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ABSTRACT

This monograph describes the attunement strategy devised by educational researchers in the Netherlands as a means of engaging students' interest and building their understanding during classroom activities. The strategy, based on a cognitive-motivational model for development and learning, was developed to address the problem of students who are unwilling or unable to focus on specific tasks, who lack motivation, and who disrupt other students and teachers. The attunement strategy sees the teacher engaging the pupil in a one-to-one interaction, attempting to look at the task from the pupil's perspective, and providing the pupil with the scaffold needed for learning and development, concentration, and learning in the classroom. This monograph explains the theoretical basis of the attunement strategy and reports on its use in a variety of settings in the Netherlands, England, and Germany: specialized treatment institutes, special education schools, and regular primary education schools. Four programs were designed for school advisers, teachers in teacher-training colleges for primary education, teams of primary schools, and a specific program for teachers of 5- to 6-year-olds. Analysis of the pilot initiative in primary schools in the Netherlands showed a positive response by both pupils and teachers. (Contains 52 references.) (KB)

INNODATA MONOGRAPHS 12

Educational innovations in action

THE ATTUNEMENT STRATEGY:

RECLAIMING CHILDREN'S MOTIVATION BY RESPONSIVE INSTRUCTION

Luc Stevens, Wim van Werkhoven and Jos Castelijns

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Foreword

This monograph describes the 'Attunement Strategy' devised by educational researchers in the Netherlands as a means of engaging students' interest and building their understanding during classroom activities. The researchers were concerned to address the problem of the numerous students who are unwilling or unable to focus on specific tasks during lessons, who lack motivation and behave in a way disruptive to other students and teachers. The research team, headed by Luc Stevens, Professor of Special Education, University of Utrecht, interprets this seemingly non-co-operative behavior as the pupil's way of reacting to or coping with a situation which is not understood. The pupil is seen to make a conscious rational decision to avoid the task given during a lesson and to do something else or nothing at all. The attunement strategy sees the teacher engaging the pupil in a one-to-one interaction and attempting to look at the task set from the pupil's perspective. This approach should considerably raise the pupil's self-esteem and motivation, while improving the relationship between pupil and teacher. The strategy can be defined as responsive education, in which the teacher's role is to provide the pupil with the scaffold needed for learning and development. An analysis of a pilot initiative using the approach in the Netherlands showed a positive response by both pupils and teachers. However, the authors are measured in their predictions of success, recognizing that for the approach to have a major impact on educational processes, the fundamental concept of the school as we know it will have to be transformed.

Introduction[1]

Pupils who do not pay attention, disturb other pupils, or do not complete their work form a permanent source of concern for teachers. They do precisely the opposite of what is expected of them—that is concentrating and working. The time available during lessons must be used efficiently and effectively and the teacher should ensure that this happens. Moreover, in the majority of schools the curriculum leaves very little latitude for the teacher to be distracted by behaviour problems. Teachers can, however, also be a permanent cause of concern to the pupil, using embarrassing means of behaviour control, a variety of exhortations, warnings, and sanctions because of the teacher's belief that these tactics are what the pupil needs.

Teachers and pupils do not view the work that needs to be done in school through the same eyes. Teachers want to achieve, within a certain period of time, learning objectives for the whole group. They feel bound by the curriculum. The motivation of pupils to participate is, however, linked to the competence they experience, to the prospect of success or the feasibility of achieving it. If this prospect is lacking, they will in general try to avoid their task during the lesson. Pupils can therefore experience a task differently from their teacher and can react in a different way to that expected or desired by the teacher. If this happens, there is a case of a difference in perception or assessment of the situation. They are not aligned. Failing to pay attention or not working (off-task behaviour) will in turn not be understood by the teacher. Encouragement and warnings will have little impact on the pupil. This can be observed in nearly all pupils who have difficulty keeping up with the curriculum and who cannot follow the teacher.

The attunement strategy was developed to address this problem. It is used to try to attune the various perspectives of the teacher and pupil. In other words, it seeks to allow the pupil and teacher to understand each other. The strategy invites the teacher to take the perspective of the pupil by asking the pupil relevant questions. These questions concern the pupil's view of the relevant task, the experience of the task, what needs to be done or what the pupil would prefer to do differently and how. In this manner, the pupil is challenged to become cognitively active again and can offer the teacher information that they can both use to start working together. The most important characteristic of the strategy is that a teacher does not simply dictate and then repeats how it 'must be done', but rather asks the pupil questions to determine what 'is possible' and then challenges the pupil to do

1. For the sake of readability, we have used the male form of personal pronouns in this report. However, wherever he/him occurs it should also be read as she/her.

it—responsive instruction. Although the strategy has been developed in the field of teaching pupils with (temporary) learning difficulties, it is potentially suitable for all pupils.

This study explains the theoretical basis of the attunement strategy and a report is given of an extensive experimental implementation in various settings, both in regular primary education, with classes of twenty-five or more pupils, and in special education classes.

The persistent problem of off-task behaviour in school and behaviour control as an inadequate answer to the problem has, since 1984, formed the subject of research and programme development of the teacher/pupil interaction project team in the Netherlands. This team is made up of staff from the University of Utrecht and from the Organization for Educational Development and Advice (CPS) in Amersfoort, the Netherlands. Luc Stevens, professor of special education, heads the team.

In the research programme concerned, off-task behaviour, and also behavioural problems in school, are interpreted as being context linked, meaning that they have a function with respect to the characteristics of the learning environment, such as the actual task required of the pupil and the behavioural response of the teacher. The programme is based on a cognitive-motivational model for development, learning and behaviour. This means that pupils and teachers are seen as actors, as active information processors and suppliers of meaning who make sensible choices and sensible decisions. Within this context, off-task behaviour is seen as a consequence of a sensible decision made by a pupil, normally based on either a lack of prospects or to avoid failure. Teachers normally see this differently and interpret off-task behaviour in terms of a simple defect model that places the emphasis on what pupils 'lack', and in terms of a stimulus control model. Both models lead to reactions in the arena of increased behaviour control, which, as suggested, is a sensible reaction in the eyes of the teachers, but does not make much sense to the pupil.

The intention of the project described in this monograph is to clarify the confrontational views assumed by teacher and pupil in the class and to find ways of harmonizing them. A contribution in other words to a design of 'good practice' based on a clear understanding by the teacher of the needs of the pupil whose results and behaviour do not correspond to the expectations of the teacher.

The proposals that will be outlined and evaluated for their effect appear to be particularly important for schools and teachers who are aiming to include those pupils who have developmental problems. This aim recognizes that the individual differences between pupils can become so large that the classroom model no longer works. As an alternative, we no longer think of 'more people in front of the class', but of a classroom full of pupils who have their own and active part to play in the educational process and who feel responsible for their position.

Therefore, rather than a physical solution, a more pedagogical one is sought. This concurs with the prevailing opinion of constructivism concerning learning, teaching and innovation in education. Learning is not rote repetition, but is the active construction of new meanings. Teaching is challenging and supporting this process, while innovation is seen as a dynamic quality of teacher/pupil interaction.

A number of questions concerning definitions and concepts are addressed, in part within the context of current educational practice. A presentation of the rationale and practice of the so-called attunement strategy is followed by a report of the experimental implementation of that strategy. The monograph closes with a discussion of our experimental results and with well-founded suggestions for school improvement.

The inactive learner

A META-COGNITIVE APPROACH

Since the start of the 1970s, there has been intense scientific interest in the background of learning difficulties and ineffective task behaviour in the class and how to address these problems (Ceci, 1986, 1987; Schunk & Zimmerman, 1994; Swanson, 1999). More and more, attention has been focused on the process and strategy aspects of learning and problem-solving and on the control of them by the actor (the pupil) himself. In the available research material, children with learning difficulties can be distinguished by the difficulty they have with reflective and appropriate use of their available capacity to process information. In other words, the problems appear to be rather strategic in nature and are more likely to be related to the level of awareness than to evident deficiencies of the pupils, although these certainly occur.

At the start of cognitive research into learning difficulties, these findings were already being expressed as suspicions by, for instance, Torgesen in 1977. In a review of the then available research, this author introduced the 'inactive learner' concept, where attention is drawn to the apparently inadequate functioning of the conscious part of the cognition (the meta-cognition or the 'director' of the cognitive function) by children with learning difficulties. In the article concerned, Torgesen gives two examples of meta-cognitive functions: 'awareness that memory is possible and desirable' and 'awareness of (the child) himself as an actor in his environment' (p. 35). The pupils involved lack an efficient approach to tasks, in part because they do not recognize sufficiently what the task demands of them. They choose the wrong strategies or ignore available strategies and show little initiative or the need to evaluate processes and results. This, according to the author, would especially happen with tasks that require an active and goal-oriented approach (something that applies to most school tasks). What Torgesen expresses here we also come across later in the literature in terms such as 'self-awareness' (Brown, 1980), 'self-regulation' (Zimmerman, 1986, 1994) and 'self-determination' or 'self-reliance' (Deci & Ryan, 1985). With these references, we arrive at the traditional area of research that addresses the motivation of pupils who appear more likely to have things happen to them, rather than that they can control themselves. If we want to understand this well, we cannot limit ourselves to just a description of this observation, we must also be able to come to a plausible interpretation of it. For this reason we must investigate the background of both the pupil himself and of his learning environment. In the interaction with his learning environment the teacher plays the most important role for the pupil. We must therefore also describe and interpret the teacher's behaviour further.

Because we consider pupil and teacher as active suppliers of meaning (they make sensible choices and decisions for themselves, meaning that they make choices and decisions that are in their own interests) we look for answers to our question (about how to understand inactivity) at a level of subjective experience. We look for relevant perceptions and motives of the teacher and pupil. With this approach we go beyond the current instrumental or technological vision for solving the problems in the classroom, which places the emphasis on changing the curriculum and instruction for pupils who lag behind and on class management. These measures are not unimportant, but they are only effective in the hands of the teacher and the pupil, not in themselves. We must therefore first get to know both of these two actors better. What is their position with respect to each other if things do not go well in school? For this we consult research relevant in this area, including attribution—and motivation—research in school.

THE INFLUENCE OF ATTRIBUTIONS AND EXPECTATIONS

The term 'attribution' refers to that factor to which people attribute the cause of important events (such as success and failure). DeCharms (1968, 1976) is the first to have done research into differences in this respect between school children. Following Rotter's 'locus of control' hypothesis (Rotter, 1966), DeCharms, based on his findings, distinguishes two groups. Pupils in the first group (the 'Origins') are characterized by the experience that they have of being able to exert personal influence on their environment. Pupils in the other group (the 'Pawns') have the reverse experience, namely that they are 'controlled' by their environment. The latter appears to be the case for the inactive learners just described, who are possibly confronted with a double problem: not only a cognitive processing problem, but also an attribution problem. This is confirmed by the findings of Weiner, who determines that attributions have an influence on the expectations, motivation and emotions of pupils (Weiner, 1979). This influence can be more or less beneficial. We consider it to be a beneficial influence if pupils internally attribute their results to a stable factor, such as to their own ability. Something that is without doubt unbeneficial is the influence of attributions when things are attributed externally, to unstable factors such as luck or bad luck. Effort is also a beneficial attribution, because it is controllable by the person (one can do something about it), in contrast to, for instance, task difficulty, which is an external attribution. The ability attribution appears to be the most powerful attribution. It is therefore important that pupils have a positive image of themselves as actors, and more so if it appears that pupils who are backward in school will easily attribute this to a lack of ability, which, it is true, is a stable, but extremely unproductive, attribution. Very close to the term 'attribution' we find the much used term 'self-efficacy'

(Schunk, 1990, 1994). Self-efficacy refers to a personal belief in the possibilities that one has to learn or to achieve something. Self-efficacy appears to have a consistent positive correlation to performance, also in school.

A final important argument for addressing the question of how pupils with learning difficulties attribute their results is offered by so-called attribution retraining in connection with the training of cognitive strategies in school tasks. Effects of the latter are strengthened by paying explicit attention to meta-cognitive processes, such as causal attribution (Borkowski & Muthukrishna, 1992).

The inactive and dependent behaviour that is often seen in pupils with problems also appears to be a function of the (low) expectation of future results, held by the teacher of the pupil and by the pupil himself.

Teachers have their theories about their pupils and these theories are rather stable (Jussim, 1986). They form, as it were, the working model for the teacher in his interaction with the pupil (Stevens, 1994). This model is determined to a large degree by the expectations a teacher has of the performance of his pupil and his causal attributions of success and failure. Since Rosenthal and Jacobson (1968) were able to show self-fulfilling prophecy effects of the expectations of teachers, numerous studies have confirmed the importance of the teacher as the mediator of pupil behaviour and performance—the naïve pupil theory (Bakker, 1984; Good & Brophy, 1994; Weinstein, 1989). Research into differences in effectiveness between schools shows the same: the expectations that teachers have of their pupils appear to fulfil a differentiating role (Mortimer et al., 1988; Ainscow, 1991).

Further observation shows the following link between expectation and behaviour with respect to pupils: poorly performing pupils receive more negative feedback than pupils who perform well and pupils who perform well receive more affective support. More time and energy is given to pupils who perform well. They are given more opportunities to learn (Jussim, 1986; Smits, 1993). According to the researchers involved, these links result from the degree to which the behaviour and the performance of the pupil, in the opinion of the teacher, are controllable by the pupil and from the explanations that the teacher gives to that behaviour and performance. Brophy and Evertsen (1981) give an interesting example of the former. Pupils that have been given a label (for instance, dyslexia or ADHD) are more readily helped or supported than pupils without a label who exhibit the same behaviour or the same learning difficulties. Teachers have the inclination to see the former as pupils that 'want to but cannot' and the latter (especially in the event of behavioural problems) as pupils that 'can but don't want to'. The labelled pupils appeal to the professionalism of the teacher, who is then willing to work with them, without the danger of having his professionalism being discussed, because the pupil is considered to be the 'owner' of the problem. If the teacher's efforts do not succeed, a referral will be made to specialist treatment or to a special setting. In the case of the second group, the professional status of the teacher is in danger

if things do not work out in the class, because this is not obviously (as with the labelled pupils) attributable to the pupil. In general, in the event of disappointing results, teachers seem to place the cause outside of themselves and in the case of success with themselves. External attributions from teachers are: lack of pupil talent, insufficient stimulation and guidance at home, and an inadequate approach to work (Good & Brophy, 1994; Bakker, Pranger & Tersmette, 1991).

The paradoxical link found between the success of the pupil and the attention that the pupil receives from the teacher appears to be explained by the need the teacher has for challenge and success. Good pupils appear to the teacher to be active, challenge (in his perception) his professionalism and confirm this with results. They can therefore count on a relatively high degree of attention. The reverse is the case with the pupils that lag behind. They are inclined to exhibit (cognitive) inactivity, which does not pose a challenge to the teacher. This can be reinforced by the lack of results (which does not detract from the professionalism of the teacher) that the teacher experiences in his work with these pupils.

Teachers' expectations have an effect on the expectations that pupils have of themselves (Harter, 1987; Weinstein, 1989). Pupils appear to be extremely aware of the hierarchy of expectations that a teacher has and can behave in accordance with those expectations. It appears that the expectations of the pupil that arise in this manner (high or low) mediate in the quality of the pupil's results and attitude to work. In this manner, a self-reinforcing system can arise of expectations held by teachers and pupils—and educational results.

BASIC MOTIVATIONAL NEEDS

The above-mentioned research into the nature and quality of attributions and expectations offers sufficient evidence for the suggestion that teachers and pupils are very important mediators of educational processes and results. We further explored the motivation of the actors in education. We have done this in the attunement project on the basis of the work of the motivation psychologist Deci and colleagues (Deci & Ryan, 1985; Deci & Chandler, 1986; Ryan & Grolnick, 1986; Nicholls, 1989; Deci, et al., 1992).

In a critical reflection of the part played by human motives in education, Deci and Chandler wrote: 'Any theory of human behaviour must begin with a conception of the person—it must address the question of 'what is the person's nature'?' (p. 589). In other words: you must know what you are talking about. Deci and Chandler elaborate on this proposition based on motivation-psychological research as follows. Behaviour originates, according to the proposition, in biological and psychological needs. The former does not apply permanently, the latter does. Three fundamental psychological needs are distinguished: the need for relationships; for competence; and for autonomy. For the individual, these needs

lead to motivation from within (intrinsic motivation) to seek challenge and to cope appropriately with his environment. This type of motivation can be seen as the most important force in development processes. To be able to cope adequately with the environment leads to experiences of competence or of control of the environment and control of cause. The best type of environment is responsive, that is to say, an environment that is 'sensitive' in giving support and providing a challenge to the individual, which tests and extends his competence (see, also, Csikszentmihalyi, 1990). It is, however, clear that not all development tasks and goals will be addressed from the basis of intrinsic motivation. The environment will make demands at set times that will only be fulfilled by the child via some external pressure (extrinsic motivation). The ratio between intrinsic and extrinsic motivation must however be seen from a development perspective. This is to say that the child will gradually, and to an increasing degree, identify with the expected behaviour and make it his own. The individual will eventually see the demands or expectations as being self-determined. This process will be mediated as intra-individual by the child's estimation of the affective consequence of conforming or not conforming to the environmental demands and of taking responsibility for them (Connell & Ryan, 1984; Deci & Ryan, 1985). In agreement with the findings of research into the processes of attachment between the (very) young child and its parents (Riksen-Walraven, 1989), we assume that the process of conforming and taking responsibility is mediated inter-individually by the quality of 'trust' in the relationship between caretaker or teacher and child.

The pupil as learner and the appropriate school

The question is: 'What is the person's nature'? The answer appears to be unambiguous: people are typical learners, proactive in their development and in their behaviour, searching for challenge and continually seeking to know more, to be able to do more, and to have more insight. Children go to school to become more competent. And they want to do it themselves, not on their own, but by themselves. When viewed motivationally, pupils are fully equipped for their development, whatever the nature and weight of their talents.

This impression of the pupil has important consequences for the school. In the first place, the school will want to retain this motivation so that the development potential of the pupil will be as accessible as possible. Furthermore, it will want to allow the pupil to do as much as possible himself. This means that the school, from the very beginning, will focus on the activity of learning itself, and that the teacher will teach the pupil what it means to learn and how the pupil can regulate and control this. In other words, the pupil learns to cope as a learner, as appropriately and usefully as possible.

The ideal school in this situation will see the development potential of the child as its primary assignment and working material, and trusts the intrinsic motivation of pupils to develop this potential and to learn. It is therefore a school with high expectations (in the qualitative sense) of each of its pupils. It is a school that works with possibilities, albeit in a curricular framework with pre-set goals, but with the emphasis on what is possible. The school is therefore always an optimistic school. The conditions that will characterize the work are challenge, support, choice and self-control, as follows: challenge as an answer to the intrinsic need for development and learning; support where extrinsic motivation is apparently needed, but with the prospect that this will become self-regulating motivation; choice as an answer to the proactive nature of development and learning; and self-regulation as an answer to the need to experience competence and autonomy. Choice and self-control or the possibility for self-regulation appear to be highly productive as conditions for learning (see Schunk & Zimmerman, eds., 1994).

Paradoxes

The practice of education, as it is known in the West, has a paradoxical relationship to what research has demonstrated of human development and learning, and about the conditions under which development and learning will progress more or less favourably: the protective and the risk factors. A number of these factors were discussed above, viewed from the school context. We explain the paradox below, in part as an introduction to the conceivable intervention in teacher/pupil interaction.

BREAKING THE LINK BETWEEN EFFORT AND RESULT

Firstly, we discuss the paradoxical relationship between current educational practice, the basic motivational needs, and the proactive character of development, learning and behaviour.

Children come to school with the (conscious) intention of extending their competencies and sometimes have concrete ideas in this area. In a more general sense, they come to school to advance their development and to let themselves and others see what they are capable of. However, soon after starting the formal curriculum, differences in the tempo of pupils' progress are manifest, and teachers and pupils must determine that some of the pupils cannot rise to meet expectations. This is a predictable result of a uniform curriculum that must be completed by all of the pupils in a time specified to meet fixed performance criteria. The implication of this fact is that comparative assessment of results (associated with a standardized curriculum) leads to the selection of pupils. A proportion of them will come to the conclusion that they are not competent enough for what the curriculum asks of them. Because of this, the abilities that these pupils possess lose relevance, together with any chance of being valued positively. The aim for competence is not honoured. There is a disconnection between effort and result. The result of this will (possibly) be that the pupil will disconnect motivation to expand competence from the goals set by the curriculum and put effort into other goals. In other words, the pupil seeks something else to do and in the eyes of the teacher is 'quickly distracted', has 'poor concentration' or is 'restless'—an apparently meaningful choice of the pupil to protect his own experience of competence, although extremely awkward for the teacher, who in this case can no longer rely on the motivation and efforts of his pupil. The same situation, but then in reverse, can apply to those pupils for whom the curriculum offers too little challenge, i.e. the (relatively) talented. For these pupils, education can easily lead to disconnecting the link between effort and result, in this case because the results are arrived at

without effort. Here as well, the striving for competence can quickly be linked to activities other than the typical curriculum activities. What, in all probability, makes both cases more or less comparable is the threat of underachievement. The challenge can easily be lost for both the slow and the fast pupil, with the danger that neither will make available the full development potential.

Another important issue is the manner in which education as a system and in practice interprets the pupils' striving for competence. The comparative assessment of results brings this striving into a competitive context. This leads to a situation where learning is motivated by the quest for the best result. That is to say, not the best possible result for a the pupil—something that would be in agreement with the striving for competence and the search for challenge—but the best result in comparison with others. In this respect, the literature refers to 'ego-oriented learning' as opposed to 'mastery-oriented learning' (Nicholls, 1989; Meece, 1994). The ego-orientation leads, in a regime of comparable assessment, to the linking of performance and prestige and to calculated behaviour (achieve the maximum possible with the least possible effort)—performance for the prestige that is derived from it, instead of performance as a contribution to personal development. The mastery-orientation includes the latter and is also characterized by the attention paid by the person concerned to the content of the task or the problem and to the processes that lead to mastery or the solution. A mastery-orientation of pupil and teacher appears to lead to better results.

CURTAILMENT OF AUTONOMY

The fundamental need of the pupil for autonomy is selectively satisfied within educational practice, or so it appears. Earlier we suggested that teachers approach their 'good' pupils differently from their 'weak' pupils. The quality of interactions in both cases vary. Based on the high expectations that the teacher has of the former and the trust in their results, they appear to be given a relatively large amount of freedom and responsibility. The reverse appears to be true for the others. They are more heavily supervised, which results in restrictions in their freedom to take initiatives and responsibility, therefore restrictions on their striving for autonomy. The 'weak' learners are much more dependent on their teacher than those who are able to learn well. The uniform curriculum often makes them embarrassed, leads to the demand for assistance or for waiting in despair until assistance is provided. These pupils are more dependent on the professional insight of their teachers, on the time that they have available, on their patience and, not infrequently, also on their mood. These findings gave Weinstein (1989) the reason to suppose that in school classes, more than one ethos exists. Incidentally, it is questionable if there can actually be true pupil autonomy in schools. Also, the pupils who easily keep up must in general keep to the narrow curricular framework, to the fixed sequence in time and space, and to the derived rules. Moreover, the competitive character of

daily school life will not promote the development of these pupils' autonomy.

AFFECTED RELATIONSHIPS– BREAKING THE LINK BETWEEN RELATIONSHIP AND PERFORMANCE

The importance of the striving for relationships in the educational context is anchored in the fundamental fact that development and learning do not occur unless mediated by the other, directly or indirectly, and that the quality of the mediation in part determines the quality of the result. One can consider an analogy with the development of relationships within the first environment of the child. The attachment literature, which we referred to earlier, describes how safe and stable relationships between parents or caretakers and their (young) children develop via the path of responsive interaction, mediated by the (high) expectations and trust that mutually arise. These expectations (that the other person will react responsively or appropriately) include the experienced competence that one person can evoke the desired behaviour of the other (Riksen-Walraven, 1989).

Development of competence is rooted in relationship with, or availability for, each other. Young children come to school with the experience that competence, it is true, must be attained by oneself, but that this will always happen in a relational context and that you can trust this context (it is available). The striking thing is that shortly afterwards, from the first class when the formal curriculum starts, children are confronted with a drastic change in the school as a relational context. They are, in a manner of speaking, in the eyes of the school no longer children but pupils, and this means for them that they must not only do their work themselves, but also that they must do it on their own. The matter-of-course availability of others is gone. For the pupils that can easily keep up this will probably not have any particular effect. They appear to be able to keep the attention of their teacher and, as would be expected in a responsive interaction, they are in a position of being able to offer the teacher the experience that they are competent. Teachers therefore frequently communicate with these pupils and this communication is also varied. The pupils that do not satisfy expectations appear to be less able to do this, in part because they, as we have proposed previously, do not form a challenge for the teacher. They experience the negative effects of what we would like to call the disconnection of the link between relationship and performance in school. Learning is mainly seen in terms of results achieved by the individual and less in terms of a process that is embedded in and derives its power from a relational context; a process derived from the availability of others who put trust in the offered development potential and the fundamental motivation of developing it. The personal competence experienced by the pupils involved in the class can in this context drop dramatically, something that we found in our own research (Smits, 1993). In short, there is a rea-

son for the presupposition that, in school, relationship is mediated through performance instead of (what is naturally the case) performance being mediated through relationship. The performance of the pupils appears to be an almost absolute criterion for the opportunities that they are given to develop themselves in accordance with their own possibilities or talents.

THE PARADOX COMPLETE

This analysis has a paradoxical relationship which teachers aspire to, in particular teachers in primary education. If these teachers are asked what their priorities are, more or less all of them would refer to what they identify as a good atmosphere in the class and a good relationship with their children (Hoogeveen, 1999). 'More or less every teacher [...] thinks that a teacher should in the first place be focused on the child, it should be the pupil who is the focus of education, not the teaching material and the teaching methods' (p. 276). From this Dutch study, carried out in the context of primary education, it appears that teachers can go very far in offering support to their pupils. In the opinion of a representative sample of teachers questioned, student performance appears to be subordinate to their well-being. The teachers concerned, also judging from their statements, seem to resist the increasing pressure to perform, in part caused by the public comparisons of the performance of individual schools.

The question is how to interpret the discrepancy that has arisen between the honest intentions and the high work ethic on the one hand, and the regular unsatisfactory behaviour of teachers and their inadequate availability for the pupils who do not satisfy the expectations on the other. Teachers will, more or less without exception, refer to the physical and psychological limitations that go hand in hand with the classroom model of education. However, the question is whether these conditions must be seen as an independent fact (in the perception of the teachers), or as dependent on a certain vision of education, therefore of a variable meaning.

A dominant fact that came to the forefront in pupil interviews in primary education (Meerdink & Hameetman, 2000, established by yet unpublished results of our own interviews with hundreds of schoolchildren) was the deep conviction of teachers that they must lead the pupils and must offer standards for results and behaviour, a tendency that appears to be even more strongly present in secondary education (Rudduck, Chaplain & Wallace, 1996). This certainly does not necessarily stand in the way of a more child-friendly climate, or informal forms of interaction, as long as the pupil obeys his teacher (or the rules of the school). Pupils in the interview expressed the wish to be heard and understood as cognitive and socially competent co-players with the teacher. The teacher should be asked to see things from the perspective of the pupil and to take this perspective seriously. The prerequisite of responsive interaction is to watch and listen before

reacting. Pupils have shown themselves to be extremely competent in forming an opinion of the situation in which they find themselves with their teachers and, when faced with problems, in coming up with suggestions for solutions. The sources just mentioned bear impressive witness to this. Therefore, pupils (even young ones) appear to be a well-developed and rich source of information and a potential source of support for the teacher.

In summary, we would like to suggest that the school, as an institution, and its teachers seriously underestimate the proactive character of its pupils, as well as the meaning of the human relationship for development and learning. It is not unlikely that this implies that underachievement is a structural problem for education. This leads to the desirability of defining pupils as full partners and to enter into a relationship with them as a source of information and support. The latter would apply especially to those pupils who, in the eye of the teacher, present problems. The curriculum or other aspects of the learning environment do not correspond (in the perception of these pupils) to their actual potential or needs. The school should not ask itself if this is appropriate or inappropriate, correct or incorrect; the question is what is the sense of this perception of the pupils; what does it include and what implications does it have for the design of an adequate learning environment for every pupil? The second question is, in what way can the pupils involved actively contribute to this design and its execution and how can they be responsible for it? This is a question for both teachers and pupils. The attunement strategy that will be explained in the following chapter was designed to make a contribution to the development of the intended quality of interaction in the school. This should especially apply to pupils who stand out through persistent off-task behaviour.

The attunement strategy

RATIONALE

The strategy that will be discussed here has been developed within the framework of the project 'teacher/pupil interaction' that must be viewed against the background of striving for inclusive education in Dutch schools. The project addresses the notorious problem in the classroom of off-task orientation. As suggested earlier, persistent off-task orientation can be characterized in cognitive-motivational terms as meaningful behaviour that results from a 'decision' of the pupil to not address the task. This decision is grounded in the manner in which the pupil experiences the task situation and reflects the pupil's estimation that the result is not achievable (Van Werkhoven, Van den Berg & Stevens, 1987). As a result of this, the task is avoided and the pupil lapses into inactivity (day-dreaming) or tries to find something else to do, which can be annoying for others.

The intervention that has been developed is based on the consideration that the teacher is not only obliged to attune his instruction to the apparent potential of the pupil, but also to anticipate his task perception or motivational status. The intervention has the objective of getting the teacher to view things from the pupil's perspective and to attune their references (expectations, attributions and judgements) to this. It is assumed that this will be experienced by the pupil as affective support.

A second objective results from the mutual nature of the interaction between teacher and pupil, and means that the teachers, if this approach can bring about more activity and focus in the pupil, will attribute this to themselves, to their own efforts. In this way the teacher will start to feel more competent and this will make it easier for him to master this apparently effective approach. Thus, the teacher's competence is mediated by the pupil.

Attuning the perspectives of teacher and pupil can be summarized as an expression of responsive education. The meaning of responsive education can be reduced to the meaning of the term 'responsivity': the mutual challenge and confirmation of caretakers (parents, teachers), and the trust that the other is available and accessible, which are requirements for development and learning.

The pretensions of this interactive, cognitive-motivational way of working are not limited to the actual task situation and the intended behavioural changes. The final objective is a pedagogic one, the aim being for the pupil to become an active, independent, self-reliant learner through education that satisfies the basic psychological needs of the pupil.

THE ATTUNEMENT STRATEGY IN PRACTICE

The strategy, which has been tested for use with children in the age range 6 to 12 years, is used in individual teacher/pupil interaction during the lesson, when all the pupils are working independently. The aim is to achieve a different (responsive) quality of interaction (in addition to attention for instruction, attention for the task perception of the pupil) in the short periods of contact that teachers have with pupils who do not work.

A different quality of interaction means that:

- *The teacher allows the pupil to see that he is available for him* (the relationship component);
- *The teacher confirms feelings of competence that the child shows* (the competence component);
- *The teacher challenges the pupil to take an active and self-reliant role* (the autonomy component).

This implies a shift from the usual authority of the teacher in the interaction towards that of reciprocity, i.e. the pupil takes an active part in the conversation, especially in the sense of making his own proposals.

Such a change is shown in the manner in which the teacher talks with the pupil:

- *The teacher avoids judgements, statements and suggestive questions and poses questions (inviting, challenging) and reacts closely to what the pupil says or asks* (responsive feedback);
- *The teacher is not in a hurry, but gives the pupil room for his reactions, questions, suggestions and proposals and the teacher aims for good timing.*

A different interaction content (what are the teacher and pupil talking about?) includes:

- *Expectations of the feasibility of the task;*
- *Expectations of the necessary time and effort;*
- *Proposals and plans (with self-chosen goals) of the pupil;*
- *Criteria for assessing the result;*
- *Causal attribution of the result.*

The topic addressed in the conversation is of course dependent on the situation that the teacher is confronted with at that moment. The teacher has, however, subject-related references in mind. To offer support in this, the following list of references for the short conversation with the pupil is offered, which contains both typical instruction components and components that refer to the motivational status of the pupil (mentioned above):

- *Availability of information about task and learning materials;*
- *Clarity of the goal;*
- *Availability of the required prior knowledge;*
- *Availability of knowledge concerning the way (ways) of solving the problem;*

- *Expectations from the pupil's side of the feasibility and effort needed;*
- *Challenge to the pupil to formulate the goal and the solution method;*
- *Challenge to the pupil to formulate the criteria for evaluation of the result, the chosen solution method and the time that was required for the execution.*

After finishing the task, there is the challenge of self-evaluation and causal attribution of the result.

Teachers are free to use this list at their own discretion. The conversation can be started with a question concerning the feasibility of the task in the perception of the pupil or, if the pupil is somewhat advanced, the time that is still required, and then make an agreement about this. It is also possible that the teacher sees immediately that the pupil is using the material associated with the task incorrectly. This can lead to questions about the goal of the task and the function of the material. It can also be the case that a pupil hardly seems to know what the task is about, so that the teacher must go over the preceding subjects and adjust the whole task. Every case appears to be different. *However, the gist of it is that the pupil must become aware of what is being learned through the correct questions of the teacher.* This means that the pupil can once more give the correct meaning to the task situation. In other words, pupils and teachers are (intensely) involved with the process, not with the result. This will happen automatically if the process runs correctly.

IMPLEMENTATION IN PRACTICE

The programme *'Individuele hulp in de klas. Bevorderen van taakgericht gedrag door responsiviteit'* [Individual help in the classroom: promoting on-task behaviour through responsivity] (Castelijns, et al., 1992) is one of the four programmes that we developed for different educational settings. That programme is now discussed, as designed for use by school teams that have decided to include the attunement strategy in their repertoire.

The model from the Belgium/Dutch educational researchers Vandenberghe and Van den Berg (1988, 1999) has been chosen for the implementation of the strategy in the school. This model involves major commitment from those who must carry out the innovation, and accordingly offers the required space for individual adaptation (Jager, 1993).

Three conditions can be considered essential for its introduction:

- The team of teachers has decided to implement the strategy;
- Video (and possibly audio) recordings of the teacher-pupil interactions are made;
- Support of colleagues.

The video camera is placed on a tripod in the classroom and works independently. After briefly introducing the pupils to the camera (where they can see themselves),

it becomes, as it were, part of the learning environment. After being introduced to the camera the pupils pay very little or no attention to it. The teacher wears a portable microphone, if required.

The support of colleagues is important for subsequent reflection. The teacher must be able to test the interpretation of the pictures of the lessons and of the interactions with the pupils in order to develop more responsive behaviour. Support from a colleague has been chosen instead of an external expert, because a close source of support for teachers appears to be the most effective.

During the introduction, a team member fulfils the function of co-ordinator, and is responsible for planning and organizing the various activities. A school counsellor or adviser can also play a role, for instance, in information transfer and in supporting the co-ordination and the support of colleagues.

The implementation of the programme starts with team meetings, in which the method of working is alternatively demonstrated and practised, immediately followed by practising it in the classroom. An important principle is, as already mentioned, the support of a colleague. This means that teachers work together in pairs. They observe each other (possibly only the video recording) and give each other feedback. The teachers are, thus, alternatively the observer and the observed.

During the process, the whole school team meets frequently—for introduction, demonstration, exercises, application or evaluation. By placing the emphasis on working in the class, the teacher is directly and intensively involved with the introduction process.

The introduction of the strategy in the class follows a cyclical step plan. This consists of the following:

- Discussion of the task behaviour with the colleague involved with the pupil concerned. Here the first question to be asked is whether there are any special (more general) conditions, external to the teacher/pupil interaction present in the class or in the personal environment of the pupil that could explain the off-task behaviour, such as noticeable general restlessness in the class, a general overestimation of the abilities of the child or threatening circumstances at home;
- First video recording;
- Analysis of the recording with the colleague involved with help from the list of references (see above) and the choice of behaviour alternatives using the 'overview of responsivity' (see below);
- Implementation of the planned behavioural alternatives for two to four weeks;
- Second video recording;
- Analysis of the video recording, evaluation and (if required) re-formulation of behavioural alternatives.

Table 1 is an example of what we call the 'Overview of responsivity': an arrangement of the planned behaviour alternatives of an arbitrary teacher, chosen on the basis of an analysis of the video recording from her class and drawn up together with the colleague/discussion partner:

TABLE 1. An example of planning responsive (inter)actions by a teacher

OVERVIEW OF RESPONSIVITY	
Activities of the teacher in providing individual help	Points of attention
Assignment 1. I go to the pupil and determine if he has understood the task. 2. I ask the pupil about his perseption of the task. 3. I allow the pupil to co-determine the evaluation criteria. 4. I agre with the pupil that he will ask for an evaluation when he has finished the task.	*Responsivity* I encourage the student to participate in thinking about and deciding on the task. While doing this: 1. I am interested in his perception of the task; 2. I give him an opportunity to react; 3. I offer him the expectation of success.
Independent working 5. I give the pupil information about the way in which he is working and encourage him to continue.	
Evaluation 6. I give the pupil information about the result of his work. 7. I ask the pupil to evaluate his own work. 8. I ask the pupil about his perception of the task. 9. I ask the pupil about how he explains the success or the failure. 10. I give my own evaluation of the pupil's work.	

The attunement strategy is essentially simple and follows the 'cycle of practice' or problem solution cycle. The teacher reports persistent off-task behaviour. A delay is created for supervised reflection of the contribution of the teacher in the (undesirable) behaviour of the pupil (the teacher is stimulated to enter into the perspective of the pupil). The teacher makes his plan, carries this out, makes an evaluation and feeds back his findings.

We will return to the programme 'individual help in the classroom', referred to here, in the chapter that deals with the evaluation of the implementation.

The development of the programme and experimental implementation

With the aim of making the attunement strategy usable and effective in the hands of teachers, experimental implementation occurred during a number of years in the Netherlands, England and Germany (Van Werkhoven & Brekelmans, 1986; Hastings, 1992, 1994; Van Werkhoven, 1995) and in a variety of settings: specialized treatment institutes, special education schools and regular primary education schools. Based on the experiences and results that were gained, four programmes were designed: one for school advisers (Stevens, et al., 1990), one for teachers in teacher-training colleges for primary education (Stevenset al.,1991), one for teams of primary schools (Castelijns, et al., 1992), and one more specific programme for teachers of 5-6 year olds (Castelijns, Lacor, Stoffels & Streppel, 1993). All four programmes were subject to an assessment of usefulness, effectiveness and results. A description of these evaluations can be found in the following chapter, based on the evaluation of the primary school programme, just mentioned. Firstly, a few methodological considerations are highlighted. Then, the experimental findings are addressed, with a view to creating a context for the discussion of the evaluation results.

The attunement strategy can be seen as a non-conventional intervention in the class. The aim of the strategy is to influence the teacher's contribution to the development of pupils in school by shifting the teacher's perspective from self-orientation to orientation towards the pupil. This approach is very ambitious, in view of the strong teacher-centred tradition of education. It is also very ambitious for pupils who are not used to being challenged towards what the strategy aims for: a pupil who is active, reflective and full of initiative and self-awareness. The ambition of the programme designer and evaluator is also high, since the proposed active or therapeutic component of the strategy—the quality of responsivity of the teacher—can only be described from a distance, in terms of availability, challenges, well-timed support, allowing room to react or the avoidance of judgement. In a certain sense, this is preceded by the general condition of open-mindedness as expressed in terms of high expectations and trust in the development of the individual pupil, however large the inter-individual differences may be. The total range of characteristics and conditions that are intended here point to a pedagogic mind-set of the teacher (hidden from the researcher), which is difficult to transpose from description and make operational in detailed behaviour. Typically, it is about the intra-personal and inter-personal making sense. In other the words, the interventions we are aiming for will not be easy to isolate as an independent variable from concurrent influences, intra-personal as well as inter-personal.

Furthermore, one can assume that the development of what we called the mind-set of the teacher is a process that will take time and patience, and its effectiveness will neither be immediately nor easily measurable. The development of responsive instruction or, more broadly, of responsive behaviour of teachers seems not only difficult to record, but is also expected to take considerable time. As explained in the last chapter, it will more likely be a case where a certain ethos is developed in the school as a whole rather than of the implementation of a strategy. The latter can be functional for the former and has, as far as we know, been the case for the schools that have taken part in the project.

The complex nature of the intervention was already clearly visible through the experimental findings in the preliminary studies for the attunement project. The observations concerned can be briefly classified as follows: the intervention has considerable appeal for teachers (it affects them)—they start enthusiastically, make many 'mistakes' and come very quickly to the conclusion that intensive and long-term consultation and support will be necessary. The aspects of the intervention that appear to affect the mind-set or professional attitude of teachers the most are also the most difficult for them: challenging children to take the initiative instead of prescribing; not judging so quickly, but leaving assessment and judgement to the pupil first; causal attributions of success or failure.

Measured independently, the results of the experimental interventions for the pupils were overall very significant (with sometimes dramatic changes in the behaviour of the pupil), but at the individual level also mixed. There are also pupils who do not gain anything. And, as is not unusual for interventions, the benefit seems the greatest for pupils with the least off-task behaviour. Many teachers, despite their enthusiasm, have difficulty carrying out the strategy consistently. Some think that they have done so, but that was not the case; others think that the on-task behaviour of pupils has improved considerably, but this was not observable. The foregoing are examples of the well-known discrepancy between belief and reality.

However, what seems to be exceptionally important is the observation of the teachers themselves about how differently their pupils can behave. After an intervention they sometimes talked about 'a different pupil'. It is obvious that this experience, although it can be stronger at some times than at others, reinforces the teacher's initiative. The pupil acts here as the agent of change.

Finally, we have established that during the intervention period, in many cases, the teachers spontaneously rearranged important parts of the learning environment, as a result of critical evaluation of their own video recordings. This was sometimes accompanied by such improved conditions that the problems experienced by the teacher in part disappeared.

From the pilots (these were short intervention periods) the following conclusions were drawn:

- The strategy satisfies an important need that is acknowledged by the teachers.
- The strategy and its rationale 'make sense' to them.
- The strategy is usable in normal classroom practice. The percentage improvement in on-task behaviour of children who are seen by their teachers to be inattentive, distracted and low attaining is extremely significant, although the assessment of the benefit is also varied.
- Teachers report an improvement in quantity and quality of the work of the pupils and sometimes surprising changes in their attitude to work.
- The implementation of responsive instruction using the attunement strategy demands reasonably intensive and long-term support from colleagues; the attunement strategy asks of the teachers a radical change in their 'mind set'.
- These changes can be prepared and supervised at the behavioural level and the video recordings can play a powerful role in this.
- The (changing) behaviour of the pupil probably plays an important mediating role in the development of a responsive approach by the teacher.
- Before a teacher turns to the intervention, he must check with his colleague/discussion partner to ascertain whether the available curriculum is adequate for the pupil(s) involved and that the pupil can work in a quiet environment—primary conditions for educational results. Responsive instruction cannot replace these conditions.
- No clear contra-indications have been seen for the use of the attunement strategy.

Evaluation of the programme 'Individual help in the classroom'

Based on the study by Jager (1993), we report here on the evaluation of the programme for the development of responsive instruction using the attunement strategy, for teams in primary schools (Castelijns, et al., 1992). This report is analogous to recent reporting in more formal empirical terms (Stevens, Van Werkhoven & Castelijns, 2001).

The programme can be conceived as a staff development programme. We have chosen to discuss this programme, out of the four mentioned, because it focuses on the implementation of the strategy in the context of school improvement, in our case, the broadening of the brief provided by the school to pupils at risk, or to the development of inclusive education. The assumption is that responsive instruction, as a characteristic of the learning environment, could provide an important contribution to the inclusive classroom.

Although the programme has its own logic, it is based on a bottom-up approach, i.e. that the individual school will be given (relative) freedom to organize the implementation activities in line with its own circumstances (Van den Berg & Vandenberghe, 1988, 1999). A number of conditions must be satisfied. First, the activities will be co-ordinated by one of the members of the team. In a year, at least one cycle of activities must be completed by the team as a whole, and the findings must be recorded at set times for the benefit of evaluation. The programme consists of informative meetings for the team, examples of good practice and recommendations for the curricular and organizational conditions in the class. During informative meetings, the teachers are introduced to various aspects of the cognitive-motivational model, such as the importance of the expectations of teachers, causal attributions of success and failure, the self-fulfilling prophecies that are associated with articulated expectations and attributions and the characteristics of a responsive approach as compared to a controlling approach.

The implementation cycle takes a period of two to four weeks in which the teacher first makes a video recording of his interactions in task situations with the pupil(s) concerned. He then evaluates this with a colleague and seeks alternatives in the sense of responsive instruction, which he then carries out. After a few weeks he makes another video recording and evaluates it. In team meetings, regular reports are made of the progress of the implementation in the class. In principle, all teachers take part in the implementation. The objectives of the programme are described in terms of skills and attitude for the teacher and in terms of task behaviour for the pupil. The importance of the programme ismainly at the level of the

school, in view of the importance of the contributions of the teachers as a joint effort to include the strategy in the behavioural repertoire and, with it, to improve the quality of the work in the school as a whole.

RESEARCH QUESTIONS, CONCEPTUAL MODEL, DESIGN AND METHODS

The research is based on the conceptual model shown in Figure 1.

FIGURE 1. Conceptual model

Initial situation	⇨	Implementation	⇨	Final situation
Context variables	⇨	Process variables	⇨	Effect variables

The following four research questions were formulated:

- What is the initial situation for the teachers and the co-ordinator?
- Did the programme run as planned?
- What is the final situation?
- What is the relationship between the initial situation, the implementation process and the final situation, or what are the programme effects?

The context variables refer to characteristics of the organization and the people who work within it. These variables are chosen on the basis of the relationship between the educational practice for children with special needs and the teacher's appreciation of this. (Stokking, 1992). In this context, it should be mentioned that the variables will be affected by the educational experience of teacher and co-ordinator, their experience with individualized education and their perception of the problems associated with it, their knowledge and the availability of remedial materials, their opinions concerning the background of learning difficulties and their opinion concerning special education in the regular class. Differences with respect to these variables are controlled statistically in the design of the evaluation. The expectations of the programme that are present in the school are also described: expectations of the teachers for themselves, their colleagues and their pupils, expectations of and satisfaction with the information about the programme, and expectations of any time pressure. The context variables are operationalized in seven Likert-type scales (a scale that displays the degree of agreement with a series of statements concerning a subject).

The process variables refer to the implementation of the programme and the decision-making process in the team. They describe the progress of the implementation activities and satisfaction with the various steps in the programme, the time pressure experienced, the common responsibility experienced, the quality of the

co-ordination and planning, and the involvement of the team. The process variables refer collectively to what we view as being the process of self-professionalization in the school. The variables are operationalized in thirteen Likert-type scales.

The effect variables refer to the skills and attitudes of teachers and co-ordinators who participate in the programme: their knowledge of the programme, the skills called for by the programme, the valuation of the consultation processes and activities during the implementation, the perceptions of effects on oneself, colleagues and pupils, and (once more) the opinion concerning the background of learning difficulties. These variables are operationalized in four Likert-type scales.

The scales prove to be 'sufficiently' to 'amply sufficiently' reliable according to Cronbach's reliability measure (alpha in the range of .67 to .94).

The evaluation can be seen as an outcome evaluation. The design is simple: a pre-test/ post-test/quasi-experimental design. A control group has not been added. The problem of isolating the intervention as an experimental variable in an unstable implementation context (in which the personal beliefs of teachers were at issue) was previously discussed. For the time being, this does not appear to be a situation that lends itself to experiment. We chose a more naturalistic working method in which, for a representative group of teachers, we examine the degree to which the registered effects approach the intended effects.

SCHOOLS, TEACHERS, DATA COLLECTION AND ANALYSIS

For the evaluation, sixteen primary schools with sixteen co-ordinators and 143 teachers were involved. The schools are distributed throughout the Netherlands, although they do not form a random sample. The schools had already shown interest in the programme. The school populations can be seen as predominantly white middle class. The average age of the teachers is 36 (range 21-56) and the average class size is twenty-four pupils.

The chosen research design has two principles: triangulation (different sources of evidence are combined) and repeated measurement. With respect to the former, various sources (teachers, pupils, co-ordinators and consultants) were used for the data collection and various methods were used: observations, questionnaires, logbooks and interviews. Furthermore, conditions and the progress of the implementation were measured at three intervals: at the start, during the implementation process and after the execution of the implementation (see Figure 1). The questionnaires (structured in advance) were used at all three intervals. The logbooks (likewise structured in advance) and interviews (semi-structured) were used to track the process. The interviews made it possible to validate and complete the data in the logbooks and questionnaires. The logbooks were mainly intended to record the impressions of the teacher concerning the video recordings, as well as

his intentions (see Table 1) and the planning and execution of them. The observations concerned the teacher/pupil interactions during the individual contacts and the task behaviour of the pupil. Observation of the interactions was not unproblematic. Although we used the same reference list as the teacher and it was possible to record the interactions, their meaning, in the sense of more or less responsive and the *Gestalt* character of the flow of interactions, is not easy to determine in the records. The reference list, together with its examples, had heuristic meaning for the teacher—the evaluator could only sometimes be relied on. For instance, length of instruction and the frequency of asking questions could be recorded well, but it was clearly more difficult when it came to recording expressions that referred to expectations. However, the awakening of responsivity in teacher/pupil interactions is served by 'leaving' the conversation to the teacher and pupil, not by controlling it for a reliable evaluation.

Observation and evaluation of the development of the task behaviour of the pupil was also carried out using a category system with time sampling (observation at set times, ten seconds for example). The categories were on-task, off-task, procedural activities (pupil's initiative), procedural activities (teacher initiative) and 'waiting for the teacher'. The instrument is constantly reliable above .80, according to Cohen's reliability measure Kappa.

The data analysis took place in three steps. First, item analysis was used to determine the reliability of the Likert-type scales. Then a descriptive analysis was carried out for each measurement interval. Finally, the relationships between the context, process and effect variables were analyzed using correlations and univariate variant analysis (a technique for comparing averages for groups) for each instrument and for the various groups of respondents, as well as via univariate variant analysis and T-tests (testing the significance of differences) of the differences between schools. Finally, multi-level analysis was used (data from the various levels, such as schools and teachers, were combined). A significance level of 5% is adhered to.

Results

The initial situation. The co-ordinators (n=16) and the teachers (n=143) had, in 95 per cent and 85 per cent of the cases, respectively, more than five years of practical experience. Both groups were aware of the principle of individual instruction, although they were not experienced in using it (an average of 3.5 on a six-point scale).

The implementation process. The teams from the schools, with the exception of one (n=15), were unanimous in their decision to participate. For the teachers the programme appeared to be reasonably clear (an average of 3 on a four-point scale). A third of the schools did not use video recording, but preferring description, used audiotaping. In their logbooks (n=11) the co-ordinators appear to be reasonably satisfied with the implementation activities, as provided for in the cyclical plan (an average of 3.6 on a five-point scale). The satisfaction drops slightly during the programme, possibly because the implementation task becomes more complex in time, or possibly because the co-ordinators begin to set higher demands. The appreciation of the programme remains unchanged for co-ordinators and teachers (4.7 and 5.4 on a six-point scale). The teachers, however, find that they need more time.

Effects. The co-ordinators were of the opinion that the effect for the teachers and for the pupils can be described as being reasonable (an average value of 3 on a four-point scale). The teachers' estimates of effects are lower (2.7 for the pupils; 2.8 for themselves; 2.7 for the team of teachers). At the end of the programme, they experience fewer problems with individualized instruction.

The data from the teachers demonstrates the following. Teachers who were more satisfied with the information about the programme and who had higher expectations at the start, report more results with their pupils than their colleagues, but are also more optimistic about the effects for themselves and the team. In general, older teachers report more effects and faster effects are reported for younger pupils. There are significant differences between the schools for the different variables. Finally, the multi-level analysis shows that, for a successful programme implementation, the following variables are crucial: appreciation of the programme, choosing video recording, and adequate information about the programme.

The task behaviour of the pupils. First the video recordings were selected based on a number of criteria, such as availability of a first and second recording, minimal duration of 20 minutes and 'child in focus'. Then, twenty-four pupils were

observed on a one-second basis. Progress for each observation category was tested using the T-test. The absolute time-on-task time increases, but not significantly however. The absolute time-off-task time, on the other hand, reduces significantly. The total result is an increase in time-on-task from 59 per cent to 69 per cent.

The instructional behaviour of the teachers. We also observed the development of the instruction by the teacher. There was a very significant increase in the total time spent on individual instruction, there was significantly more explanation and evaluation and the opportunity given for self-evaluation, and there were significantly many more questions put to the pupil.

Discussion

In the chapter concerning the inactive learner we explained how, based on a cognitive-motivational interpretation, the lack of attention for a task and, in general, the lack of involvement of pupils that perform poorly, can be seen as meaningful behaviour. It is plausible to suppose that the pupil involved lacks the prospect of being able to experience competence. The model we propose requires that the motivational status of the pupil be addressed—partly, we assume, as a result of the qualities of the teacher/pupil interaction. In the attunement strategy, the intended qualities are made explicit and challenged when the teacher and pupil work together. Responsivity has been defined as a core quality, which encompasses the sensitivity of the teacher to the needs of the pupils. In brief conversations, the teacher, taking the perspective of the pupil, challenges the pupil to formulate his problems, set goals for himself and consciously take control of the solution process, including the time and effort that will be needed for it. In short, the teacher challenges the pupil to act as an active pupil and supports him to do so.

The programme presented is a team-training programme that has the intention of anchoring the attunement strategy in the behavioural repertoire of the teacher. It also aims at breaking through the habitual perceptions of teachers (low expectations of pupils that cannot keep up and external attributions) and at developing responsivity as a behavioural characteristic. The programme anticipates what was seen in preliminary studies as the necessary precondition for developing responsive instruction: that teachers need support for an extended period. As is known, the most successful opportunity in this respect is offered by intimate sources of support. Therefore, the choice is made for pairs of teachers that master the strategy together. The practice or problem-solving cycle is chosen as the method. A coordinator, who also ensures that the necessary conditions are available in the school, directs the implementation activities.

The results of this study, although somewhat different in character from the preliminary studies, confirm the findings of the latter. Questions concerning the sense of intervention, the usability and effectiveness can be answered in the affirmative. The discussed programme is capable of significantly contributing to the development of the skills that teachers require to cope with inattentive, distracted and low-attaining pupils in a more responsive way. It is evident that the intended skills are more visible than prior to the introduction of the programme. The teachers involved have less difficulty with individualized instruction and the change of instruction characteristics was positively related to the change in the percentage of off-task behaviour of pupils. Based on our findings we are of the opinion that these changes can be attributed to the programme. In our view, there is a sufficiently consistent

relationship between the characteristics of the programme, the implementation processes and the measured effects. The results are modest, even for an intervention with so much appeal to teachers. This is to be expected, given the nature of the intervention (that directly impacts the 'mind-set' of the teacher), the complexity of the context (the daily practice remains the same), and the nature of the implementation (in the normally available time, without extra facilities).

Considering the value of the results, we would like to add the following. We are not as much concerned about the precise outcomes of this programme. What is essential is the finding that an explicit request to teachers to critically examine their habitual perceptions and to then work in a different manner with the pupils who fail has a chance of succeeding. Most teachers appear to be willing and capable of seeing themselves as a part of the pupil's problem, and are also willing to address this. The precondition is that the teacher is both interested in the problem and in an alternative approach to solving it. In this case, the teacher must be interested in the concept of responsive instruction, supported by the attunement strategy and in the programme itself. It does not seem to be difficult to evoke this interest, as has been shown. In our opinion, taking everything into account, we can be optimistic with respect to the potential of the concept and strategy and also with respect to the potential for change within teachers.

Finally, we want to briefly address the methodology of the evaluation study. Because of the difficulty of isolating the intervention as an experimental variable and because of the unstable implementation context, no use is made of a control group. For this reason the question of whether the study can be reproduced is becoming important. We are of the opinion that the study can be replicated relatively easily: the implementation process was executed according to plan, it is well documented (see also Stevens, Van Werkhoven & Castelijns, 2001) and can be carried out without difficulty in other situations.

The principle of responsive instruction, as explained here and tested by means of the attunement strategy, anticipates a different relationship between pupil and teacher. It has an active, self-regulating and self-reliant pupil in perspective, actively co-designing the programme and co-directing the teaching/learning process. It has, in perspective, a teacher who mediates the learning processes of pupils, being informed by the pupil about their needs. Their working relationship is based on dialogue. They try to understand each other as well as possible with the objective of doing what appears to be necessary at that moment in the curricular context. This perspective is in line with the constructivist concept of learning and teaching. In this psychology of learning concept—now generally accepted—the teaching process and educational yield are summarized as 'to be constructed' by the proactive educational actors, i.e. teacher and pupil.

This perspective does not relate well to the need to predict the progress of the teaching/learning processes and, based on this, to design detailed textbooks and detailed time schedules in advance for teachers and pupils. The individual learning process of pupils cannot be predicted, nor can it be run according to plan. Education cannot be standardized, in the same way as standard educational results cannot be prescribed. Something that can be done, and which is the professional obligation of a teacher, is to create the circumstances that aim to do full justice to the development potential of pupils.

The tension between the two perspectives mentioned above (one 'closed', the other 'open') is also expressed in the education policy of many, mainly Western, countries. On the one hand, there is a clear tendency towards striving for an increase in the success rate of education, for so called effective schools. The findings of the school effectiveness research enhances this aim. In this respect, standards are to an increasing degree formulated for good practice, giving rise to detailed regulations. On the other hand, support is expressed for the aim of inclusion, meaning that there is a place in school for every pupil and that, in principle, pupils are not segregated. These two perspectives in educational policy (aiming for effectiveness and adaptiveness) do not relate easily to each other. The reverse side of the challenging objective to become an effective school is its instrumental or technological conception of development of the quality of education and the tendency towards a top-down approach (including the resulting palliative or self-protective reactions of schools and teachers). Both objectives include, in our opinion, a potential disregard of the human condition in education (recognizable in the processes of human development and learning and in the transactional character of upbringing and education), with the danger of a growing distance between the

aims of national policy and the daily practice of education. The inclusion or adaptation principle places less emphasis on the curriculum and its effective execution, than on the potential of the individual pupil, on what is possible, but still not known, and on dealing with individual differences between pupils. Development and learning show promise for the pupil, and the task for both pupil and teacher is to do what can be done. But what is able to be accomplished, must be accomplished. We see in this the true challenge for education. Moreover, such a proposition can contain an adequate approach for addressing the fear, but also the reality, of underachievement in schools.

Although many teachers consider the differences between the two perspectives to be insurmountable (also prompted by the increasing level of government control of educational results) they are not mutually exclusive. Nevertheless, in our opinion a fundamental choice is to be made. We have expressed the latter, without excluding the effectivity criterion, in the following words: 'Don't do what must be done, but do what can be done; however, what can be done must be done.' Therefore, not a controlled execution of a standard curriculum, but first and foremost challenging and supporting what children can do. This means that the curriculum must anticipate the large diversity of development possibilities displayed by children. But what children then appear to be capable of must also be aimed for in an efficient manner.

In the title of this section we suggested a choice between the notions, 'school improvement' and 'school reform'. If we move the focus in education away from the curriculum and towards the pupil, will this mean a process of improvement or a process of (relatively radical) change for current educational practice? We suspect the latter. 'School improvement' aims at the development of quality without substantially affecting the current standards. It is mainly intended to improve the functional operation of processes and procedures to achieve a better result. The shift from the focus on the curriculum to the pupil however, implies taking another view of children and of the manner in which they develop and learn, with rather substantial consequences for the execution of the curriculum in the sense of the diversity principle. Against this background we prefer to use the notion of a necessary reform of the school.

The attunement strategy tries to contribute to this shift of focus from curriculum to pupil. However, this contribution remains limited in the sense that it remains anchored in the classroom situation. The question is to what degree can the concept of responsive instruction and its 'carrier' the attunement strategy, or more generally the concept of 'responsiveness' and 'posing the correct questions' as a strategy, be generalized at the school level.

Generalizing the concept of responsive instruction and the attunement strategy

The meaning of the concept 'responsive instruction' and the attunement strategy is not restricted to the task situation in the classroom, but extends further— as we suggested. Responsivity is a general quality of interactions between people, and the attunement strategy points to a way of developing this quality. We therefore see the demand for responsivity as a quality of life in school. Formulated in terms of our cognitive-motivational model, the question is whether the school as a community of teachers and pupils and as an organization sufficiently fulfils the basic motivational needs of teachers and pupils (relationship, competence and autonomy). In the school, as we know it in traditional education, this does not seem to be the case—with inactive learners and tired teachers as the result.

There is sufficient empirical support for the assumption that a considerable part of the explanation of motivational and behavioural problems in school and, with it, a considerable loss of benefit, can be found in the mismatch between the current school ethos with its convictions, values, norms and rules on the one hand and the necessary motivational conditions for development and learning on the other. This results in the situation where pupils do not get the opportunity to learn to regulate themselves, where teachers attribute the problems that predictably arise to external factors, and where the measures taken are hardly ever appropriate or effective. For the same reasons, there is embarrassment in the relationship between pupils and teachers and there is no prospect of improving the relationship. In short, the pedagogic regime disregards the characteristics of human development and learning.

That well-founded assumption leads to the need for reconceptualizing education, as accepted in Western countries, as organization and as process in the sense of the human condition, i.e. in the sense of the meanings that are attributed by pupils and teachers to their school and their education. These meanings can be seen as being represented by the concept *school ethos*, which refers to the ethical motivation or spirit that is present in a school.

A 'new' school

In a project called 'School ethos', we have recently been trying to initiate the development of a 'new' school. Very diverse schools are participating in this project: schools for primary education, special education and secondary education. Essential for a 'new' school is a different view of teachers towards pupils and vice versa, with the most important consequence being a *shared* and not a *divided* responsibility. The school and education are not owned by teachers who must try and motivate pupils to join in. In this exhausting situation, teachers do not receive much response from pupils. With the 'new' school, it is intended that pupils motivate teachers to provide them with a learning environment whereby they are actively interacting with them. Teachers receive a response from the pupils, which will acknowledge their professionalism.

In such a school, pupils will be given the opportunity to show what they can do (competence), to comprehend that you learn things with others, challenged and supported by peers and teachers (relationship), and to experience that you can also do it yourself (autonomy). These pupils, already at an early stage, have the opportunity to get to know themselves as actors in their own development and as being responsible themselves. This allows them not only to orient themselves to others as a source of help, but also to view others as 'helpable'. Thus, several of the conditions required for developing self-regulation and a strong but realistic self-concept are satisfied, insofar as the school can make a contribution.

In such a school, the teachers are challenged by the pupils as active learners to orient themselves (listen) to the cognitive-motivational status of the pupil within the curricular framework, to initiate learning processes, to let pupils regulate and be responsible themselves, and to present themselves as 'investigator' (instead of 'knower'). Teachers become typical mediators of development and learning. They consider it their task to help pupils help themselves. Through the interactive dialogic character of the work in the 'new' school, the teacher will know that he is in relationship with his pupils and will be acknowledged as necessary (competence). This will make major demands on his autonomy, because the processes that he mediates will be unpredictable.

At the school level, these developments mean a substantial contribution from the pupils towards the responsibility for the functioning of the school as a pedagogic, social and moral community. Such a school offers opportunities for attachment to pupils and their teachers. This is known to be one of the most powerful protective factors in the development of people.

The following strategic principles, in part derived from the existing literature concerning innovation in education, are used as a guide when trying to determine how to develop a school in the intended direction:

- a strong preference for stimulating developments from the bottom up(changes should, wherever possible, be initiated and directed by teachers and pupils);
- changes arise, wherever possible, from the experiences of the parties involved; pupils and teachers are seen to be the investigators of their own situation;
- a clear and practical focus is always chosen as the starting point for desired developments (the latter will be, in many cases, a practical problem that is experienced by all, although possibly perceived differently);
- concrete agreements concerning how pupils and teachers will be supported (also instrumentally) in the developments they choose, and the manner in which evaluation will take place;
- the consultation structure provided is such that the experiences gained at the primary level of the class or group can be raised to the school level for joint critical reflection on the development of the school ethos.

There are few examples of school development where pupils fulfil an essential role. The literature on school innovation generally assumes school improvement that is achieved by teachers. In the 'School ethos' project, this lack of experience is overcome by interviewing the pupils in addition to the teachers, and in principle asking the same questions. There are three main questions: ambitions; experienced competencies; and what is hindering the realization of ambitions and competencies.

The results of the interviews concur to a large extent with what is stated in the interview literature. Both teachers and pupils gave extensive responses. The teachers describe themselves with a reasonably ideal-characteristic image of engagement. They consider themselves to be the pivotal area of education and the school, demonstrate a high degree of responsibility and have the profound conviction that they must guide the pupils. The hesitation to leave responsibility to pupils is even more profound. However, this self-image is fragile, it can easily be disturbed by the inappropriate behaviour of pupils and external influences, and also because the teacher's self-image and work are strongly determined by personal value judgements. What is striking is the great amount of time and energy that teachers (have to) put into their work, with hardly any time for reflection. Moreover, there is the almost unanimous desire to consult each other more about their own work and to learn from each other—but the disappointing experience is that they do not get around to doing so. It is a lonely job, being a teacher.

The pupils (of all ages) are informative and fair, but extremely critical. Their criticism almost always concerns the lack of autonomy they experience in their educational process. Their explanations are plausible because of the wide range of documentation that pupils appear to be able to offer. Even at a very young age (6-7 years) they indicate how difficult it is to follow the uniform approach employed by teachers for all pupils and being unable to ask for the correct help at the right moment. They appear to be able to give the interviewer detailed information

concerning the risks of homogenous group education and the origin of order problems, but they also appear to be able to make defendable proposals for the prevention of learning and behavioural problems. What is striking is that pupils generally and completely dislike embarrassing situations, situations in which they do not understand something. It is also striking how little use the teachers make of the knowledge of pupils. In short, pupils, whether young or old, demonstrate a high degree of awareness of their situation and they are very willing to co-develop the situation in order to understand what is going on and to be able to keep up to date, but the teachers do not see them as partners. What we suspected previously is actually the case, the more one interviews pupils: pupils are extremely valuable sources of information for teachers, they are willing to function as such, but get little or no opportunity to do so.

The project has the ambition of breaking through the (unintended) embarrassing situation as sketched out by teachers and pupils. This implies the need to search for ways to mediate between the images that teachers have about pupils and visa versa. Two approaches are taken. The first is discussion (in this case resulting from the interviews), and the second is the execution of concrete agreements in the class and in the school that are intended to give pupils the opportunity to take the initiative and to control themselves and to bear responsibility in the classroom and school. Preferably fellow teachers who are trusted by both pupils and teachers act as mediators, but also external teachers and the interviewers themselves can act as mediators. The first results show the importance of an individualized approach to teachers. Teachers are generally seen to be (but are not in the least) a homogenous group of professionals. Furthermore, concepts and arguments do little to convince teachers. They need the concrete experience that things can be done differently. The only ones that can provide this experience are the pupils themselves. Our forthcoming report on the project will be featured in the international professional literature.

Final remarks

There is considerable knowledge available about (the development of) teaching and learning and there is a lively discussion in the professional literature concerning which learning environments would be most suitable. In this discussion, the emphasis is generally placed on the development of suitable instruction, suitable teaching aids, a suitable organization in the class and in the school, the monitoring and managing of the supervisory processes and on the outcome evaluation of the process and results. Attention is mainly given to the instrumentation or the equipping of the teacher and the school. The actors themselves, the teachers and the pupils, and their motivation to engage to a greater or lesser degree, receive relatively little attention. Nevertheless, they are actually the most important mediators of the success or the lack of it. This study addressed precisely those issues: the basic motives of teacher and pupil; their forms of expression; and the question of influencing them in such a manner that there is a mutual understanding between teacher and pupil. This inter-action of teacher and pupil is not in the sense of their roles and functions, but as people, that is to say, at the level of subjective experience. In this context, for the teacher the predominant question is: what meaning does this educational situation have for this pupil? Is this meaning challenging or, on the contrary, demoralizing in the sense that the basic motivational needs of people (relationship, competence and autonomy)? Furthermore, does the pupil feel supported or, on the contrary, left alone? The teacher can pose himself the same question. The motivational needs are no different.

The importance of this 'mutual understanding' for work in the school and the similarity of the wishes and needs of teachers and pupils are shown when they are asked what disturbs them most in daily practice. Pupils appear to detest two things: not understanding something during the lesson and the 'fuss' (disruptions of peace and order) in the classroom and in the school. These are precisely the two issues that teachers are also fearful of and which also give reason to criticize pupils. The criticism that pupils have of teachers is the same: that they are not understood if they don't understand something and that teachers do too little about the 'fuss'. It appears that both think that they are not treated seriously enough—a paradoxical result that clearly points to the necessity of developing a better understanding of each other's experiences. Especially in education, it is important that people understand each other, that people are mutually accessible. It is well known that this development process and learning stagnate when adults and children cannot 'relate' to each. The possible results have been widely documented in the literature.

In education it is not a matter-of-course that people understand each other at the level of subjective experience. This has been confirmed by the teachers in our present study. Although the concept of 'responsive instruction' (instruction that suits the actual needs of the pupil) has much appeal to teachers, it takes them more than a little effort to address pupils at the level of subjective experience and to continue to do so. It appears to be a different type of communication than teachers and pupils are used to in the school. You could also say that people have got out of the habit of 'normal' conversation. Nevertheless, both actors have a desperate need for this and appear to be able to help each other.

The teacher who shows the pupil that he is interested in the motives and emotions of the pupil (in our case, using the attunement strategy) can, in general, rely on a positive confirming reaction from the pupil. With it the teacher can feel supported in his initiative. The pupil appears to be an effective mediator for the development that the teacher must experience. It is the pupil, who 'awakens' to be an active participant in the educational process, who 'awakens' the teacher as a partner of the pupil, as someone other than a person who gives instruction, judges and regulates. In this way the curriculum, or the subject matter and the accompanying instruction, can bear fruit in the context of sensible human interaction—interaction in which the participants are seen to be, and participate as, full partners. In this context, in which the pupil is active and participates with the teacher in education in accordance with his potential, the pupil is offered the opportunity to also feel responsible. This is the most important result of what we have in mind with the attunement strategy: that the pupil can start to feel responsible for development and learning, because he is placed in a position to get to know himself as a successful actor. It is in this direction that, in our opinion, education must develop, if it wants to successfully mediate in the development of self-reliant and self-responsible future citizens.

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