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Inclusive education in the Netherlands

Characteristics and effects

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Chapter 5

The effects of inclusive education on the school careers of students in secondary education

This chapter is submitted for publication:

Van der Bij, T., Ten Dam, G. T. M., Boei, F., & Geijsel, F. P. (submitted). The effects of inclusive education on the school careers of students in secondary education. Small adjustments were made to the form in which this chapter was submitted.

Abstract

Inclusive education has a long history, but relatively little research has been done on how it affects the school careers of students in secondary education. A lack of consistency in policy concerned with inclusive education and variability in how such policy is put into practice impede studying its effectiveness. With the aid of a model for inclusive education based upon data from the self-evaluations of 1792 school professionals coming from 59 secondary education schools in the Netherlands, the extent of the influence of inclusive education on the school careers of students was evaluated. Schools characterized as having inclusive guidance and support for students with special needs contributed to a significant extent to a successful school career. Students in schools with an inclusive learning environment *in combination with an inclusive care structure* nevertheless repeat a year less often. No effects were found for the further educational progress of students.

The effects of inclusive education on the school careers of students in secondary education

The perspective of inclusive education

Inclusive education has been on the educational agendas of many countries for quite some time now. Internationally, the first steps were taken for the establishment of inclusive education with the signing of the Salamanca Statement in 1994 (UNESCO, 1994). The conference giving rise to this statement was a follow-up on the World Conference on Education for All (UNESCO, 1990) in which the right to education was identified as a key human right. In 1994, 92 countries and 25 organizations signed the Salamanca Statement confirming the right of students with *special* needs to also receive an education. In 2006, this statement was sharpened further with the establishment of the UN Convention on the Rights of Persons with (UN, 2006). Article 24 of this convention ensures the right of persons with disabilities, students with special educational needs included, to education.

These measures have influenced the educational policies of countries over the past decades. And in these policies, a shift has taken place from the guidance of students with special educational needs in special schools to the guidance of students with special educational needs in regular schools (Hansen, 2012; Tomlinson, 2015). This shift has been broadly endorsed, but actual implementation into schools has been slow due in part to the complexity of the matter (Ainscow & Cèsar, 2006; Hardy & Woodcock, 2015; Ledoux, 2016; Lindsay, 2007; Pranger & Sontag, 2009). In the Netherlands, the integration of students with special needs into regular education formally only occurred in 2014 under the Educational Fit Act [passend onderwijs; in Dutch] (zie Staatsblad, 2012). As a consequence of this, a transition is taking place in primary, secondary and upper secondary education towards not only integration of students with *special educational needs* into regular education but also increased attention to and acceptance of *differences* in the educational needs of *all* students. The implementation of inclusive education has thus become a part of school development in general. More than was previously the case, thus, school administrators and teachers, in particular, must be able to recognize differences in the educational and developmental needs of students and to differentiate these (Tomlinson, 2015; UNESCO, 2009). Given that inclusive education requires teachers to customize their teaching to individual needs, the guidance skills of teachers are called upon to a greater extent than was previously the case (Ainscow & Cèsar, 2006; OECD, 2015).

To support teachers in their efforts of customize their instruction, increased attention is being paid in Dutch secondary education to student monitoring and support. By this is meant “a coherent whole of activities and services for the systematic guidance

of students during their school careers and on the basis of their educational needs” (Hoffmans, 2012, p. 4). The required activities and services for the monitoring and support of students are identified by the educational professionals, the teachers themselves and experts specifically appointed to do this within the schools. In such a manner, schools now have access to a team in which a special educator and/or a school psychologist is working to meet the extra support needs of students in conjunction with the guidance already being provided by mentors and teachers. Viewed from such a perspective, it can be seen that the aim of such efforts is to realize an inclusive school culture in which the guidance of *all* students is better attuned to their educational needs (cf. Lamote, Speybroeck, Van den Noortgate, & Van Damme, 2013; OECD, 2012a).

The research presented in this chapter is aimed at gaining greater insight into the effectiveness of the school as an environment in which adequate support and care are provided for students with differing educational needs. The question is put forward to which extent regular education can meet the differences between students by inclusive education: with central characteristics concerning inclusive learning environment, inclusive guidance by teachers and the establishment of an inclusive care structure. More specifically, the question stands central to what extent school characteristics of inclusive education ensure successful school careers for both students with and without special educational needs.

Effectiveness of inclusive education in the school

To date, we have little insight into the effectiveness of measures taken at the level of the school to promote inclusive education (also see Ledoux, 2016; Pranger & Sontag, 2009). In models of school effectiveness, the following factors are typically taken into account: context, input, process and output factors (Scheerens, 2000; see also Watkins & Ebersold, 2016). *Context factors* pertain to the environment, such as the neighbourhood in which the school is located. *Input factors* pertain to student, parent and teacher characteristics and the school facilities. *Process factors* pertain to the interventions conducted by the school at the levels of the school and class to obtain the desired output, such as the organization of the guidance of students (school level) and the instructional approaches of the teachers (class level). These factors are influenced most, of course, by the school itself. *Output factors* pertain to the results attained by the students at the levels of the school and individual. These factors mostly concern cognitive outcomes in school effectiveness studies but may also concern the school careers of students including dropout (Dynarski et al., 2008; Lamote et al., 2013) and repetition of a year (IBO, 2015; Meijnen, 2013; Van Vuuren & Van de Wiel, 2015). In the Dutch education system, schools for preparatory vocational secondary education (VMBO, 12-16 years) offer four tracks of education which differ according to the level of cognitive ability required: 1) the basic vocational track, 2) the advanced vocational track,

3) the both theoretical and vocational track and 4) the theoretical track. These tracks are in addition to the two general secondary education tracks preparing students for university. In Dutch secondary education, which entails selection on the basis of cognitive capacity and educational profiles connected to a specific level of education. For example, the basic vocational track is the 'lowest' level, the theoretical track is the 'highest' level in preparatory secondary vocational education. The shifting of educational level plays an important role in the assessment of school effectiveness (Korpershoek et al., 2016). This is referred to as 'qualification failure' when a student must repeat a year or switch to a lower level of education (Reezigt, Swanborn, & Vreeburg, 2013). The question that can be asked then is: What — for example — is the relation between the educational position of students in the third year of secondary school and the recommendation for educational level provided at the end of primary school? Is the position higher than the recommendation made before, then an upward shift has occurred; is the position lower, then a downward shift has occurred.

The basic assumption underlying the model for effectiveness (Scheerens, 2000), adopted for purposes of the present research, is that context, input and process factors jointly affect output. In connection with considerations of parsimony, careful selection of the factors for inclusion in the comprehensive model is also of utmost importance (see Figure 1).

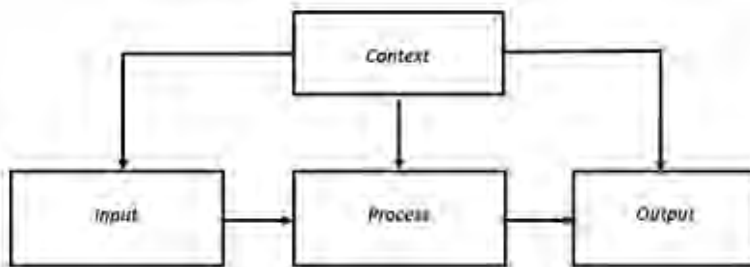


Figure 1. *Basic model for school effectiveness (Scheerens, 2000)*

Erten and Savage (2012) plea for the connection of research on inclusive education with research on school effectiveness when examining the effects of inclusive education. For this purpose, they argue, it is important that the essential characteristics of inclusive education be operationalized in terms of school effectiveness factors. In a previous study, we distilled the characteristics of inclusive education from the relevant literature (Van der Bij, et al., 2016a). On the basis of subsequent empirical research amongst education professionals in Dutch schools of secondary education, we developed a model for inclusive education. The model includes the following aspects of inclusive education.

- Inclusive learning environment: a stimulating but safe learning environment in which possibilities for students to participate exist as well.

- Inclusive guidance: the guidance of a mentor or specially appointed teacher along with adapted instruction and guidance in the class.
- Inclusive monitoring and care structure: the arrangement of the support for students within the school in addition to cooperation and coordination with organizations outside the school.

These identified characteristics of inclusive education largely subsume process factors which have already been shown to be effective in education research. Examples are having high expectations for students and their achievement, positive feedback from teachers, clear learning goals, allowing sufficient time to study, a secure and orderly learning environment, student participation in lessons and attention to the self-regulation and metacognitive skills of students (see Van der Bij, et al., 2016a; cf. Scheerens, 2000). Other characteristics such as cooperative learning, effective instructional methods, regular feedback and formative assessment have been shown to promote the learning of all students, both with and without special educational needs (Ainscow, et al., 2012; Meijer, 2004; Scheerens, Luyten, Steen, & Luyten-de Thouars, 2007). Moreover, also in an inclusive school the instruction and support takes place in such a form that all students — irrespective of their special educational needs — have equal access to support (Booth & Ainscow, 2011; Graham & Harwood, 2011). Students with special educational needs (and their parents) therefore feel supported and taken seriously as a result of such support and care (De Boer, et al., 2010; Rytivaara & Vehkakoski, 2015).

To evaluate the effectiveness of inclusive education, it is important that both process output factors be taken into consideration. In the research conducted on inclusive education to date, the focus has been on output factors and, in particular, the experiences of students with special educational needs in addition to achievement outcomes (Ellinger & Stein, 2012; Farrell, Dyson, Polat, Hutcheson, & Gallannaugh, 2007; Gasser, Malti, & Buholzer, 2013; Sermier Dessemontet, Bless, & Morin, 2012). The previously mentioned complexity but also the diversity of the education population makes it difficult to interpret these marginal research results (also see Lindsay, 2007; Erten & Savage, 2012; Watkins & Ebersold, 2016). In general, marginal effects are reported.

The starting point for the present research was that the process characteristics of inclusive education can be expected to positively affect the school careers of *all* students (Lamote et al., 2013; OECD, 2012). The central question in the present research was therefore: *To what extent do school characteristics of inclusive education ensure successful school careers for both students with and without special educational needs?* The expectation is that the school careers of students in a given school will be more successful to the extent that the school is characterized as inclusive.

Method

Study sample

Data was used in the present study from students participating in the school self-evaluation project entitled 'Quality of student care in preparatory vocational secondary education and practical education' [Kwaliteit van Leerlingenzorg in VMBO en Praktijkonderwijs] (Van der Bij, et al., 2016b). The data was collected in the academic year 2005/06 (N=59 schools) and the academic year 2006/07 (N=20 schools). In addition to the school self-evaluation data concerned with the quality of student care, data on the school careers of the students was also available for 59 of the 79 schools. The 59 schools included in the present study involved 31 preparatory vocational secondary education schools and 28 broad schools offering the full range of secondary education (preparatory vocational to preparatory university). The participating schools were representative of the range of schools in the Netherlands with regard to geographic distribution and size.

A total of 1792 school professionals (teachers, school administrators, care coordinators, student supervisors and special educators affiliated with the schools) completed the digital questionnaire entitled 'Self-evaluation instrument Student Care' (SSC) (Van der Bij et al., 2016b). In smaller schools (< 500 students), all of the education personnel were asked to complete the questionnaire. In the larger schools (> 500 students), respondents were selected in such a manner that both the lower and upper levels of secondary school were represented in addition to all subject areas. In Table 1, an overview of the study population is presented.

Table 1. *Overview of study population*

Type of school	Number of schools	Number of respondents	Range for number of respondents per school	Mean number of respondents per school
Preparatory secondary vocational education *	31	836	4 - 103	27
Preparatory secondary vocational and general secondary education**	28	956	6 - 109	34
Total	59	1792	4 - 109	30

* *These schools offer four preparatory vocational secondary education tracks requiring differing levels of cognitive skill for students generally 12-16 years of age.*

***These schools offer all secondary education tracks requiring differing cognitive levels for students generally 12-18 years of age; tracks can range from basic vocational to pre-university (i.e., university preparatory).*

Measures

Independent variables

The Self-evaluation Instrument Student Care (SSC) contains 59 items to be evaluated along a four-point Likert scale which also includes 'I don't know' as a response option. The items encompass 12 scales concerned with the inclusiveness of the learning environment, guidance provided by teachers and school care structure (see Appendix A for sample items and scale information).

- Inclusive Learning Environment (IL) with the following subscales:
 - stimulating learning environment;
 - secure learning environment;
 - participatory learning environment.
- Inclusive Guidance (IG) with the following subscales:
 - guidance of mentor or regularly assigned teacher;
 - individual guidance in lessons;
 - customized programme.
- Inclusive Care Structure (IS) with the following subscales:
 - individual education plan;
 - involvement of parents/caregivers;
 - functioning of the care coordinator;

- functioning of the care team;
- interagency collaboration;
- harmonisation of internal and external care.

In order to be able to draw conclusions at the level of the school, the scale means were calculated on the basis of the scores per item for all of the relevant education professionals. The reliability of the scale scores for the different schools was then calculated (see Table 2).

Table 2. *Reliability of the scales for the central characteristics of inclusive education in schools*

	Number of items	Cronbach's α	Mean
Inclusive Learning Environment (IL)	14	.87	2.93
Inclusive Guidance (IG)	17	.85	2.80
Inclusive Care Structure (IS)	28	.93	2.90

Dependent variables

School career was operationalized within the present study using four variables: dropout, repetition of a year, positive difference, negative difference. Each is described separately.

Dropout (DR): the percentage of students dropping out of school or not enrolling for further study after completion of secondary school. Dropout data was obtained, from the Dutch 'Attacking School Dropout' project information for the period 2005-2010. Figures were available at the level of the school and supplied as absolute frequencies. For use in the present study, the averages across the years were calculated and subsequently converted in percentages. In such a manner, a single indicator was attained per school for the percentage of students dropping out.

Repetition of a year (REP): the percentage of students having to repeat one or more years at a school up to and including the third year of secondary school. The data on repetition of a year (REP) was obtained from the Data Archiving and Networked Services (DANS) governed by the Netherlands Organization for Scientific Research (NWO). In order to compare schools, the absolute frequencies were transformed into percentages of the total population in the third year of secondary education at the relevant school.

The data on positive or negative difference in level of education being followed in the third year of secondary school was also obtained from DANS. For the construction of the

variables positive and negative difference variables, the following levels of education need to be distinguished:

- Track 1: the basic vocational track [in Dutch: VMBO-basis];
- Track 2: the advanced vocational track [in Dutch: VMBO-kader];
- Track 3: the blended theoretical-vocation track [in Dutch: VMBO-gemengde leerweg]
- Track 4: the theoretical track [in Dutch: VMBO-theoretische leerweg];
- Track 5: the university of applied sciences preparatory track [in Dutch: HAVO];
- Track 6: the research university preparatory track [in Dutch: VWO].

In the DANS data base, the data for students and schools in track 3 and 4 are combined. The curriculum of these groups is mostly similar, with exception of one subject, and in practice these students are often grouped in the same classes.

Positive difference (PD): the percentage of students following a higher level of education (higher track) in the third year of secondary school than recommended at the end of primary school or, in other words, a positive difference between the educational recommendation at the end of primary school and the third year of secondary school. Given the tracks as listed above, the following categories of positive difference were distinguished:

- PD₂: progression from basic vocational track to the advanced vocational track;
- PD₃₋₄: progression of advanced vocational tracks to the tracks with a more theoretical curriculum;
- PD₅: progression to university of applied sciences preparatory track;
- PD₆: progression to research university preparatory track;

Negative difference (ND): the percentage of students following lower level of education (lower track) in the third year of secondary school than recommended at the end of primary school or, in other words, a negative difference between the educational recommendation at the end of primary school and the third year of secondary school. Given the tracks as listed above, the following categories of positive difference were distinguished:

- ND₁: decline of the advanced vocational track to basic vocational track;
- ND₂: decline of theoretical-vocational tracks to the advanced vocational track;
- ND₃₋₄: decline of the university of applied sciences and research university preparatory track to the two tracks with a more theoretical curriculum;
- ND₅: decline to university of applied sciences preparatory track.

In order to compare schools, the absolute frequencies of positive and negative difference were transformed into percentages of the total population in the third year of secondary education at the relevant school. The sum scores were then calculated on the basis of the PD/ND scores for the different academic years (student cohorts). It should be noted that the original school recommendation for some students could be a

double recommendation (e.g., a student is recommended for either the highest level of preparatory vocational education or the level of university of applied sciences preparation). If the relevant student was in the higher (or lower) level of education during the third year of secondary school, one could still speak of a positive (or negative) difference in the level of education being pursued although less clear cut than for other students. For this reason, it was decided to assign per school for the percentages of students with a double recommendation after primary school a weighting of 1 and those with an unambiguous school recommendation a weighting of 2. These scores were then transformed to Z-scores in the end.

In order to determine if the variables we constructed accurately represent the school careers of the students, it was checked if the correlations between the output variables dropout (DR), repetition of a year (REP), positive difference (PD) and negative difference (ND), were positive. The observed associations were found to be generally high, positive and significant, as can be seen in Appendix B.

Background variables

In the present research, use was made of three student background variables to evaluate the effects of inclusive education on the school careers of students.

- *Problem region* [in Dutch: APCG or Armoede Probleem Cumulatie Gebied] is the percentage of students at the level of the school coming from a so-called *poverty problem-accumulation area*. This variable indicates the home environment of the students; comparable to socio-economic status (SES).
- *Supported learning* [in Dutch: LWOO or Leerweg Ondersteunende Onderwijs] is the percentage of students qualifying for official learning support in the period of 2007-2013. These are students with a preparatory vocational secondary education recommendation but delays in the areas of language and/or maths or possibly social-emotional problems and therefore receiving funding for extra guidance after meeting the national criteria. Note that no students with officially funded supported learning are found in tracks/levels 5 and 6 of secondary school.
- *School type* makes a distinction between two core categories of schools: a strictly preparatory vocational secondary education school [in Dutch: categoriaal VMBO] versus a broad secondary education school offering preparatory vocational secondary education in addition to two general tracks (track 5 and 6) preparing students for university [in Dutch: brede scholengemeenschap].

Given that the background data was gathered from different sources, use was made of a unique identification code for each school (so-called BRIN number). In such a manner, a file was created with all of the necessary data at the level of the school in it (N=59 schools).

Analyses

On the basis of the variables operationalized above, a research model was constructed to help us test for some specific effects of inclusiveness on student school careers (see Figure 2).

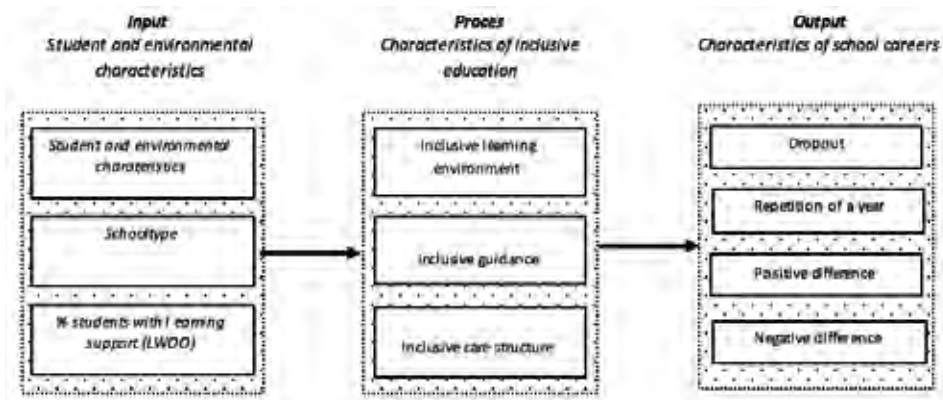


Figure 2. Variable model for the effectiveness of inclusive education in schools on secondary school careers of students

It was hypothesized that:

- the extent to which the schools can be characterized as having an inclusive learning environment, inclusive guidance and an inclusive care structure will contribute to less dropout, less repetition of an academic year, more positive differences with respect to the original level of secondary education recommendation and fewer negative differences with respect to the original level of secondary education recommendation;
- the characteristics of inclusiveness will be developed to a greater extent in schools with a relatively greater percentage of students registered as having special educational needs and therefore educational policy and guidance which is more adapted to this group of students.

In order to be able to draw valid conclusions about the effects of inclusive education on the school careers of students, the measures of the inclusive nature of the learning environment, guidance provided by teachers and the care structure in the schools all took the influences of the background variables into consideration.

The data obtained as described above was analysed as follows. To start with, raw correlations (one-sided) were calculated to gain insight into the associations between the variables included in the proposed model. Thereafter, the extent to which the

background variables (problem region, supported learning and school type) effectuate the correlation between the process and output variables was investigated. For the variables of Problem region and Supported learning, semi-partial correlations were calculated using the strictest SPSS variant (i.e., method 'part'). Given the categorical nature of the variable School type, an ANOVA (T-test) was conducted to examine the possible effects of this background variable.

Results

Correlations (one-sided) were calculated between the independent variables of Inclusive Learning environment (IL), Inclusive Guidance (IG) and Inclusive Care Structure (IS) and the dependent variables of Dropout (DR), Repetition of a year (REP), Positive Difference (PD) and Negative Difference (ND) (see Table 3).

Table 3. *Correlations between independent and dependent variables (one-sided; N=59 schools)*

	IL	IG	IS	DR	REP	PD ₂	PD ₃₋₄	PD ₅	PD ₆	ND ₁	ND ₂	ND ₃₋₄	ND ₅
Inclusive Learning Environment (IL)	1	.69**	.75**	-.06	.28*	-.18	-.05	.15	.13	-.16	-.09	-.07	.18
Inclusive Guidance (IG)	.69**	1	.82**	.32**	.15	-.01	-.00	.15	.10	-.30*	-.26*	-.25*	-.17
Inclusive Care Structure (IS)	.75**	.82**	1	.10	.24*	-.18	-.14	.19	.15	-.47**	-.36**	-.30*	-.14

**Correlation is significant at .01 level (1-tailed).

*Correlation is significant at .05 level (1-tailed).

Note: ND₁: decline to basic vocational track; PD₂ ND₂: progression or decline to advanced vocational track; PD₃₋₄ ND₃₋₄: progression or decline to the two theoretical-vocational tracks; PD₅ ND₅: progression or decline to university of applied sciences preparatory track; PD₆: progression to research university preparatory track.

From the rough correlations, it could be seen that the inclusive learning environment (IL), inclusive guidance (IG) and inclusive care structure, (IS) have a lot on common, which is comparable to the results of previous research (Van der Bij, et al., 2016a). The correlations between these variables were all high and significant ($p < .01$): the shared variance between inclusive learning environment and inclusive guidance was 47% ($r = .69$); that between inclusive learning environment and inclusive care structure was 56% ($r = .75$); and that between inclusive guidance and inclusive care structure was 67% ($r = .82$).

School dropout

Striking was the moderate but significant positive correlation between inclusive guidance (IG) and dropout (DR) ($r = .32$, $p < .01$). A higher score for school dropout thus appeared to be associated with a higher score for inclusive guidance in the school.

Repetition of a year

Inclusive learning environment (IL) and inclusive care structure (IS) had only marginal effects on repetition of a year (REP). The correlations between an inclusive learning environment and inclusive care structure, on the one hand, and repetition of a year, on the other hand, were both significant ($p < .05$) but low ($r = .28$ and $.24$). The inclusive learning environment and inclusive care structure explained 8% and 6%, respectively, of the variance in repetition of a year. In schools where the education personnel judged the inclusive learning environment and inclusive care structure to be relatively greater, the need to repeat one or more of the first three years of secondary school was thus relatively lower. No significant association was found between inclusive guidance and repeating of a year.

Positive and negative differences from original level of school recommendation

No significant associations were found between inclusive learning environment, inclusive guidance and inclusive care structure, on the one hand, and positive differences from the original level of education recommended in preparatory vocational secondary education (PD₂, PD₃₋₄, PD₅, PD₆) on the other hand.

Regarding negative difference, the correlations between inclusive guidance (IG) and the negative difference from the original level of education being recommended were minimal but significant for variables ND₁, ND₂, ND₃₋₄ ($-.30$, $-.26$ and $-.25$; $p < .05$). Also, the associations with inclusive care structure (IS) were moderate but significant for variables ND₁, ND₂, ND₃₋₄ ($-.47$ with $p < .01$, $-.36$ with $p < .01$ and $-.30$ with $p < .05$, respectively). Those schools with education personnel judging the inclusive guidance and inclusive care structure to be higher thus showed fewer negative differences from the original level of education recommended for the students in the school. The inclusive care structure of the school explained the most variance in the preparatory vocational secondary education level of education being followed. For the negative difference concerning decline to the basic vocational track (ND₁) and the advanced vocational track (ND₂), this was 22% and 13% of the variance, respectively. For the negative difference concerning decline the theoretical-vocational tracks (ND₃₋₄), this was 9%. No significant associations were detected between inclusive learning environment (IL) and negative difference (ND₁, ND₂, ND₃₋₄, ND₅).

To summarize, an overview is presented in Figure 3 of the aforementioned significant effects (r^2) of the characteristics of inclusive education on the secondary school careers of students.

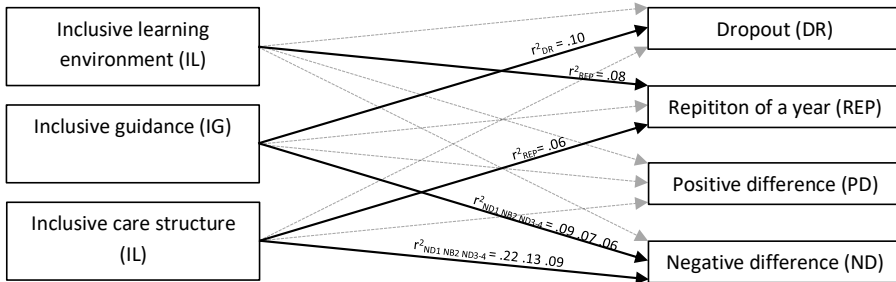


Figure 3. Overview of effects of central characteristics of inclusive education on characteristics of the secondary school careers of students (arrows in bold indicate significant associations; $p < .05$ or $p < .01$)

Note: BV = decline to basic vocational level (track 1; ND_1); AV = decline to advanced vocational level (track 2; ND_2); TV = decline to theoretical-vocational level (track 3 and 4; ND_{3-4})

Control for background variables

To supplement the analyses of the process factors (i.e., influence of characteristics of inclusive education) on the output factors in the current study (i.e., key aspects of secondary school careers and school failure/success), the potential influence of some critical background variables was next examined: percentage students coming from a poverty problem-accumulation area (i.e., problem region), percentage students registered as having adapted/special education need and type of school being attended (i.e., strictly preparatory vocational vs. broad). Semi-partial correlations were first calculated to determine the strength of the associations between the process and output variables following control for the influence of problem region (see Table 4).

Table 4. *Semi-partial correlations between central characteristics of inclusive education and key aspects of student school careers after correction for influence of problem region (N=59 schools)*

	DR	REP	PD ₂	PD ₃₋₄	PD ₅	PD ₆	ND ₁	ND ₂	ND ₃₋₄	ND ₅
Inclusive Learning Environment (IL)	.18	-.16	-.23	.02	.17	.15	.01	.10	.09	.19
Inclusive Guidance (IG)	.18	-.18	-.21	.03	.18	.13	.02	.10	.09	-.17
Inclusive Care Structure (IS)	.18	-.18	-.21	.03	.19	.15	.03	.10	.09	-.14

Note: DR: Dropout; REP: Repetition of a year; ND₁: decline to basic vocational track; PD₂ ND₂: progression or decline to advanced vocational track; PD₃₋₄ ND₃₋₄: progression or decline to the two theoretical-vocational tracks; PD₅ ND₅: progression or decline to university of applied sciences preparatory track; PD₆: progression to research university preparatory track.

The percentage of students coming from what could be characterized as a poverty problem-accumulation area of the Netherlands (i.e., problem region) did *not* change the observed associations between the characteristics of inclusive education and the characteristics of the secondary school careers of the students (i.e., school failure/success).

After control for the percentage of students registered as having supported learning (LWOO) per school, the associations between the characteristics of inclusive education and the school careers of the students were observed to change (cf. Table 5).

Table 5. *Semi-partial correlations between central characteristics of inclusive education and key aspects of student school careers after correction for percentage of students registered as having official learning support (LWOO) per school (N=59 schools)*

	DR	REP	PD ₂	PD ₃₋₄	ND ₁	ND ₂	ND ₃₋₄
Inclusive Learning Environment (IL)	.63***	.52***	-.07	.11	-.32	-.41**	-.41**
Inclusive Guidance (IG)	.51***	.56***	-.14	.08	-.25	-.37**	-.37**
Inclusive Care Structure (IS)	.59***	.53***	-.06	.14	-.13	-.33**	-.35**

** $p < .01$ *** $p < .001$

Note: 1. Students with officially funded supported are not found in tracks/levels 5 and 6 of secondary school; for this reason, there is no positive/negative difference data for these levels of education in the present figure. 2. DR: Dropout; REP: Repetition of a year; Note: ND₁: decline to basic vocational track; PD₂ ND₂: progression or decline to advanced vocational track; PD₃₋₄ ND₃₋₄: progression or decline to the two theoretical-vocational tracks.

The percentage of students with official learning support (LWOO) in a school strongly influenced the associations between the three characteristics of inclusive education (IL, IG and IS) and two of the characteristics of the secondary school careers of the students, namely dropout (DR) and repetition of a year (REP). The amount of variance explained by characteristics of inclusive education was found to range from 30% to 40% ($p < .001$). The effects of having learning support (LWOO) were less strong but nevertheless present for a negative difference at levels 2 and 3 of preparatory vocational secondary education (ND₂ and ND₃₋₄). The amount of variance explained by characteristics of inclusive education varied between 11% and 17% ($p < .01$). For the variables PD₂, PD₃₋₄ and ND₁, no effects of having special needs were visible.

Control for school type being attended

The possible influence of the type of school being attended on the associations between the characteristics of inclusive education and the student school careers was tested in an ANOVA (independent samples t-test). This test revealed significant differences between the strictly preparatory vocational secondary schools and the broad secondary schools for inclusive guidance ($p < .01$) and inclusive care structure ($p < .05$). Given the minimal differences between the means, however, the differences were difficult to interpret. On inclusive guidance, $M=2.91$ $SD = .17$ was found for strictly preparatory vocational secondary schools versus $M = 2.78$, $SD = .14$ for broad schools; on inclusive care structure, $M=2.93$ en $SD = .18$ was found for strictly preparatory vocational secondary schools versus $M = 2.82$, $SD = .16$ for broad schools.

Conclusions and discussion

Inclusive education has a long developmental history and also thus a long research history, mostly pertaining to conceptual issues. In the present research, inclusive education was evaluated from the perspective of school effectiveness research (Reynolds, Teddlie, Creemers, Scheerens, & Townsend, 2000). Up until today, little research has been conducted on the actual effectiveness of inclusive education (Erten & Savage, 2012) with and — in particular — the school careers of students in secondary school including dropout, repetition of a year and either a positive or negative shift in the level of education being followed (Meijnen, 2013). The core question in the present research therefore concerned the effects of inclusive education — inclusive learning environment, inclusive guidance and inclusive care structure — on the secondary school careers of students. In addition, the influence of a number of potentially critical background variables was examined: coming from a poverty problem accumulation area of the Netherlands (i.e., problem region), the percentage of students in the school registered as having an official adapted/special education need and the type of

secondary school being attended. The expectation was that students in schools with a relatively more inclusive education culture would show relatively less dropout and less of a need to repeat a year in addition to more positive differences and less negative differences from the original level of education recommendation.

When interpreting the present results, it should be kept in mind that inclusive education, particularly at the level of secondary education, is still being developed in the Netherlands (Ledoux, 2016). The results of the present research reflect the situation in schools following the recent introduction of the Inclusive Education Act in 2014.

On the basis of the present results, it can be concluded that schools with an inclusive learning environment, inclusive guidance and inclusive care structure contribute significantly to successful secondary school careers. The inclusive guidance and inclusive care structure in a school appear to influence school careers the most. An inclusive learning environment in the sense that a stimulating, safe environment is created in which students are given ample opportunities to participate was found to contribute least to the secondary school careers of the students in our research.

The inclusive guidance provided in the school and above all the inclusive care structure of the school exerted relatively large effects on the occurrence of a negative difference between the initial level of education recommended and the level (i.e. track) currently being followed. In particular, the strictly preparatory vocational secondary schools and the schools with a relatively large percentage of students registered as having an official learning support (LWOO) showed relatively fewer negative differences in the level of education being followed than the broad secondary schools and schools with a lower percentage of students with an official learning support (LWOO). That is, most probably, on schools with relatively high amount of students with official support for their learning problems, policy towards inclusive education might be further developed and also more supported and empowered by the school team.

The present results further show an inclusive learning environment and inclusive care structure to positively affect dropout; the more inclusive the learning environment and the better the care structure in the school, the lower the number of students dropping out. Once again, the effect is stronger in schools with a relatively large percentage of students with official learning support. It is quite likely that in schools with a relatively large percentage of students with special educational needs, the policy of the school and arrangement of the learning environment, provision of — individual when needed — guidance and care structure is carried more by the entire team than in other schools.

An inclusive learning environment, inclusive guidance and inclusive care structure did not appear to create positive differences in the level of secondary school being followed relative to the original recommendation. In other words, inclusive characteristics of the schools did not lead to students studying at a higher level of education than previously recommended. This finding is in line with the tendency for

progression to a higher level of secondary education to occur infrequently in the Netherlands (Onderwijsraad, 2014).

A surprising result is the negative association found between inclusive guidance and school dropout. To the extent that school professionals judge the inclusive guidance offered by their schools to be higher, the more *frequently* dropout is found to occur. A possible explanation for this finding is a reversed direction of causality, namely that in schools with higher dropout rates, considerable more guidance is called for the quality of guidance provided. This explanation becomes even more plausible when we consider that the data on school dropout has been averaged across *multiple* academic years.

Just as surprising is the present finding that the variable of location of the school in a problem region does not make a difference for the effects of inclusive education. In other studies, the variable problem region has been found to be of importance for particularly the school careers of students (Lamote et al., 2013; Van Rooij, Pass, & Van den Broek, 2010). It is possible, of course, that the presence of a particularly inclusive school culture neutralizes the otherwise negative effects of a problem region on the school careers of students.

The outcomes of the present study are confirmed in part by the outcomes of previous studies. Also in these studies, the inclusive learning environment and inclusive guidance of students or, in other words, the pedagogical-didactic orientations of the teachers stand out as important characteristics (Dynarski et al., 2008; Lamote et al., 2013; Wilson, Tanner-Smith, Lipsey, Steinka-Fry, & Morrison, 2011). Tailoring of instruction — a component of inclusive guidance in the present research — is mentioned in many studies as one of the most important prerequisites for handling differences between students and meeting the needs of all students (Booth & Ainscow, 2011; Reezigt et al., 2013; Waslander, 2011). Previous studies have also shown parents and students to consider inclusive guidance at the school — including adapted instruction and individual guidance in the classroom — a critical determinant of the inclusivity of schools.

The present research shows that it is possible to apply an effectiveness model to examine inclusive education with the aid of self-evaluation data from schools. The data used in the present study was available at the level of the school, which meant that analyses could only be conducted at an aggregated level and not with nested data. The outcomes of the present research show that the effectiveness of inclusive education can be made transparent with the help of the types of instruments, models and databases used here. In replication research, the observed associations and effects should be studied longitudinally. Such information together with the results of the present research can help schools with the further development and implementation of inclusive education.

Research into the effects of inclusive education policy is of equal importance as the government has given little priority to evaluation of the *effects* of its educational policy over the past decades — despite a call for more evidence-based and result-

oriented education (cf. Hardy & Woodcock, 2015; Meijnen, 2013; Waslander, 2011). Research on the ability of inclusive education to combat such important educational themes as dropout and educational failure is of great importance to give the government insight into the effects of its educational policies.

The characteristics of inclusive education used to evaluate the school careers of the students in the present research can also be used in discussions of the what and how of inclusive education and the (self-)evaluation of the quality of education being provided. In such a manner, schools can help teachers improve their daily teaching practices, meet the educational needs of their students and positively influence the school careers of all students.

Appendix A

Scales for specific characteristics of inclusive education as identified by education professionals. All scales were confirmed in a second order factor model (see Van der Bij, et al. (2016a) or Chapter 3 (with Appendix) in this dissertation).

Scale	Description of the scale	Sample item
Inclusive Learning Environment (IL)		
Stimulating learning environment	The extent to which teachers hold positive expectations for students and are able to realize a relaxed and positive learning climate.	Teachers show that they have positive expectations of students at our school.
Secure learning environment	The manner in which teachers and students deal with agreed-upon safety regulations and interaction rules.	At our school, teachers and students respect agreed social rules.
Participatory learning environment	The possibilities of students to shape the learning process, possibly together with fellow students.	Students are allowed to think along about their schoolwork at our school (choice of content, planning).
Inclusive Guidance (IG)		
Guidance by mentor or regularly assigned teacher	The role of the mentor or always the same teacher in the guidance of students.	The mentor/teacher identifies developmental needs and, if necessary, initiates diagnostic testing.
Individual guidance in lessons	The manner in which teachers observe students, take note of special educational needs and provide guidance during the lesson.	At our school, every student is regularly informed on his/her progress and development.
Customized programme	The manner in which teachers manage to realize a suitable programme for their students.	At our school, a suitable programme is made up for each group on the basis of information from the 'group education plan' recorded initial situation.

(Continuation of Appendix A)

Inclusive Care Structure (IS)		
Individual education plan	Agreement on how to proceed and communication with teachers and students with regard to required guidance.	At our school, the plan for how to proceed an action plan is formulated together with the student.
Parents as partners in guidance	The manner in which parents are involved in the guidance of their child.	The guide regularly informs parents/caretakers about the progress of a pupil’s development at our school.
Functioning of care coordinator	The tasks and roles of the care coordinator in organizing and coordinate the intern and extern support of student with special educational needs.	Our care coordinator manages the educational care team.
Functioning of educational care team	The tasks and roles of the educational support team in organizing the support of students with special educational needs.	At our school, the care team prepares the action plans together with the teachers and guides.
Interagency collaboration	Effectively organizing the consultation and support of students with the external care partners	Consultation outcomes are systematically reported back to mentors/teachers at our school.
Harmonization of internal and external care	Coordination and harmonizing the internal and external care of students with special (educational) needs.	At our school, regular feedback takes place between the external care partners and the mentor.

Appendix B

Correlations between student school career characteristics of dropout (DR), repetition of a year (REP), positive difference from educational level initially recommended (PD) and negative difference from educational level initially recommended (ND) (N=59 schools)

	DR	REP	PD ₂	PD ₃₋₄	PD ₅	PD ₆	ND ₁	ND ₂	ND ₃	ND ₅
DR										
- Drop out	1									
REP										
- Repetition of a year	.19	1								
PD ₂										
-Positive difference	.29	-.05	1							
PD ₃₋₄										
-Positive difference	.28*	-.01	.31	1						
PD ₅										
-Positive difference	-.05	-.39*	-.60**	.02	1					
PD ₆										
-Positive difference	-.10	-.37*	-.62**	.00	.99**	1				
ND ₁										
-Negative difference	-.15	-.39*	.27	.28	-.24	-.17	1			
ND ₂										
-Negative difference	-.30*	-.37**	-.07	.38*	.20	.23	.47**	1		
ND ₃										
-Negative difference	-.39**	-.38**	-.15	.24	.27	.30*	.42**	.97**	1	
ND ₄										
-Negative difference	-.26	.06	-.20	.14	.15	.24	.76**	.54**	.58**	1

* Correlation is significant at the 0.05 level (1-tailed).

** Correlation is significant at the 0.01 level (1-tailed).

Note: ND₁: decline to basic vocational track; PD₂ND₂: decline or progression to advanced vocational track; PD₃₋₄ND₃₋₄: decline or progression to theoretical-vocational track; PD₅ND₅: decline or progression to university of applied sciences preparatory track; PD₆: progression research university preparatory track.