with cooperative learning. Teachers from two primary schools in The Netherlands have completed a questionnaire regarding their competences, teacher beliefs and their efforts regarding cooperative learning. Teachers with different, contrasting competences and teachers with different beliefs were interviewed and observed. After the analysis of the data, a comparison was made between competences, beliefs and cooperative learning. The quantitative data showed competence for reflection and development as a significant, positive predictor for the use of cooperative learning. Competence for collaboration with the working environment was a significant, negative predictor for cooperative learning. The quantitative data regarding teacher beliefs showed no significant prediction for cooperative learning. The qualitative data revealed some patterns in the relationship between competences and cooperative learning. The interpersonal competence, the social and emotional competence, and the organizational competence all seem to have a positive relationship with cooperative learning. The patterns found in the relationship between teacher beliefs and cooperative learning, all showed a probable, negative relationship between the transmission approach and cooperative learning.

1 Introduction

1.1 Problem

Cooperative learning is an extensive and increasing instructional practice (Johnson & Johnson, 2009). According to Brody and Davidson (1998), “Cooperative learning ... refers to a method of instruction that organizes students to work in groups toward a common goal or outcome, or share a common problem or task in such a way that they can only succeed in completing the work through behavior that demonstrates interdependence, while holding individual contributions and efforts accountable” (p. 8). This widespread success story is attributable to many factors. The most important factors are probably a solid base of theory, validation through a wide range of research studies on numerous outcomes (e.g. Slavin, 1991, 1996; Kagan, 1998; Johnson & Johnson, 2002) and clear operationalized procedures to put cooperative learning into practice (Johnson & Johnson, 2009).

The promises of the success of cooperative learning, unfortunately, do not guarantee a positive outcome when put into practice (Sharan, 2010). In many studies and practical recommendations (e.g. Sharon, 1987; Slavin, 1996; Johnson & Johnson, 1999), factors that may contribute to the success of cooperative learning are mentioned. Despite that, not every teacher can achieve the desired goals of cooperative learning. Cooperative learning may be seen as a combination of techniques for managing group work and improving academic test scores (Brody, 1998; Sharon, 2010). This way, teachers disregard the theoretical foundations of the development of interpersonal learning skills and thereby lack the positive effects on intergroup relations, acceptance of regular students and self-esteem (Slavin, 1991). The more traditional view of learning and teaching is based on the teacher’s role of owner and director of fixed knowledge. In order to fully benefit from cooperative learning, teachers need to organize team work for problem solving where students may affect knowledge (Sharon, 2010). The competences of the teacher and their educational beliefs could therefore play a role in the achievement of the success of cooperative learning.

1.2 Theory

1.2.1 Cooperative learning

Cooperative learning has flourished in the last decade, but its origin can be linked to the ‘social interdependence theory’, which emerged halfway during the 20th century as part of social constructivist learning. This theory states that, when the outcome of shared goals are improved by the actions of individuals, there is social interdependence (Johnson & Johnson, 2009). This theory

is founded upon the gestalt psychology, where a whole is formed by lose elements which work together. Gestalt psychologist Kurt Lewin (Johson & Johnson, 2009; Sharan, 2010) used this assumption to form his ideas of a group as a dynamic whole. Lewin claimed that there was a positive correlation between the interdependence between people and the achievement of a common goal. This view was specified by Lewin's student Morton Deutsch (1949). He conceptualized two types of social interdependence: positive and negative interdependence. Negative interdependence can occur in situations with competitive tasks, where individual goals can be achieved only where others fail. This provides negative interaction, where individuals obstruct and frustrate others to obtain there own goal. Positive interdependence can occur in situations with cooperative tasks, where each group member works together with others towards a group goal. This provides positive interaction, where group members assists and support other group members to obtain the group goal.

One form of cooperative learning in (primary) education is Structured Cooperative Learning, designed by Dr. Spencer Kagan. Kagan (2003) identified three major trends in cooperative learning: The Structural Approach, Learning Together and Curriculum Specific Packages. The Structural Approach is a combination of different ways that promote social interaction between students. Once the structure is linked to curriculum content, there is a learning activity. Learning Together is a more open framework for cooperative learning to suit different subjects and at every level, while Curriculum Specific Packages are specially designed course materials for specific content. Although the most perfect and complete work with cooperative learning is a combination of these three forms, Kagan (2003) believes that teachers can be best trained in one package: the Structural Approach. This is easy to learn by starting with some simple structures and the structures are versatile. After a number of structures are used in different ways, the next structure is easy to apply. "Soon you will be able to give complex, multi-structural lessons, and use any structure where it is most suitable for them" (Kagan, 2003, p. 50).

1.2.2 Essential factors or cooperative learning

Researchers (Slavin, 1996; Kagan, 2003; Johnson & Johnson, 2009) identified several factors which relate to the effectiveness of cooperative learning. Slavin (1996) found that in order to work together, a group needs a group goal. Kagan (2003) and Johnson and Johnson (2009) called this 'positive interdependence', i.e., group members depending on each other will work better to reach the group goal. Another factor is 'individual accountability': every individual group member has to be accountable for his of her part in working towards the group goal. Slavin (1996) also found that structured interaction between group members had a positive effect on reaching group goals. Kagan (2003) found that 'equal participation' and 'simultaneous interaction' needed to be structured in order to gain maximum education for all students. Johnson and Johnson (2009) discovered that positive interdependence leads to 'promotive interaction', to support and assist each other to reach a group goal, 'the appropriate use of social skills' are necessary to cooperate

effectively and ‘group processing‘ helps improve the effectiveness of group work. Table 1 gives an overview of these factors.

Table 1.1 Factors Affecting Effectiveness of Cooperative Learning

Slavin (1996)	Kagan (2003)	Johnson & Johnson (2009)
Group goals	Positive interdependence	Positive interdependence
Individual accountability	Individual accountability	Individual accountability
Structuring group interaction	Equal participation	Promotive interaction
	Simultaneous interaction	The appropriate use of social skills
		Group processing

The role of the teacher is providing these essential factors in order to make cooperative learning work. The teacher needs to design group goals with positive interdependence and individual accountability, structure the group interaction, teach students the appropriate use of social skills and enhance group processing. With these skills, knowledge and attitude, teachers should be competent for cooperative learning.

1.2.3 Teacher beliefs

Sharan (2010) describes several causes that play a role with successfully putting cooperative learning into practice. One of these factors involves the teacher beliefs for the practice of education. Kagan (1992) stated the following:

> Teacher belief is a particularly provocative form of personal knowledge that is generally defined as pre- or inservice teachers' implicit assumptions about students, learning, classrooms, and the subject matter to be taught. (p. 65-66)

In her review on teacher belief, Kagen (1992) found that many studies show two general points about teacher beliefs. First, teacher beliefs seem to be continual and not easy to change. Second, teacher beliefs are related to consistent teaching style. Teacher beliefs affect specific classroom behaviors and is correlated with a broad range of instructional an non-instructional variables.

For cooperative learning, teachers have to understand the basic principles of social constructivism and its difference with cognitive constructivism, and the consequences each has on their beliefs (Windschitl, 2002). Teachers have to discuss and adjust their beliefs in order to change the culture of their classrooms in the nature of learning, the classroom activities and the role of the teacher. Windschitl (2002) found four categories of teachers' dilemmas of constructivism in practice, including *conceptual dilemmas*: "Grasping the underpinnings of cognitive and social constructivism; reconciling current beliefs about pedagogy with the epistemological orientations necessary to support a constructivist learning environment" (Table 1, p. 133).

Brody (1998) describes three types of teacher beliefs: the transmission approach, the transactional approach and the transformational approach. The transmission orientation "promotes the aim of education as the transmission of knowledge to students" (Brody, 1998, p. 28). With this more traditional approach, teachers are unlikely to exploit all the gain of cooperative learning, because cooperative learning is seen as a method to be mastered for managing group work. The transactional approach, "represents education as a dialogue between the student and the curriculum, and the student as a problem solver" (Brody, 1998, p. 30). Hereby, knowledge is dynamic and changing and cooperative learning is seen as a promotor for problem solving, higher levels of thinking and social behavior. With a transformation approach, knowledge is not only dynamic and changing, but also constructed. Cooperative learning is a philosophy where a community of learners is created to engage in critical dialogue and research. The factors mentioned in Table 1 are better suited to transactional and transformational approach, because the transmission approach relies on the transfer of fixed knowledge from teacher to student. This promotes competitive and individualistic learning (Kagan, 2003). The factors of cooperative learning rely on social interdependence and exchange of knowledge between students. "Cooperative learning usually supplements the teacher's instruction by giving students an opportunity to discuss information or practice skills originally presented by the teacher" (Slavin, 1991, p. 73). Studies on social interdependence over the last century show positive outcomes for cooperative learning on effort to achieve, positive interpersonal relationships, and psychological health (Johnson & Johnson, 2009).

Brody (1998) found several educational aspects related to the teacher beliefs. The first is the belief about *cooperative learning*, as described. The second is the belief about *locus of control and sense of authority*. This varies form teacher-centered authority for knowledge, to learner-centered authority for knowledge, to constructed communities authority. The third is the belief about the *role of the teacher*, from manager, to orchestrator, to co-learner. Another aspect is the belief about *conceptions of decision-making in teaching*. This aspect focusses on the view of teaching as a profession, whether it consists of prescribed processes or it is a complex craft which requires reflection and consultation for decision making. The last aspect is the belief of the *nature of knowledge*. This varies from view on knowledge as objective and fixed, or dynamic and changeable.

1.2.4 Competences

With their meta-analysis of studies involving the concept of 'competences', Van Merriënboer, Van der Klink, and Hendriks (2002) summarized these different theories to a set of characteristics. These characteristics can be crystallized to match the education or profession for which the competences are designed. Van Merriënboer and colleagues (2002) found that competences are: context-specific (1), an integration of skills, knowledge, attitudes, qualities and insights (2), changeable over time (3), associated with activities and tasks (4), depending on learning and developing (5) and related to each other (6). According to Van Merriënboer and colleagues (2002), the characteristics 1 to 3 are considered necessary, the others are considered unnecessary, but relevant for educational purposes.

1.2.5 Teacher competences

By the desire to formulate a definition of a good education professional, to improve quality in education and monitoring of that quality, the Dutch Minister of Education, Culture and Science presented the 'Professions in Education Act' in June 2004. The qualification requirements in this Act, are described by seven competences (Stichting Beroepskwaliteit Leraren, 2004b):

1. Interpersonal competence
2. Social and emotional competence
3. Subject knowledge and methodological competence
4. Organizational competence
5. Competence for collaboration with colleagues
6. Competence for collaboration with the working environment
7. Competence for reflection and development

These competences are elaborated in specific requirements, e.g. for teachers in primary education. These requirements are therefore context specific. With the description of the requirements, skills and knowledge are listed, next to some attitudes, qualities and insights. Because the competences and qualification requirements are temporarily and have to be revised every eight years, they can be considered changeable over time. In addition, the competences are associated with activities (teaching). The competences are not really depending on learning and developing and are little related to each other. The necessary characteristics according to Van Merriënboer and colleagues (2002) are being met, but the relevant characteristics for educational purposes are lacking.

When comparing the teacher competences and the qualification requirements (Stichting Beroepskwaliteit Leraren, 2004a) with the skills, knowledge and attitudes relating to cooperative learning, several competences may be considered more important for cooperative learning. Aspects of *interpersonal competence* are: transferring responsibility and ownership to pupils, and building a climate for cooperation with and between the pupils. This corresponds with positive

interdependence and the basic principles of cooperative learning. The category of pedagogical dilemmas (Windschitl, 2002) contains the development of profound content knowledge and mastering the art of assistance. The cultural dilemmas includes: becoming conscious, question assumptions, and discourse patterns. The aspects of these two categories of dilemmas relate to *competence for reflection and development*. The category of political dilemmas is associated with *competence for collaboration with the working environment*.

1.3 Research questions

This leads to the following research questions:

1. *Is there a relationship between teacher competences and the way Structured Cooperative Learning is used in the classroom?*
   - *If there is a relationship between teacher competences and Structured Cooperative Learning, what is the nature of that relationship?*
2. *Is there a relationship between teacher beliefs and the way Structured Cooperative Learning is used in the classroom?*
   - *If there is a relationship between teacher beliefs and Structured Cooperative Learning, what is the nature of that relationship?*

2 Method

2.1 Research Design

Quantitative and qualitative data was collected in a case research. First, the quantitative data involved a self-evaluation of teacher competences, questions on teacher belief and a self-evaluation of working with Structured Cooperative Learning. This data was statistically analyzed to find evidence to predict Structured Cooperative Learning with teacher competences and teacher beliefs. The quantitative data was also analyzed to select participants for qualitative data analyses and triangulation between the quantitative data of the teacher competences and the qualitative data of the teacher beliefs and working with Structured Cooperative Learning. Teachers with high scores (above 4.00) and low scores (below 3.00) on transmission belief and Structured Cooperative Learning were asked to participate with an interview and an observation of a lesson with Structured Cooperative Learning. This data was analyzed and was compared with the quantitative data of the teacher competences to find patterns which indicates a relation between teacher competences and teacher beliefs with Structured Cooperative Learning.

2.2 Participants

The selected case was based two schools within the same board that were working with Structured Cooperative Learning. The case was conveniently selected, because the researcher was connected to one of the schools at the time. All 46 teachers of the two schools were asked to complete a questionnaire on teacher competences, teacher beliefs and cooperative learning. The participants (*n = 24*) were teachers (*M = 41 years, SD = 11.70, 3 men and 21 women*) who responded to the questionnaire (48% nonresponse). On one school, the teachers have worked with cooperative learning for five years, on the other school for two years. All teachers have done the teacher training for cooperative learning and work with cooperative learning daily. From these participants, a selection was made of 15 teachers from which 5 participants responded (67% nonresponse) to further data collection through interviews and observations.

Table 2.1 General characteristics of the teachers who responded to further data collection

Number	Gender	Age	Years of teaching experience	School
1	Female	45	10	A
2	Male	48	25	A
3	Female	43	4	B
4	Female	27	4	B
5	Female	27	6	B

2.3 Instruments

2.3.1 Questionnaire

The questionnaire collected data involving teacher competences, teacher beliefs and working with cooperative learning. For the questions related to the teacher competences, the competence requirements of the Association for the Professional Quality of Teachers (Stichting Beroepskwaliteit Leraren, 2004a) were used. The reason for the use of this instrument is that the participants are already using this instrument in their annual performance appraisal. The competence requirements are not very specific and is therefore not really suitable for assessment, but in this study it was used only to explore the difference between the self-evaluation of the competences (a relative scale rather than an absolute scale). The choice of a self-evaluation rather than an objective assessment was made, because the researcher was a colleague of the participants. The participants were expected to decline participation if the researcher would assess them on their competences. The self-evaluation should be able to show a differentiation in the self-assessment of the competence requirements and could therefore provide information about which competences the participants assess themselves as being capable. The participants assessed themselves about the competence requirements on a five-point rating scale, with response categories rating from ‘poor’ to ‘good’. An example item for the interpersonal competence is: “You give the children direction, but also gives them responsibility and ownership”.

The questions related to teacher beliefs are derived from the different teacher beliefs Brody (1998) describes. For each of the three educational beliefs (transmission, transaction and transformation), the questionnaire contains statements regarding cooperative learning, locus of control, the role of the teacher, conceptions of decision-making in teaching and the nature of knowledge (see: Brody,

1998, p. 29-30, Table 1.1). The statements were copied from Table 1.1 (Brody, 1998) and translated into Dutch. The statements were seen as general teacher beliefs and have therefore not been adjusted for Dutch primary education.Each statement was placed as a five-level Likert item, to form a Likert scale. Sample items for the role of the teacher, are:
“The control of knowledge is entirely in the hands of the teacher, who is responsible for all aspects of learning”. (Transmission)
“The control of knowledge is shared with the pupils. The objective of the teacher is to support learning and help students become more intrinsically motivated”. (Transaction)
“The control of knowledge lies with the learning community. The teacher is primarily concerned with the effect of the community: new knowledge. Students are able to establish conditions for learning”. (Transformation)

The questions related to working with cooperative learning concern the quantity of different aspects of cooperative learning: use of cooperative learning, goals, social skills, teams, management, motivation, equal participation, individual accountability, positive interdependence and simultaneous participation. The participants assessed themselves on a five-point rating scale, with response categories rating from ‘never’ to ‘always’.

A factor analysis did not show different factors for the different competences and the different teacher beliefs. This was expected, given the low number of participants (n = 24), the small variation in competence requirements and the weak distinctive character of the teacher beliefs. The qualification of competence requirements of one competence, does not relate to competence requirements of another competence. Therefore, the self-assessment on competences shows no different factors. The general beliefs of a teacher can vary, depending on the subject, and is therefore not to be seen as a distinctive factor.

The questionnaire was checked for reliability of the different scales. Because of the low number of items for each scale, α above .6 is considered sufficient internal consistency. The scales of the constructs of transaction and transformation were not very reliable. For the construct of transaction, item 1 was deleted to gain higher reliability. Item 1 was formulated as a belief related to cooperative learning, while the other items are formulated as beliefs related to teaching and pupils. For the construct of transformation, item 4 was deleted to gain higher reliability. Item 4 was a very complicated statement and got a lot of question marks. The deletion of these items appeared to be insufficient for the reliability. The reason for this could lie in the concept of teacher beliefs. Teachers could interpret the items at micro level (practical beliefs on their own behavior in the classroom) or at macro level (general beliefs on teaching). For differentiation in the teacher beliefs, a high or low score on transmission was used. For this, the criteria were set on a mean score above or below 3.00 on the transmission scale. The other scales proved to be reliable (see: table 2.2).

Table 2.2 Reliability of the questionnaire for each component

Scale	Number of items	Example items (translated from Dutch)	Crohnbach alpha coefficient
Interpersonal competence	3	You create a good climate for collaboration with the children and between the children.	.80
Social and emotional competence	5	You design a plan of approach to guide the children to a save and harmonic climate and to encourage their social and moral development.	.92
Subject knowledge and methodological competence	5	You design learning activities which are executable for the children and that encourage them to independent work.	.86
Organizational competence	3	You keep a schedule that is known by the children and use time adequately.	.67
Competence for collaboration with colleagues	4	You give and receive consultation and review with colleagues.	.78
Competence for collaboration with the working environment	3	You take a constructive part in various forms of consultation with people and institutions outside the school.	.82
Competence for reflection and development	3	You agree to develop your abilities to fit the policy of the school.	.89
Transmission belief	5	The teacher is performer, director and manager.	.65
Transaction belief	4	The teacher is coach, encourager and organizer.	.50[a]
Transformation belief	4	The teacher is co-learner, as part of the learning community.	.44[b]

Scale	Number of items	Example items (translated from Dutch)	Crohnbach alpha coefficient
Cooperative learning	16	I use cooperative learning in my lessons.	.86

Notes. a For the scale 'Transaction belief', item 1 is deleted to gain higher reliability. b For the scale 'Transformation belief', item 4 is deleted to gain higher reliability.

2.3.2 Interview

Participants were interviewed regarding the competences they addressed in preparation of the lesson that was being observed and the competences they expected to address during the lesson, specified by skills, knowledge and attitudes.

For the data on teacher beliefs in general, the questions Brody (1998) used in her interviews (p. 32) were used. They involve history, goals and beliefs about teaching and teaching styles:

1. Describe a memorable event or critical incident from your teaching or learning experience.
2. Interpret the meaning of this event: How would you define the theme of this event?
3. Explore the connection of this theme to your core belief: What is important to you as teacher? What are your beliefs about learning?
4. Describe your teaching style, i.e., the way you see yourself relating to students, the way you would describe your role in the classroom, and how you manage the classroom.

Next, questions were asked about the teacher beliefs which are focussed on the situation of the lessen that was prepared for observation. The coding of the answers was done separately by two raters for higher reliability. To determine the interrater reliability, the percentage of agreement was computed. There was approximately 94% agreement for the answers related to the competences. This high consensus was achieved because the participants explicitly mentioned the competences. There was about 58% agreement for the answers related to the teacher beliefs.

2.3.3 Observations

The observational checklist was based on the Cooperative Learning Observational Checklist from Krol (2005), but it was adjusted to Structured Cooperative Learning (Kagan, 2003). During the observations, there were seven construct properties which defined Structured Cooperative Learning. The first was based on the 'Well Thought Teaching'-model (Fullan & St.Germain, 2007), an instructional model suited for cooperative learning and introduced on one of the participating schools. In fourteen parts of the model, the observer checked if a cooperative structure was used. The next six construct properties were the six key concepts of Structured Cooperative Learning (Kagan, 2003), which are:

1. teams
2. cooperative management
3. the will to work together
4. the skills to work together
5. the basis principles
    a. equal participation
    b. individual accountability
    c. positive interdependence
    d. simultaneous interaction
6. the structures

Each property corresponds to several questions, which were checked for non-use or good use (and sometimes moderate use) of Structured Cooperative Learning. In some items, the observer was given examples of the use of cooperative learning. For instance, the last question about the cooperative learning structures was answered by checking the list of all observed structures during the lesson. Two observers, who were both familiar with the used items and with observing the participants, did the first observation. The observational checklist was then analyzed to gain a higher reliability. The first items (item 1-4) involving the construct of the 'Well Thought Teaching'-model appeared to be impossible to observe and were removed from the checklist. The lessons appeared to be not designed to match the 'Well Thought Teaching'-model. For the remaining part of the observational checklist (item 5-29), an interrater reliability analysis was performed using the Kappa Measure of Agreement to determine the consistency between the two observers. The interrater reliability was found to be $K = .67$ ($p < .0001$).

2.4 Procedure and Analysis

In a case research, quantitative and qualitative data was collected from teachers throughout triangulation: questionnaires, interviews and observations. The selected case was based on teaching with cooperative learning on two schools within the same board. The researcher was working on one of these schools at the time. All teachers of the two schools were asked to complete a questionnaire on teacher competences, teacher beliefs and cooperative learning. From all participating teachers ($n = 24$), the data was collected and statistically analyzed for correlation between teacher competences and cooperative learning and correlation between teacher beliefs and cooperative learning. To explore these relationships, hierarchal multiple regression was used to predict the influence of teacher beliefs on cooperative learning, after the effect of teacher competences is controlled for. The teacher competences are expected to be a more important predictor for cooperative learning, because a more competent teacher is more likely to adapt his teaching style to the schools principles. The teacher beliefs are expected to play an important role in the use of cooperative learning, but a teacher belief could be overruled by the belief that is prevalent in the school. The assumptions for a hierarchal multiple regression were violated for the

sample size and the multicollinearity. The number of participants (N = 23) is to little for the generalisability of a result with ten predictors. Some independent variables (teacher competences) are highly correlated (r > .7). The choice of hierarchal multiple regression was still the best option for the prediction of the influence of teacher beliefs on cooperative learning, after controlling for the effect of teacher competences. The outcome however, can not be generalized and the outcome of individual competences is not very reliable.

From all participants, teachers with mean scores above 4.00 or below 3.00 on transmission belief and cooperative learning were asked to participate in further data collection. Only five participants responded to this call. These participants were interviewed to gain more information about their competences and beliefs.

The answers related to the competences were coded by the researcher, to match the teacher competences. The first question was directly referring to the competences: “What teacher competences did you address for the preparation of this lesson?”. The next question was a control question regarding skills, knowledge and attitude, to verify the competences. These answers were coded to match the competence (compInter, compPeda, compDidac, compOrga, compCol, compOmg and compRefl). For example, a teachers’ response as “…the attitude to keep more distance to the pupils.”, was coded compInter. In this way, all competences that were addressed for the preparation of the lesson and that were expected to be addressed during the lesson were listed.

The answers related to the teacher beliefs were coded by the researcher, to match either transmission, transaction or transformation approach in teacher beliefs. The questions 5 and 6, a memorable event and its meaning, were only used to trigger thoughts. Question 7 and 8, beliefs in learning and teaching style, were used to obtain information regarding general teacher beliefs. These answers were coded to match the beliefs (Mis (Transmission), Act (Transaction) and For (Transformation)). For example, a teachers’ response as “…a certain strictness, hard rules…” was coded Mis. The questions 9 to 13 were used to obtain information regarding teacher beliefs, focused on the lesson. These answers were coded the same way as question 7 and 8.

Next, these five participants were observed during a lesson. The data collected from the observation gave information about the quality of their use of cooperative learning. For each of the six constructs of Structured Cooperative Learning, their scores were calculated to a percentage of the total score. These percentages were divided into a five-scale range from “- -” to “+ +”, to gain an overview of the use of these constructs.

This analyzed data was placed in a within-case display for explaining and predicting (Miles & Huberman, 1994). This way teacher competences, teacher beliefs and teachers’ use of Structured Cooperative Learning were compared with each other.

3 Results

3.1 Quantitative Analysis

Hierarchal multiple regression was used to assess the ability of the three teacher beliefs to predict the use of Structured Cooperative Learning in the classroom, after controlling for the influence of the various teacher competences.. Because of the low amount of participants and the diversity of the constructs being measured, the statistical criterion that was used is a .1 probability. The correlation matrix (see: table 3.1) shows high correlations between all the competences (at $p < .01$ level), some correlation between a few competences and cooperative learning (at $p < .1$ level) and some correlation between a few competences and teacher beliefs (at $p < .1$ level).

Table 3.1 Intercorrelations Between Variables (N = 23)

Variable	1	2	3	4	5	6	7	8	9	10	11
1.Cooperative L.	_	.30*	.41*	.27	-.06	.24	.18	.41*	.14	.17	-.23
2.CompetenceInter		_	.75**	.75**	.59**	.53**	.59**	.70**	.07	.15	-.05
3.CompetenceSoc			_	.78**	.51**	.69**	.77**	.78**	.14	.17	-.11
4.CompetenceKnow				_	.73**	.67**	.71**	.84**	.32*	.20	-.08
5.CompetenceOrg					_	.62**	.56**	.58**	.41*	-.05	.30*
6.CompetenceCol						_	.72**	.74**	.26	.23	.01
7.CompetenceEnv							_	.86**	.35*	.04	-.15
8.CompetenceRefl								_	.35*	.22	-.16
9.Transmission									_	-.04	.43*
10.Transaction										_	.21
11.Transformation											_

** p < .1. ** p < .01.*

The various teacher competences were entered at Step 1, explaining 51% (F (7, 15) = 2.20, p < . 1.) of the variance in the use of cooperative learning. After entry of the teacher beliefs at Step 2, the total variance explained by the model as a whole was not statistically significant. In model 1, only two competences were statistically significant, with a high, negative, beta value for *competence for collaboration with the working environment* and a high positive beta value for the *competence for reflection and development* (see: table 3.2).

Table 3.2 Summary of Hierarchical Multiple Regression Analysis for the Teacher Competences and Teacher Beliefs predicting Cooperative Learning (N = 23)

Variable	B	SE B	β
Step 1			
Interpersonal competence	-.10	.44	-.07
Social and emotional competence	.63	.38	.66
Subject knowledge and methodological competence	-.33	.50	-.30
Organizational competence	-.40	.39	-.32
Competence for collaboration with colleagues	13	.28	.01
Competence for collaboration with the working environment	-.80	.36	-.91*
Competence for reflection and development	.91	.41	1.16*
Step 2			
Interpersonal competence	.41	.47	.10
Social and emotional competence	.79	.40	.83
Subject knowledge and methodological competence	-.56	.57	-.52

Variable	B	SE B	β
Organizational competence	-.33	.53	-.26
Competence for collaboration with colleagues	.08	.30	.09
Competence for collaboration with the working environment	-.97	.38	-1.11*
Competence for reflection and development	.75	.43	.95
Transmission belief	.44	.27	.46
Transaction belief	.03	.46	.01
Transformation belief	-.39	.39	-.31

Note: $R^2 = .51$ *for Step 1* ($p < .1$), $\Delta R^2 = .61$ (n.s.). * $p < .05$.

Competence for reflection and development appear to be a strong, positive predictor for the use of Structured Cooperative Learning. This corresponds with the pedagogical and cultural dilemmas (Windschitl, 2002), where development and reflection are significant factors teachers need to address facing the challenges of constructivism in practice, such as cooperative learning.

Competence for collaboration with the working environment seems to be a strong, negative predictor for the use of Structured Cooperative Learning. This may be due to a working environment which does not support cooperative learning. When various stakeholders in the school community, such as parents or the internal supervisor, endorse a more individualistic, competitive or cognitive approach, teachers with high competence for collaboration with the working environment can deviate from the principles of cooperative learning.

3.2 Qualitative Analysis

3.2.1 Interview: teacher competences

The participants elaborated on the competences they addressed for the preparation of the lesson and the competences they expected to address during the lesson.

The first participant addressed the organizational competence and the subject knowledge and methodological competence for the preparation of the lesson:

> *"In my preparation I collect what is needed, the material, and I use my understanding of the starting level and exercises and my skills with the coop-structure."* (translated from Dutch)

The expected competences during the lesson of the first participant, were the organizational, the knowledge and methodological, and the social and emotional competences.

In the preparation, the second participant used the social and emotional competence, the subject knowledge and methodological competence and the organizational competence. The expected competences of the second participant, were the interpersonal, the social and emotional, the subject knowledge and methodological, the organizational competence and the competence for reflection and development:

> *"I expect to make contact and have conversations with my pupils... I create a good learning environment by praising my pupils... I give instructions on subject-matter and compliment given answers... I use the time-timer on the interactive whiteboard and use a T-scheme... I reflect during the lesson by comparing it with the previous lesson."* (translated from Dutch)

The organizational competence was used in the preparation for the lesson of the third participant. The interpersonal, the social and emotional, and the organizational competences were expected.

The fourth participant addressed the interpersonal, the social and emotional, and the subject knowledge and methodological competences for the preparation of the lesson. The expected competences were interpersonal, subject knowledge and methodological and organizational.

The fifth participant used social and emotional, the subject knowledge and methodological and the organizational competences for the preparation of the lesson. The interpersonal, the organizational and the competence for reflection and development were expected by the fourth participant.

> *"Limited intervention and increased distance from my pupils, subject-matter knowledge and skills with the coop-structure."* (translated from Dutch)

3.2.2 Interview: teacher beliefs

The participants also responded to the questions related to their teacher belief in general and their teacher belief regarding the lesson with Structured Cooperative Learning, they prepared for the observation.

The first participant showed a more transactional approach in general, but the lesson showed more aspects of the transmission approach.

> *"The purpose of cooperative learning for this lesson is to let all pupils practice in a short amount of time... I am in control of the subject-matter knowledge... The knowledge learned in this lesson is fixed."* (translated from Dutch)

The teacher belief of the second participant in general was for most the transactional approach. The preparation of the lesson also displayed a more transactional approach. Although knowledge was fixed, the goal of the lesson was more problem solving and inducing social behavior and the role of the teacher was more coaching and organizing.

The third participant has a more transactional belief, but finds it difficult to relinquish control. The prepared lesson suited best with the transmission approach, despite the fact that the role of the teacher was to organize and to guide.

The fourth participant had a more transactional approach in general and in preparation of the lesson. The role of the teacher, the view of cooperative learning and the view on teaching and knowledge were all more transactional. Only the subject-matter knowledge is always fixed and controlled by the teacher.

The lesson of the fifth participant was more suited with the transmission approach, and that matched the general belief of this participant:

> *"Transfer of knowledge is more suited to me. I find it difficult to deal with cooperative learning, but I believe in its effect on social behavior... My teaching style is more directive. The teacher is the leading character."* (translated from Dutch)

3.2.3 Observations

The data from the observations is presented in a within-case display (table 3.1). The constructs of Structured Cooperative Learning from the observational checklist were:

1. teams (team)
2. cooperative management (mana)
3. the will to work together (will)
4. the skills to work together (can)
5. equal participation (EP)
6. individual accountability (IA)
7. positive interdependence (PI)
8. simultaneous interaction (SI)

Table 3.1 The qualitative data from the interview and the observations

	Competences							Beliefs		Structured Cooperative Learning							
	1	2	3	4	5	6	7	1	2	1	2	3	4	5	6	7	8
part.	int.	soc.	know.	org.	col.	env.	refl.	mis.	act.	team	mana	will	can	EP	IA	PI	SI
1		E	P/E	P/E				L	G	+	++	--	++	++	+	-	++
2	E	P/E	P/E	P/E			E		G/L	+	++	+/-	-	++	++	-	++
3	E	E		P/E				L	G	+/-	++	--	+	++	-	--	++
4	P/E	P	P/E	E					G/L	+	+	+/-	+	++	--	--	++
5	E	P	P	P/E			E	G/L		-	+/-	--	+	++	+	--	++

Note: In Competences, the P stands for Preparation of the lesson, the E stands for Expectation of the lesson.

In Beliefs, the G stands fot General beliefs, the L stands for beliefs in the Lesson.

The qualitative data from table 3.1 showed some interesting patterns. In the relationship between teacher competences and Structured Cooperative Learning, there were four patterns noticed:

1. The only participant who prepared the lesson using *interpersonal competence* (participant 4), gained the highest score on the will (*will*) and the skill (*can*) to work together combined. This was expected, as the interpersonal competence relates to: building a climate for cooperation with and between the pupils (the will to work together), and transferring responsibility and ownership to pupils (the skills to work together).

2. The only participant who prepared the lesson with and expected the use of *social and emotional competence* (participant 2), acquired the highest score on the four basic principles (equal participation, individual accountability, positive interdependence and simultaneous interaction) combined. The social and emotional competence includes a designed plan to guide pupils to encourage social and moral development. The four basic principles are part of the structures, a organizational form of Structured Cooperative Learning which can be used as a plan to develop social skills.

3. The only participant who did not prepare the lesson with the use of *organizational competence* (participant 4), gained the lowest score on the four basic principles combined. As mentioned before, the four principles are part of the organizational form of Structured Cooperative Learning. The lack of preparation with the use of organizational competence deteriorates the use of the structures.

4. The low score of all five participants on positive interdependence, can be attributed to the lack of preparation with *competence for reflection an development* for all five participants. To make pupils dependent on each other, a reflection on individualistic and competitive learning is necessary to acquire more insight on how this differs from cooperative learning. Positive interdependence is the creation of group goals, group rewards, interdependence on task and materials and team roles.

In the relationship between teacher beliefs and Structured Cooperative Learning, three patterns were found:

1. The general belief only differs from the teacher belief of the specific lesson, if the lesson is seen as a transmission approach and the general belief as a transaction approach. Never the other way around. This states that teachers are more 'traditional' in their beliefs about the teaching practice than they are about learning in general.

2. The three participants with a transmission approach on the lesson (participants 1, 3 and 5), gained the lowest score on the will to work together. This was expected, as the transmission

approach is a teacher belief with the role of the teacher as transmitter of knowledge. Such teacher belief does not match the encouragement of working in a team.

3. The only participant with a transmission approach on the lesson and in general (participant 5), acquired the lowest score on the will to work together and also got the lowest score on the construct of team and cooperative management. The general beliefs of transmission, seem to affect the creations of teams, the will to work together, the cooperative layout of the classroom and the role of the teacher. This is consistent with the findings of Brody (1998).

4 Conclusions

1. *Is there a relationship between teacher competences and the way Structured Cooperative Learning is used in the classroom?*

The quantitative data showed that *competence for reflection and development* a significant, strong, positive predictor is for the use of Structured Cooperative Learning. Reflection and development for cooperative learning should focus on understanding the foundation of the social interdependence theory and social constructivism. Then, teachers should reflect on their own role as teacher, learning and classroom activities for Structured Cooperative Learning.

Competence for collaboration with the working environment seems to be a significant, strong, negative predictor for the use of Structured Cooperative Learning. It is important that teachers have a working environment that stimulates cooperative learning, for improving the use of Structured Cooperative Learning.

The qualitative data showed a possible, positive relationship between *interpersonal competence* and the will and skill to work together, as part of Structured Cooperative Learning. The preparation of the lesson with the use of interpersonal competence seems to acquire a better will and better skills for pupils to work together.

The *social and emotional competence* could have a positive relationship with the four basis principles (equal participation, individual accountability, positive interdependence and simultaneous interaction) of Structured Cooperative Learning.

The preparation of the lesson with the use of *organizational competence* appears to be related to the four basic principles. The organizational competence seems necessary for the use of the four basic principles.

There could be a positive relationship between *competence for reflection and development* and positive interdependence. This is consistent with the findings of the quantitive data, that competence for reflection and development a strong, positive predictor is for the use of Structured Cooperative Learning.

2. Is there a relationship between teacher beliefs and the way Structured Cooperative Learning is used in the classroom?

The quantitative data found no statistical significance for predicting the use of Structured Cooperative Learning with teacher beliefs. The first explanation for this could lie in the construct of the teacher beliefs, as mentioned in chapter two. Due to the corresponding questions, the construct could be interpreted at a micro level (practical beliefs on their own behavior in the classroom) or at macro level (general beliefs on teaching). The questions regarding cooperative learning were on a micro level. The second explanation could be that teacher beliefs are very difficult to obtain (Kagan, 1992), because what teachers know of belief is usually implicit. The semi structured interview that has been taken, could give more information about the teacher belief than the questionnaire.

The qualitative data showed a negative relationship between the transmission approach and the use of Structured Cooperative Learning. The general belief with the transmission approach showed negative relations with the construct of team, with the will to work together and with cooperative management. This was all in line with earlier findings (Brody, 1998; Sharon, 2010).

5 Discussion

Teacher beliefs were measured with a questionnaire. It is debatable whether teacher beliefs can be measured this way. The answers to this question are suppose to measure teacher beliefs, but the aspects related to teacher beliefs as defined by Brody (1998) can be seen in different perspectives. Some can be seen as teacher belief, but also as learners belief (e.g. nature of knowledge). Also, the nature of the questions does not discriminate the general belief in teaching and the practical applications of teaching. Or whether the teacher lives up to his own beliefs or whether the teacher will comply with the beliefs adopted by the school. This increases the disussion in what way the teacher beliefs influences teacher behavior. According to Brody (1998), a teacher belief with the transaction approach should is a better fit for the full potential of cooperative learning. But whether teacher behavior fits with the teacher belief is something that should be subject of research.

The constructs of teacher beliefs appeared to have no distinctive character. To enhance the separation between the different teacher beliefs, the items of transmission should be placed together with the items of transaction and transformation, so the participants have to choose between one of the beliefs per item. That way, it is less likely to get the same scores for each belief. The questions regarding teacher beliefs were also unclear and could be interpreted on a micro level (practical beliefs on their own behavior in the classroom) or at macro level (general beliefs on teaching). The translated quotation of the items were not modified to fit the perception of Dutch teachers in primary education with cooperative learning. It was expected that the constructs were reflecting general teacher belief, but an adjustment for this research sample could have enhanced the validity of the research.

The teacher competences were measured, using a self-evaluation. This did not appear to be a good assessment tool for the assessment of an integration of skills, knowledge, attitudes, qualities and insights (Van Merriënboer et al., 2002). The self-assessment questions on competences and the use of cooperative learning showed to little differentiation. Although the questionnaire was only seen by the researcher and was handled anonymously, the questions only gained scores above average. The fact that the researcher was a colleague at the time of the study and the expectation of the director that everyone should participate, could have played a part in this.

The nonresponse of 48% for the questionnaire caused a less accurate measurement. This influenced the sample size for the hierarchal multiple regression analysis and made the outcome less useful for generalization. The low amount of participants for further research was due to early exclusion. After the quantitative data analysis, only the participants with mean scores above 4.00

or below 3.00 on transmission beliefs and cooperative learning were asked to participate in further data collection. Only five participants responded to this call. If more participants were invited for further participation, more people could have responded. Now, the qualitative data analysis can not be generalized. The nonresponse of 67% for the qualitative data made the sample very small. The sample can not even be generalized for the two schools. The information that appears from the qualitative data can only be used as a starting point for further research.

The low scores on the observational checklist on the use of Structured Cooperative Learning for all participants, can be caused by the training the teachers had. The training was more focussed on cooperative learning as technique for the organization of group work. The training was insufficient to the theoretical background of cooperative learning. According to Windschitl (2002) it is important for teachers to understand the foundations of social constructivism in order to deal with the challenges for putting cooperative learning in action.

The violation of the assumptions for hierarchal multiple regression, made this analysis less accurate. The sample size (N = 23) for a hierarchal multiple regression with ten predictors is far to little for the generalisability of a result. Also, the assumption of multicollinearity was violated because the independent variables of the different teacher competences were sometimes highly correlated ($r > .7$). However, the competences could not be omitted, because the design was developed to research all seven competences. Two or more competences could not be composited, because the seven competences were designed as individual competences (Stichting Beroepskwaliteit Leraren, 2004b). The hierarchal multiple regression can predict the influence of all competences on cooperative learning, but the influence per competence could cause problems. The output per competence should therefore not simply be assumed.

6 Recommendations

For the use of Structured Cooperative Learning, teachers should improve their competence for reflection and development, the interpersonal competence, and the social and emotional competence. The working environment of teachers should stimulate cooperative learning. In order to adapt teacher beliefs for cooperative learning, teachers should focus on the more transactional approach. Teacher beliefs are not easy to change (Kagan, 1992), but reflecting on teacher role, learning and classroom activities, can make a difference. Understanding the fundamental theories of cooperative learning can control the profound changes in teacher beliefs.

Teacher training on Structured Cooperative Learning should therefore focus more on the theoretical background of cooperative learning: the social interdependence theory and social constructivism.

This study lists only possible relations between teacher beliefs and cooperative learning in a narrow qualitative case study. I recommend quantitative research on the ability of teacher beliefs to predict the use of cooperative learning. Long-term research is recommended to predict not only the use, but also the effects of cooperative learning.

Research on competences for cooperative learning is also recommended. Larger scale quantitative research should confirm a ability of competence for reflection and development to predict the use of cooperative learning. And a comparison can be made between teachers with a working environment that stimulates the use of cooperative learning and teachers without such working environment.

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Appendices

Vragenlijst Coöperatief Leren

Lerarencompetenties, Visie op onderwijs en Coöperatief Leren.

■ Algemene vragen

Naam	
Leeftijd	
Geslacht	m / v
School	
Ik geef les aan groep:	
Hoeveel jaar ervaring heeft u als leerkracht?	
Hoeveel leerlingen heeft u in de klas?	
Hoeveel uur per week staat u voor de klas?	
Deelt u deze baan met een andere leerkracht (duo-baan)?	nee / ja

■ Lerarencompetenties

Dit deel van de vragenlijst heeft betrekking tot 'lerarencompetenties'. U wordt hier gevraagd aan te geven:

- wat uw *vaardigheidsscore* is ten aanzien van de verschillende lerarencompetenties. U kunt deze (deel-) competenties scoren op een 5-puntsschaal door het omcirkelen van een van de antwoordcategorieën die variëren van 'onvoldoende' tot 'goed'.

Uit: Stichting Beroepskwaliteit Leraren (2004). Bekwaamheidseisen PO.

	Lerarencompetenties	onvoldoende				goed
1.	U maakt contact met de kinderen en zorgt ervoor dat zij contact kunnen maken met u en zich op hun gemak voelen.	1	2	3	4	5
2.	U geeft de kinderen leiding, maar geeft hen ook verantwoordelijkheid en een eigen inbreng.	1	2	3	4	5
3.	U schept een goed klimaat voor samenwerking met de kinderen en tussen de kinderen onderling.	1	2	3	4	5
4.	U vormt zich een goed beeld van het sociale klimaat in een groep, van het individuele welbevinden van de kinderen en van de vorderingen die zij maken op het gebied van zelfstandigheid en verantwoordelijkheid.	1	2	3	4	5
5.	U ontwerpt op basis daarvan een plan van aanpak of een benadering om de kinderen te begeleiden naar een veilig en harmonisch leef- en werkklimaat en om hun sociaal-emotionele en morele ontwikkeling te bevorderen.	1	2	3	4	5
6.	U voert dat plan van aanpak of die benadering uit.	1	2	3	4	5
7.	U evalueert dat plan van aanpak of die benadering en stelt het zonodig bij, voor de hele groep en ook voor individuele kinderen.	1	2	3	4	5

	Lerarencompetenties	onvoldoende				goed
8.	U signaleert problemen en belemmeringen in de sociaal-emotionele en morele ontwikkeling van leerlingen en stelt, eventueel samen met collega's, een passend plan van aanpak of benadering op.	1	2	3	4	5
9.	U vormt zich een goed beeld van de mate waarin de kinderen de leerinhoud beheersen en van de manier waarop ze hun werk aanpakken.	1	2	3	4	5
10.	U ontwerpt op basis daarvan (speel- en) leeractiviteiten die voor de kinderen uitvoerbaar zijn en die hen aanzetten tot zelfwerkzaamheid.	1	2	3	4	5
11.	U voert die activiteiten samen met de kinderen uit.	1	2	3	4	5
12.	U evalueert die activiteiten en de effecten ervan en stelt ze zonodig bij, voor de hele groep maar ook voor individuele kinderen.	1	2	3	4	5
13.	U signaleert leerproblemen en –belemmeringen en stelt, eventueel samen met collega's, een passend plan van aanpak of benadering op.	1	2	3	4	5
14.	U hanteert op een consequente manier concrete, functionele en door de kinderen gedragen procedures en afspraken.	1	2	3	4	5
15.	U gebruikt organisatievormen, leermiddelen en leermaterialen die leerdoelen en leeractiviteiten ondersteunen.	1	2	3	4	5
16.	U houdt een planning aan die bij de kinderen bekend is en gaat adequaat om met tijd.	1	2	3	4	5
17.	U deelt informatie die voor de voortgang van het werk van belang is, met collega's en u maakt gebruik van de informatie die u van collega's krijgt.	1	2	3	4	5
18.	U levert een constructieve bijdrage aan verschillende vormen van overleg en samenwerken op school.	1	2	3	4	5
19.	U geeft en ontvangt collegiale consultatie en intervisie.	1	2	3	4	5
20.	U levert een (onderzoeksmatige) bijdrage aan de ontwikkeling en verbetering van uw school.	1	2	3	4	5
21.	U geeft op een professionele manier aan ouders en andere belanghebbenden informatie over de kinderen en u gebruikt de informatie die u van hen krijgt.	1	2	3	4	5
22.	U neemt op een constructieve manier deel aan verschillende vormen van overleg met mensen en instellingen buiten de school.	1	2	3	4	5
23.	U verantwoordt uw professionele opvattingen en werkwijze met betrekking tot een leerling aan ouders en andere belanghebbenden en past in gezamenlijk overleg zonodig uw werk met die leerling aan.	1	2	3	4	5
24.	U werkt planmatig aan de ontwikkeling van zijn bekwaamheid, op basis van een goede analyse van zijn competenties.	1	2	3	4	5
25.	U stemt de ontwikkeling van uw bekwaamheid af op het beleid van de school.	1	2	3	4	5
26.	U maakt bij die ontwikkeling gebruik van informatie van kinderen en collega's en ook van collegiale hulp in de vorm van bijvoorbeeld intervisie en supervisie.	1	2	3	4	5

■ Visie op onderwijs

Dit deel van de vragenlijst heeft betrekking tot ‘visie op onderwijs’. U wordt hier gevraagd aan te geven:

- welke *opvattingen* u heeft ten opzichte van verschillende aspecten van het onderwijs. U kunt deze opvattingen scoren op een 5-puntsschaal door het omcirkelen van een van de antwoordcategorieën die variëren van ‘helemaal mee oneens’ tot ‘helemaal mee eens’.

	Visie op onderwijs	helemaal mee oneens	enigszins mee oneens	niet eens / niet oneens	enigszins mee eens	helemaal mee eens
1.	Coöperatief leren is een techniek die er op de eerste plaats op gericht is om vaardigheden te vergroten voor het organiseren van groepswerk.	1	2	3	4	5
2.	Coöperatief leren bevordert het oplossen van problemen, denken op een hoger niveau en sociaal gedrag.	1	2	3	4	5
3.	Coöperatief leren is een filosofie over relaties en leren en creëert leergemeenschappen die kunnen deelnemen aan een kritische dialoog en onderzoek.	1	2	3	4	5
4.	De zeggenschap over kennis ligt volledig in de handen van de leerkracht, die verantwoordelijk is voor alle aspecten van leren.	1	2	3	4	5
5.	De zeggenschap over kennis is gedeeld met de leerlingen. Het doel van de leerkracht is om het leerproces te ondersteunen en de leerlingen te helpen meer intrinsiek gemotiveerd te worden.	1	2	3	4	5
6.	De zeggenschap over kennis komt voort uit de leergemeenschap. De leerkracht is voornamelijk bezig met het effect van de gemeenschap: nieuwe kennis. Leerlingen zijn in staat voorwaarden voor leren vast te stellen.	1	2	3	4	5
7.	De leerkracht is uitvoerder, regisseur en manager.	1	2	3	4	5
8.	De leerkracht is begeleider, aanmoediger en organisator.	1	2	3	4	5
9.	De leerkracht is mede-lerende, als een onderdeel van de leergemeenschap.	1	2	3	4	5
10.	Er zijn voorgeschreven procedures voor de meeste situaties. Een doeltreffende praktijk kan worden toegeschreven aan passend leerkrachtengedrag.	1	2	3	4	5
11.	Lesgeven is een complex, relationeel vak en beslissingen kunnen het beste gemaakt worden door reflectie en consultatie, bewust en verkennend.	1	2	3	4	5
12.	Lesgeven bestaat uit een volle reeks van relevante, contextuele en didactische factoren, maar de dialoog moet zich richten op vraagstukken van macht en sociale rechtvaardigheid.	1	2	3	4	5
13.	Kennis is een objectieve massa informatie, overgedragen van de leerkracht of tekst op de leerlingen. Het afwerken van het onderwijsprogramma beheerst de besluitvorming.	1	2	3	4	5
14.	Kennis is dynamisch en veranderend. Weten is, ten opzichte van de leerlingen, een proces met verschillende vormen van leren.	1	2	3	4	5
15.	Kennis is dynamisch, veranderend en gemaakt. Weten heeft meerdere dimensies en past bij een context of situatie.	1	2	3	4	5

■ Coöperatief Leren

Dit deel van de vragenlijst heeft betrekking tot ‘coöperatief leren’. U wordt hier gevraagd aan te geven:

- hoe u *handelt* tijdens een les met betrekking tot coöperatief leren. U kunt dit handelen scoren op een 5-puntsschaal door het omcirkelen van een van de antwoordcategorieën die variëren van ‘nauwelijks/nooit’ tot ‘vaak/altijd’

	Coöperatief Leren	nauwelijks/ nooit	een enkele keer	soms wel, soms niet	regelmatig	vaak/ altijd
1.	In mijn lessen pas ik coöperatief leren toe.	1	2	3	4	5
2.	Ik gebruik bij coöperatief leren de structuren volgens Kagan.	1	2	3	4	5
3.	Ik besteed bij coöperatief leren aandacht aan de leerdoelen van de les.	1	2	3	4	5
4.	Ik besteed bij coöperatief leren aandacht aan de sociale doelen van de les.	1	2	3	4	5
5.	Ik besteed bij coöperatief leren aandacht aan de samenwerkingsvaardigheden die nodig zijn voor die les.	1	2	3	4	5
6.	Ik laat bij coöperatief leren de leerlingen zelf groepjes vormen.	1	2	3	4	5
7.	Ik stel bij coöperatief leren de groepjes zelf samen (indien u kiest voor ‘nooit’, ga verder met vraag 10).	1	2	3	4	5
8.	Ik stel bij coöperatief leren de groepjes zelf samen op basis van heterogeniteit. (bijvoorbeeld verschillende leerprestaties)	1	2	3	4	5
9.	Ik stel bij coöperatief leren de groepjes zelf samen op basis van homogeniteit. (bijvoorbeeld gelijke interesse)	1	2	3	4	5
10.	Ik gebruik bij coöperatief leren het Stilte Signaal.	1	2	3	4	5
11.	Ik heb mijn klas ingericht voor coöperatief leren.	1	2	3	4	5
12.	Ik besteed aandacht aan de teamidentiteit van de verschillende teams.	1	2	3	4	5
13.	Ik besteed bij coöperatief leren aandacht aan gelijke deelname van leerlingen.	1	2	3	4	5
14.	Ik besteed bij coöperatief leren aandacht aan de individuele aansprakelijkheid van leerlingen.	1	2	3	4	5
15.	Ik besteed bij coöperatief leren aandacht aan de positieve wederzijdse afhankelijkheid van leerlingen.	1	2	3	4	5
16.	Ik besteed bij coöperatief leren aandacht aan de simultane actie van leerlingen.	1	2	3	4	5

Hartelijk dank voor het invullen van deze vragenlijst.

Interview, voorafgaand aan de observatie

- **Algemene gegevens**

School	
Groep	wel/geen combinatieklas
Aantal aanwezige leerlingen	
Datum	
Tijdstip	
Leerkracht (naam en achternaam)	
interviewer	
Vakgebied	
Tafelopstelling vooraf	
Bijzonderheden	

- **Competenties**

1. Welke lerarencompetenties heeft u direct voor de voorbereiding van deze les aangesproken?
   a. interpersoonlijk
   b. pedagogisch
   c. vakinhoudelijk/didactisch
   d. organisatorisch
   e. samen met collega's
   f. samen met omgeving
   g. reflectie en ontwikkeling

2. Kunt u concreet aangeven welke vaardigheden, kennis en houding u hierbij hebt gebruikt?

3. Welke lerarencompetenties gaat u tijdens deze les aanspreken?
   a. interpersoonlijk
   b. pedagogisch
   c. vakinhoudelijk/didactisch
   d. organisatorisch
   e. samen met collega's
   f. samen met omgeving
   g. reflectie en ontwikkeling

4. Kunt u concreet aangeven welke vaardigheden, kennis en houding u hierbij gaat gebruiken?

- **Visie**
  - *vragen over visie in het algemeen*

5. Beschrijf een memorabele gebeurtenis of kritisch incident uit uw ervaring als leerkracht?

6. Wat is de betekenis van deze gebeurtenis?

7. Wat is het verband van deze gebeurtenis en uw visie op onderwijs: wat is belangrijk voor u als leerkracht? Wat is uw visie op leren?

8. Beschrijf uw stijl van lesgeven: uw relatie tot de leerlingen, uw rol in de klas en hoe u het lokaal organiseerd?

   - *vragen uit de vragenlijst, toegespitst op de situatie.*

9. Met welk doel gaat u deze les geven volgens coöperatief leren?

10. Wie bepaald in deze les wat en hoe er geleerd wordt? Welke ruimte heeft de leerling?

11. Wat is in deze les uw rol als leerkracht?

12. Pas u uw gedrag aan aan de les of aan de situatie? Kunt u dit uitleggen?

13. Is de kennis die in deze les geleerd gaat worden vaststaand of dynamisch en veranderend? Kunt u dit uitleggen?

Observatieformulier Coöperatief Leren

- **Algemene gegevens**

School	
Groep	wel/geen combinatieklas
Aantal aanwezige leerlingen	
Datum	
Tijdstip	
Leerkracht (naam en achternaam)	
Observator	
Vakgebied	
Tafelopstelling vooraf	
Bijzonderheden	

Aanwijzing bij invullen observatieformulier:

- *Elke vraag is genummerd **1)**, **2)**, **3)**, etc., soms met deelvragen **1) a)**, **b)**, **c)**, etc.*

- *Bij de antwoordmogelijkheden (1), (2), (3), etc. kruis je het best passende antwoord aan. Je mag hier maar één antwoord invullen.*

- *Bij de antwoordmogelijkheden (a), (b), (c), etc. kruis je de antwoorden aan die van toepassing zijn. Je mag hier meerdere antwoorden invullen.*

• Koppeling aan het model 'doordacht lesgeven'

De leerkracht maakt gebruik van coöperatieve structuren tijdens de volgende fasen van het model doordacht lesgeven.

Indien de leerkracht een fase niet gebruikt wordt nvt gecodeerd.

De fasen zijn als volgt omschreven:

1. Een goed begin

a. ***Motivatie:*** *De leerkracht presenteert het nut of een motivatie voor wat nu aan de orde komt, organiseert verkennende gesprekken en heldert eventueel misvattingen over het onderwerp op.*
b. ***Doelduidelijkheid:*** *De leerkracht legt uit wat de bedoeling is van wat de leerlingen nu gaan doen en geeft een overzicht van hoe de leerlingen met het nieuwe onderwerp aan de gang gaan.*
c. ***Vooruitblik:*** *De leerkracht biedt een 'wegenkaart' voor wat de leerlingen gaan leren met behulp van visuele weergaven.*
d. ***Voorkennis:*** *De leerkracht sluit aan op aanwezige niveaus van begrip en kennis van leerlingen over dit of vergelijkbare onderwerpen.*

2. Interactieve instructie

a. ***Kern:*** *De leerkracht bepaalt wat de belangrijkste begrippen zijn in het nieuwe onderwerp en maakt duidelijk welke stof er geleerd moet worden.*
b. ***Geordend geheel:*** *De leerkracht zorgt voor interactie, legt verbanden tussen de belangrijkste aspecten van het onderwerp en richt de aandacht van de leerlingen systematisch op overeenkomsten en verschillen.*
c. ***Check:*** *De leerkracht peilt het begrip door middel van vragen en feedback.*
d. ***Conclusies:*** *De leerkracht laat de leerlingen mogelijkheden om later iets met het geleerde te doen inventariseren en categoriseren.*

3. De leerling aan zet: toepassen

a. ***Duidelijkheid:*** *De leerkracht demonstreert het juiste gebruik of het juist toepassen van het geleerde.*
b. ***Begeleid oefenen:*** *De leerkracht begeleidt het oefenen van de leerlingen en maakt gebruik van de ideeën waar ze mee komen.*
c. ***Zelfstandig oefenen:*** *De leerkracht zorgt hierbij voor leerzame feedback en erkenning, betrekt de leerlingen actief bij het uitproberen en zorgt er voor dat succeservaringen mogelijk zijn.*
d. ***Op hoger niveau verwerken:*** *De leerkracht laat leerlingen 'producten' maken waarin ze laten zien dat ze de stof beheersen en helpt ze daarbij.*

4. Integratie

a. ***Inhoudelijke afronding:*** *De leerkracht stimuleert leerlingen inzichtelijk te denken en schrijven over de stof, zorgt voor meervoudige uitingen en weergaven van de geleerde stof en genereert nieuwe vragen en toepassingen voor de opgedane kennis.*
b. ***Persoonlijke afronding:*** *De leerkracht laat de leerlingen reflecteren op hun leerproces en vraagt hen of ze anders zijn gaan denken nu ze nieuwe dingen hebben geleerd.*

Uit: Fullan, M., & C. St. Germain, C. (2007). *Passie en kracht in schoolontwikkeling.* Vlissingen: Bazalt.

1) Een goed begin

a) Motivatie	(1)	nvt	(2)	niet	(3)	wel
b) Doelduidelijkheid	(1)	nvt	(2)	niet	(3)	wel
c) Vooruitblik	(1)	nvt	(2)	niet	(3)	wel
d) Voorkennis	(1)	nvt	(2)	niet	(3)	wel

2) Interactieve instructie

a) Kern	(1)	nvt	(2)	niet	(3)	wel
b) Geordend geheel	(1)	nvt	(2)	niet	(3)	wel
c) Check	(1)	nvt	(2)	niet	(3)	wel
d) Conclusies	(1)	nvt	(2)	niet	(3)	wel

3) De leerling aan zet: toepassen

a) Duidelijkheid	(1)	nvt	(2)	niet	(3)	wel
b) Begeleid oefenen	(1)	nvt	(2)	niet	(3)	wel
c) Zelfstandig oefenen	(1)	nvt	(2)	niet	(3)	wel
d) Op hoger niveau verwerken	(1)	nvt	(2)	niet	(3)	wel

4) Integratie

a) Inhoudelijke afronding	(1)	nvt	(2)	niet	(3)	wel
b) Persoonlijke afronding	(1)	nvt	(2)	niet	(3)	wel

• Teams

5) Worden bij deze les nieuwe teams samengesteld?

(1) Nee, er wordt niet gewerkt in teams
(2) Nee, er worden bij deze les geen nieuwe teams samengesteld; er zijn bestaande teams
(3) Ja, er worden nieuwe teams samengesteld

6) Wie stelt de teams samen?

(1) De leerkracht
(2) De leerkracht met de leerlingen samen
(3) De leerlingen

7) De leerlingen werken in teams van:

Aankruisen wat van toepassing is. Indien er verschillende teamgrootten zijn, gaat het op de intentie van de leerkracht.

(1) tweetallen
(2) drietallen
(3) viertallen
(4) anders, nl .....

8) Met welk soort teams wordt gewerkt?

(1) Coöperatieve teams	(De leerlingen in het team werken met elkaar samen om een *gemeenschappelijk doel* te bereiken. Alle leden van het team zijn verantwoordelijk voor het eindproduct en het teamproduct wordt geëvalueerd).
(2) Verplichte Hulpgroepen	(Alle leerlingen maken zelfstandig hun opdrachten en evaluatie vindt plaats op individuele basis. Als leerlingen iets niet begrijpen, *moeten* (leerkracht heeft dit gezegd) ze hulp vragen aan een medeleerling).
(3) Vrijwillige Hulpgroepen	(De leerlingen *mogen* elkaar om hulp vragen als ze iets niet begrijpen, maar ze mogen ook de leerkracht raadplegen).
(4) Anders, bijv. zelfstandig samenwerken	(De leerlingen zitten in een groepje en werken 'samen'. Het verschil met het coöperatieve team is dat de groepsleden bij deze vorm van samenwerken **geen** gemeenschappelijk doel hebben. De leerlingen hebben elkaar niet nodig bij het oplossen van de opdracht; ieder heeft een eigen taak, de leerlingen zitten wel bij elkaar maar werken individueel).

• Coöperatief management

9) Gebruikt de leerkracht een Stilte Signaal?
(1) Nee, de leerkracht gebruikt geen Stilte Signaal
(2) Ja, de leerkracht gebruikt een Stilte Signaal

10) Zijn de klassenregels zichtbaar?
(1) Nee, de klassenregels zijn niet zichtbaar
(2) Ja, de klassenregels zijn zichtbaar

11) Is het lokaal coöperatief ingericht?
(a) Elke leerling kan makkelijk de voorkant van het lokaal (leerkracht, schoolbord) zien
(b) Elke leerling zit in een team
(c) Elke leerling kan makkelijk zijn teamgenoten zien
(d) Elke leerling zit net zo dicht bij zijn teamgenoten als alle anderen

12) Wat is de rol van de leerkracht?
(1) De rol van de leerkracht is voornamelijk observeren en advies geven
(2) De rol van de leerkracht is voornamelijk beoordelen of regisseren

• De wil om samen te werken

13) Hebben de teams een teamidentiteit?
(1) Nee, de teams hebben geen (waarneembare) teamidentiteit
(2) Ja, de teams hebben een teamidentiteit, dmv:
  (a) een teamnaam
  (b) een teamkreet
  (c) vieren van succes met een team-high-five
  (d) een andere uiting voor hun teamidentiteit, namelijk .....

14) Bevordert de leerkracht de coöperatieve relaties binnen het team?
(1) Nee, de leerkracht bevordert de coöperatieve relaties binnen het team niet
(2) Ja, de leerkracht bevordert de coöperatieve relaties binnen het team, dmv:
  (a) een teamscore
  (b) een teambeloning
  (c) een teamproduct
  (d) taakverdeling tussen de teamleden
  (e) anders, nl .....

15) Bevordert de leerkracht de coöperatieve relaties tussen teams?
(1) Nee, de leerkracht bevordert de coöperatieve relaties tussen teams niet
(2) Ja, de leerkracht bevordert de coöperatieve relaties tussen teams, dmv:
  (a) een teamscore die bijdraagt aan een klassenscore
  (b) viering van een klassensucces
  (c) elk team levert een unieke bijdrage aan het klassenwerkstuk
  (d) anders, nl .....

16) Bevordert de leerkracht de competatieve relaties tussen teams?
(1) Nee, de leerkracht bevordert de competatieve relaties tussen teams niet
(2) Ja, de leerkracht bevordert de competatieve relaties tussen teams, dmv:
  (a) de teamscore en beloning voor het beste team
  (b) identieke teamwerkstukken worden vergeleken
  (c) anders, nl .....

• De vaardigheid om samen te werken

17) Schenkt de leerkracht aandacht aan sociale vaardigheden ter bevordering van coöperatief leren?
(1) De leerkracht schenkt in het geheel geen aandacht aan sociale vaardigheden
(2) De leerkracht noemt de sociale vaardigheden niet aan het begin van de les, maar maakt tijdens de les korte opmerkingen
(3) De leerkracht noemt de sociale vaardigheden aan het begin van de les kort
(4) De leerkracht noemt de sociale vaardigheden aan het begin van de les kort en maakt tijdens de les korte opmerkingen
(5) De leerkracht bespreekt uitgebreid de sociale vaardigheden aan het begin van de les en evalueert deze na afloop van de les

18) De volgende sociale vaardigheden worden door de leerlingen geïnitieerd (dus niet alleen uitgevoerd in opdracht van de leerkracht):
(a) Aanmoedigen van anderen
(b) Anderen complimenteren
(c) Resultaten vieren
(d) Deelname gelijk maken
(e) Helpen
(f) Hulp bieden
(g) Controleren of alles begrepen is
(h) Taakgericht blijven
(i) Ideeën noteren
(j) Reflecteren op het groepsproces
(k) Anderen niet storen
(l) Materiaal efficiënt uitdelen

• De basisprincipes

19) Is er sprake van Gelijke Deelname van leerlingen?
(1) Nee, de leerkracht zorgt niet voor Gelijke Deelname
(2) Ja, de leerkracht zorgt voor Gelijke Deelname, dmv:
  (a) alle leerlingen evenveel tijd geven
  (b) alle leerlingen evenveel beurten geven
  (c) het werk verdelen tussen de leerlingen
  (d) anders, nl .....

20) Is er sprake van Individuele Aanspreekbaarheid voor prestatie?
(1) Nee, de leerkracht zorgt niet voor Individuele Aanspreekbaarheid voor prestatie
(2) Ja, de leerkracht zorgt voor Individuele Aanspreekbaarheid voor prestatie, dmv:
  (a) een (kleuren-)code aan individuele bijdragen geven
  (b) een teamscore baseren op individuele scores van teamleden
  (c) gebruik van Genummerde Koppen Bij Elkaar
  (d) anders, nl...

21) Is er sprake van Individuele Aanspreekbaarheid voor deelname?
(1) Nee, de leerkracht zorgt niet voor Individuele Aanspreekbaarheid voor deelname
(2) Ja, de leerkracht zorgt voor Individuele Aanspreekbaarheid voor deelname, dmv:
  (a) gebruik van PraatKaartjes
  (b) leerlingen hun eigen deelname laten samenvatten
  (c) anders, nl ....

22) Is er sprake van Individuele Aanspreekbaarheid voor luisteren?
(1) Nee, de leerkracht zorgt niet voor Individuele Aanspreekbaarheid voor luisteren
(2) Ja, de leerkracht zorgt voor Individuele Aanspreekbaarheid voor luisteren, dmv:
  (a) gebruik van Samengevat Signaal
  (b) gebruik van Drie Stappen Interview
  (c) leerlingen ideeën laten uitwisselen die ze van anderen hebben gehoord
  (d) anders, nl .....

23) Is er sprake van Positieve Wederzijdse Afhankelijkheid voor doelen?
(1) Niet, er is geen sprake van een gezamenlijk doel voor het team
(2) Enigszins, om het teamdoel te bereiken is de bijdrage van een aantal leerlingen van het team nodig
(3) Duidelijk, om het teamdoel te bereiken is de bijdrage van elk teamlid nodig

24) Is er sprake van Positieve Wederzijdse Afhankelijkheid voor beloningen?
(1) Niet, er is helemaal geen sprake van beloning of individuen worden beloond voor individuele prestaties
(2) Enigszins, het team wordt beloond voor de teamprestatie
(3) Duidelijk, het team wordt beloond als team én op basis van de individuele bijdragen

25) Is er sprake van Positieve Wederzijdse Afhankelijkheid voor de taak?
(1) Nee, de taak wordt niet verdeeld over de leerlingen
(2) Ja, de taak wordt verdeeld over de leerlingen en elk teamlid is verantwoordelijk voor een deel van de taak

26) Is er sprake van Positieve Wederzijdse Afhankelijkheid voor middelen (materiaal en/of informatie)?
(1) De leerlingen zijn niet afhankelijk van elkaars middelen
(2) De leerlingen zijn voor een deel afhankelijk van elkaars middelen
(3) De leerlingen zijn volledig afhankelijk van elkaars middelen

27) Is er sprake van Positieve Wederzijdse Afhankelijkheid voor rollen?
bijv. MateriaalChef, VraagChef, Coach, Aanmoediger, Reflector, Controleur, Werkverdeler, etc.
(1) De leerkracht geeft de leerlingen geen rollen
(2) De leerkracht geeft een leerling een bepaalde rol binnen het team
(3) De leerkracht geeft twee leerlingen een bepaalde rol binnen het team
(4) De leerkracht geeft drie leerlingen een bepaalde rol binnen het team
(5) De leerkracht geeft vier/alle leerlingen een bepaalde rol binnen het team

28) Is er sprake van Simultane Actie van leerlingen?
(1) Nee, er neemt slechts één persoon (de leerkracht of een leerling) per keer het woord.
(2) Ja, er is sprake van Simultane Actie van leerlingen.

• Structuren

29) De leerkracht maakt gebruik van een of meer van de volgende didactische structuren volgens Kagan.
(1) Nee
(2) Ja, namelijk:
(a) Binnen/ Buiten Kring
(b) Commentaar Op Tournee
(c) Draai & Denk
(d) Draai & Weet
(e) Geef Door
(f) Geef Geld
(g) Genummerde Koppen Bij Elkaar
(h) Laat Zien
(i) Mix-Bevries-Groep
(j) Mix & Koppel
(k) Mix & Ruil
(l) Mix-Tweetal-Gesprek
(m) PraatKaartjes
(n) RondPraat
(o) Schud & Pak
(p) Simultaan TafelRondje
(q) TafelRondje
(r) TafelRondje Per Tweetal
(s) Team Doe Mee & Vertel
(t) TweeGesprek Op Tijd
(u) TweePraat
(v) Tweetal Coach
(w) TweeVergelijk
(x) Verslaggever
(y) Zoek De Valse
(z) Zoek Iemand Die