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Schoolsucces van Friese leerlingen in het voortgezet onderwijs

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Summary

Introduction and research questions

The central question in this doctoral thesis is whether the success at school of Frisian students in secondary education differs from that of students in the rest of the Netherlands. This question is posed in response to earlier research into the school performance of students in Friesland (Verbeek, 1982; Van Ruijven, 2000, 2003, 2004, 2006; Van Langen & Hulsén, 2001). These studies show that Frisian students fall behind during the primary school period, because their progress in primary education is less successful than the national average. Further, during secondary education Frisian students appear to participate relatively less frequently in the higher types of education. However, these earlier studies on the school success of Frisian students in secondary education lack thoroughness. This led to the question how the disadvantage of Frisian students at the end of their primary education develops during their secondary education, and to what degree this possible disadvantage can be explained by differences in characteristics between Frisian students and those in the rest of the country. This question is relevant because a disadvantage in education associated with the region where the student lives, may imply that potential talent of these students is not utilised. This would be in contradiction with the meritocratic educational ideal, which is strongly advocated in the Netherlands. It means that education should be structured in such a way that the school success of students depends upon their merits (talent, achievement, effort) rather than upon their background. In an educational system which fully answers to the meritocratic ideal, students with equal talent and dedication achieve equal performance levels, whereby equal achievement and motivation lead to equal school careers in terms of efficiency (duration of the school trajectory) and results (diploma, exam grades) (Meijnen, 2004). A difference in school success related to a student's home region is therefore inconsistent with the meritocratic principle, indicating that the talent of students in the region in question is not fully addressed.

The main research question of the thesis is formulated as follows:

“Is there a difference in school success in secondary education between students in the province of Friesland and in the rest of the Netherlands, and to what degree can this difference be explained by characteristics of the students and the province?”

A first impression of the differences in school success between students in Friesland and in the rest of the Netherlands was obtained by executing a number of descriptive statistics. After this, the difference in school success was further investigated. Because differences in school success among students in secondary education can originate in various ways, the main question of this thesis has been divided into a number of sub questions. The first question relates to the secondary school recommendation. The Dutch system of secondary education is highly tracked. There are five main tracks; the lowest three tracks provide pre-vocational education, the other two provide senior general education. Only the highest track gives access to university. At the end of primary school (age 12), students are recommended by

their teacher for the secondary school track that would be the most suitable. The research question is formulated as follows:

“Is the secondary school recommendation given to students in Friesland lower than could be expected on the basis of their learning achievements? And if this is the case, to what degree is this lower recommendation in Friesland influenced by characteristics of the students and the province?”

To answer the question a multilevel analysis was performed to examine whether there is a difference in the level of recommendation, after correcting for the school results, between that given to the students in Friesland and that given in the rest of the Netherlands, as well as in the other provinces. Moreover, it was investigated whether student characteristics relate to differences in secondary school recommendation, and whether the jobs structure in the province offers an explanation for these differences.

Next, a multilevel analysis was performed to investigate the impact of under- and over-recommendation on school success in terms of the students' achieved educational position. The following questions have been answered:

“What influence does inaccurate school recommendation have on school success in the fifth year and how does this effect develop from the first year of secondary education?”

“What influence do student characteristics have on inaccurate school recommendation and on its effect on school success?”

“Is there a difference in the consequences of inaccurate school recommendation for school success between students in Friesland and in the rest of the Netherlands as well as in the other provinces?”

Inaccurate school recommendation is defined as the difference between the observed and the predicted recommendation. The predicted recommendation was estimated from a multilevel model in which recommendation was regressed on students' prior achievement, IQ and achievement motivation. To answer the first question, the effect of inaccurate recommendation on the educational position achieved during five cohort years was analysed. In this analysis also student characteristics were taken into account. By doing this, the last part of the second question could be answered. The first part of the second question was examined by analysing what effect student characteristics have on the degree of inaccurate recommendation. The third question was answered by analysing whether there is a difference in the effect of inaccurate recommendation on the educational position achieved between students in Friesland and in the rest of the Netherlands, and between students in Friesland and in the other provinces.

Next, the school success – in terms of the educational position achieved and exam grades – of students, who were recommended the highest pre-vocational track as the maximum attainable level, was investigated. The research question is the following:

“Is there a difference in school success in secondary education between students in Friesland and in the rest of the Netherlands, with as maximum a recommendation for the highest pre-vocational track? And if this is the case, to what extent can this be explained by differences in prior achievement and/or by the characteristics of the students and the province?”

Then, the following question was answered:

“Is there a difference in school success in secondary education between students in Friesland and in the rest of the Netherlands, with at least a combined recommendation for the highest pre-vocational track and senior general education? And if this is the case, to what extent can this be explained by differences in prior achievement and/or characteristics of the students and the province?”

Of the students who were recommended pre-vocational education as the maximum attainable level, the educational position up to and including the fifth cohort year was investigated by means of a multilevel analysis. In the same manner the educational position of the students, who were recommended to choose at least pre-vocational/senior general secondary education, up to and including the sixth cohort year was examined. Differences in the educational position achieved are the result of differences in demotion to a lower type of education, promotion to a higher type of education, and repeating a class. With respect to these aspects, it was analysed whether there are differences between students in Friesland and in the rest of the Netherlands.

Finally, by means of a multilevel multinomial logistic regression analysis for criterion variables with unordered categories it was examined whether there are differences in sector or profile choice between students in Friesland and in the rest of the Netherlands. The question researched is the following:

“Does the sector or profile choice of students in secondary education in Friesland deviate from that of students in the rest of the Netherlands? And if this is the case, to what degree can this be explained by differences in prior achievement and/or by characteristics of the students and the province?”

Methodology

The question whether there is a difference in school success in secondary education between students in Friesland and in the rest of the Netherlands has been answered on the basis of the information gathered from the Voortgezet Onderwijs Cohort Leerlingen 1999 (Secondary Education Cohort Students 1999), abbreviated as VOCL'99. These data were analysed by means of descriptive statistics and multilevel analysis. VOCL'99 consists of data on 19,391 students who were in the first class of secondary education in the school year 1999/2000, and who were followed during their further secondary school trajectory. Sampling took place in two stages. The students were selected by taking a sample of secondary schools. Subsequently, all first year students of these schools were included in the sample. Information on background and student characteristics was obtained in the first

school year by asking students and their parents to fill out a questionnaire. Moreover, the students had to do the Cito-entrance-test in the first year. Each school year, data on the type of education and the school year were gathered from the schools. Of the total number of students in the sample 1,135 were living in Friesland. Each multilevel analysis included the following student characteristics: socio-economic status, gender, ethnicity, achievement motivation, and parents' aspirations. The sample's representativeness was analysed separately for the students in Friesland and those in the rest of the Netherlands. The sample data were compared with population wide data. It appeared that among the students in Friesland those with lower school recommendations (and thus the students with a lower performance level) are over-represented in the sample. Among the students in the rest of the Netherlands, those with higher school recommendations are very slightly over-represented. This is why the results of the analyses of differences in school success between students in Friesland and in the rest of the Netherlands, which have not been controlled for prior achievement, are somewhat distorted. However, in answering the research questions multilevel analyses were also performed, thereby taking the students' achievement level at the start into account. In this way, a correction was made for the lower starting level of the Frisian students in the sample.

Summary of the results and conclusions

The descriptive statistics based on the population data showed that on average the school recommendation given to Frisian students at the end of primary education is somewhat lower, and that Frisian students participate somewhat less frequently in the pre-university exam than students in the rest of the Netherlands. However, the exam grades of the Frisian students did appear somewhat higher than those of students in the rest of the Netherlands. The lower school recommendation and the lower participation rate in the highest type of education indicate that the school success of Frisian students in secondary education is less favourable compared to that of students in the rest of the Netherlands. The sample data indicated that the disadvantage of the educational position of the Frisian students relative to students in the rest of the Netherlands remained constant during five cohort years.

The results of the multilevel analysis showed that there are a number of differences in the course of the school trajectory in secondary education between students in Friesland and in the rest of the Netherlands. For example, the performance level of students in Friesland is lower at the beginning of their secondary education. The difference in average score on the Entrance test is 3.2 points (effect size Cohen's $d = 0.29$). The school recommendation of Frisian students is 0.37 points lower (Cohen's $d = 0.29$), which equals an education disadvantage of three and a half to four months. The population-wide data, however, show that the difference in recommendation level in the sample has been enlarged with respect to the population. Population-wide, the difference appeared to be 0.10 points, which equals a month of education. It is likely that the difference in level between students in Friesland and those in the rest of the Netherlands is in reality also somewhat smaller than within the sample. The analysis did indicate, however, that Frisian students with a low performance level are given a school

recommendation which is 0.394 points too low compared to students in the rest of the Netherlands with the same performance, which equals a disadvantage of four months of education. After correcting for student characteristics the difference in recommendation decreased to 0.298, which corresponds with a disadvantage of three months for Frisian students. In addition, it appeared that in the case of equal performance, Frisian students with a high performance level are given a recommendation which is 0,162 point too low compared to students in the rest of the Netherlands, which equals a disadvantage of slightly more than one and a half month. After correcting for student characteristics this difference in recommendation is no longer significant.

Multilevel analysis revealed that the effect of incorrect recommendation on school success in the fifth year of secondary education is less unfavourable for Frisian students with a moderate or slight under-recommendation, and more favourable for Frisian students with a slight over-recommendation than it is for students in the rest of the Netherlands. After correcting for student characteristics only the less unfavourable effect of a moderate or slight under-recommendation remains (the difference in effect is 0.1 point, which is similar to a month of education). Severe or moderate under-recommendation has a negative influence on school success, for both Frisian students and those in the rest of the Netherlands. As opposed to students in the rest of the Netherlands, a slightly lower recommendation has, however, no negative influence on the school success of Frisian students in the fifth year.

In addition, the multilevel analyses showed that Frisian students, who were recommended pre-vocational education as maximum attainable level, have achieved a lower educational position in the fifth year of secondary education than students in the rest of the Netherlands who were given this recommendation. The educational disadvantage amounts to broadly two months of education, and can be fully explained by the low performance level at the beginning. The higher degree of under-recommendation of Frisian students had no negative influence on the educational position achieved in their fifth cohort year compared to students in the rest of the Netherlands. This is probably due to the less unfavourable effects of a moderate and slight under-recommendation on school success in Friesland than in the rest of the Netherlands. Frisian students who were recommended pre-vocational education as the maximum attainable level, however, appeared to demote more often to a lower type of education (similar to an average arrears of three months of education), but the negative influence of this on the educational position achieved was compensated by the fact that Frisian students repeat classes six percent less often than students in the rest of the Netherlands. With respect to the educational position achieved, the demotion/promotion to another track, and the frequency of repeating a class, Frisian students who were recommended at least pre-vocational/senior general secondary education did not differ from the students in the rest of the Netherlands.

Multilevel analysis of the average exam grade showed that Frisian students who were recommended pre-vocational education as the maximum attainable level have a 0.2 higher mark on the national A-/O-level examination, and Frisian students who were recommended at least pre-vocational/senior general secondary education a 0.25 higher mark than students in the rest of the Netherlands with similar

recommendation. However, the analysis revealed no adequate explanation for this difference in exam grade. The under-recommendation of Frisian students does not explain any difference. The trend that Frisian students demote to a lower type of education more often than students in the rest of the Netherlands explains only part of the higher grade. Future research is necessary to find out why Frisians have higher exam grades than students in the rest of the Netherlands.

When controlling for student characteristics, the results of the multilevel analysis indicated that Frisian students attending pre-vocational education choose more often the Economics sector than the Engineering sector. Frisian students choose Economics 15.4% more often and Engineering 8.9 % less often than students in the rest of the Netherlands. No differences were found in the choice of profile between students attending senior general education in Friesland and in the rest of the Netherlands.

All and all, it can be concluded that the disadvantage in education of Frisian students at the end of primary education relative to the students in the rest of the Netherlands does not increase significantly during secondary education. With equal performance rates at the start of their educational careers there are no differences in educational position achieved between students in Friesland and in the rest of the Netherlands. During choice and selection intervals, however, differences in success do in fact arise between students in Friesland and in the rest of the Netherlands, which are at the disadvantage of the Frisian students.

Implications for the theory

In the introductory chapter of this doctoral thesis specific characteristics of Friesland and the Frisian population were mentioned which could possibly explain the difference in success at school between students in Friesland and in the rest of the Netherlands. Although the Frisian disadvantage in performance level can be almost entirely attributed to primary education, the results of the analyses in this thesis can provide some insight into the degree to which specific characteristics actually influence the school success of students in Friesland. The findings are discussed separately.

Intelligence and performance

The prior performance of students has the most influence on their future performance. Given the lower achievements of Frisian students at the end of their primary education, it was expected that the success rates of Frisian students in secondary education would be lower than those of students in the rest of the Netherlands. The results of the multilevel analysis of the success of students, who were recommended pre-vocational education as the maximum attainable level, appeared to correspond with this expectation. Frisian students had achieved a lower educational position in the fifth cohort year than students in the rest of the Netherlands, and this difference could be entirely explained by the lower performance level at the start. However, both with and without correcting for performance rates at the beginning, the multilevel analysis of the success of students who were recommended at least pre-vocational/senior general secondary education indicated no significant difference in educational position achieved between students

in Friesland and in the rest of the Netherlands. Analysis of the difference in educational position achieved by means of a *t*-test, however, resulted in a significantly lower educational position in the fifth and sixth cohort year achieved by Frisian students who were recommended at least pre-vocational/senior general secondary education. An explanation for the difference in the results between both analyses is that multilevel analysis controlled for the random check, which made the result more reliable.

In the introductory chapter it was suggested that Frisian students are perhaps less intelligent, which could explain why their performance is lower. What the sample indeed showed was that Frisian students had lower scores on the IQ-test in the second cohort year. This difference, however, could be explained by the fact that Frisian students with lower recommendations were over-represented in the sample. The calculation of the average IQ of a selection of Frisian students in the sample, who were given the same average recommendation as those in the population of Frisian students, showed that Frisian students have the same average IQ scores as students in the rest of the Netherlands. What is remarkable is that in the sample (the whole sample rather than only the select group of Frisian students) the effect size of the difference in IQ (Cohen's $d = 0.13$) is smaller than that of the difference in performance level at the beginning of secondary education (Cohen's $d = 0.29$). Given an equal level of intelligence, the achievement rates of the Frisian students are lower than those of the students in the rest of the Netherlands (effect size Cohen's $d = 0.20$). This means that part of the talent of Frisian students is insufficiently used compared to that of students in the rest of the Netherlands.

Socio-economic status

Boudon (1974) argues that socio-economic status influences success at school in two ways. He distinguishes between a primary and secondary stratification effect. The primary stratification effect implies that students with a low socio-economic status have a lower school performance as a result of their cultural disadvantage relative to students with a higher socio-economic status. By the time when students have entered secondary education, this effect has – after having taken account of prior achievement – decreased considerably. At this point, however, the secondary stratification effect increases. This means that the aspiration level, that what a student strives for, depends on his or her socio-economic status. The choice – in the sense of aspiration – of a particular type of education is influenced by the environment. To express their cultural solidarity, students tend to choose education which coincides with the culture of their family and circle of friends. Therefore, a student with a low socio-economic status will be more inclined to make a choice which is unfavourable for his or her school success. The population-wide figures have shown that, on average, the socio-economic status of students in Friesland is lower than that of those in the rest of the Netherlands. This is why the question arose whether the stratification effects mentioned play a role in the explanation of the difference in success at school between students in Friesland and in the rest of the Netherlands. In the sample, however, there was no difference in socio-economic status between students in Friesland and in the rest of the Netherlands. However, there did appear to be a difference in the aspiration level of the parents, which makes it very well possible that secondary stratification effects play a role here.

Ambition

According to Boudon's theory the aspiration level of students corresponds with their socio-economic status, because students tend to adjust their aspiration level to their home culture. An additional analysis indeed indicated that the aspiration level of parents is higher as their socio-economic status is higher. Although in our sample no differences have been found in the average socio-economic status, the average aspiration level of parents in Friesland appeared to be lower than that of parents in the rest of the Netherlands. The effect size of this difference was Cohen's $d = 0.26$, which is a weak to moderate effect. According to Boudon's theory the ambitions of Frisian students are therefore lower than those of students in the rest of the Netherlands, with the consequence that Frisian students in secondary education will make less favourable choices, resulting in less successful school careers.

The multilevel analyses confirmed that school success rates are higher for students whose parents have a high aspiration level and lower for students whose parents have a low aspiration level. The results indicated that there is a positive correlation between the aspiration of parents and inaccurate school recommendation. Students whose parents had a high aspiration level were often over-recommended, and students whose parents had a low aspiration level were often under-recommended. After controlling for prior achievement the aspiration level of parents appeared to have an influence on the educational position achieved. The higher the aspiration level, the higher the educational position achieved. Further, it appeared that students of parents with a low aspiration level repeat classes less frequently, but demote to lower types of education more often than students whose parents have a high aspiration level. Demotion to a lower type of education is, however, less favourable for school success than repeating a class, because students attending a lower type of education probably more often take exams in lower education types than students who repeat a class.

The multilevel analyses indicated that Boudon's theory partly coincides with the differences found in the school success of students in Friesland and in the rest of the Netherlands. The stratification effects are, however, not explained by a lower socio-economic status of students in Friesland, but by a lower aspiration level. The analyses showed that at the start of secondary education Frisian students had a lower performance level (the primary stratification effect). Moreover, it appeared that Frisian students were more often under-recommended than students in the rest of the Netherlands, and that the lower aspiration level of the Frisian parents partly explained this difference. In addition, Frisian students who were recommended pre-vocational education as the highest attainable level repeat classes less often and more often demote to lower types of education than students in the rest of the Netherlands. However, correcting for student characteristics, among which the aspiration level of the parents, had no influence on the differences found in repeating a class and the degree of demotion/promotion to another track.

Native language

An important aspect of Friesland is that this province has its own language: Frisian. This is why many students speak a different language at home (Frisian) than at school. They are therefore multi-linguistic. Since a number of years the policy of the province of Fryslân (2006) is to stimulate multilingualism at schools. In this way the

province hopes that schools are better equipped to achieve the core targets of Frisian on a more frequent basis, and that the students' multilingualism will result in better achievements and school careers. The province wants to stimulate the trilingual education model on the basis of the results of a research study into the project 'The trilingual school', in which a trilingual system was introduced in a number of primary schools (Dutch, Frisian, and English). This research showed that the achievements in Dutch of students in Friesland attending a trilingual school are just as good as those of the Frisian students in the control group. So the multi-linguistic education did not lead to a decrease in Dutch fluency. The Frisian fluency of the students of the trilingual schools was, however, better than that of the students in the control group (Van Ruijven, 2007). The province starts from the assumption that multilingualism will lead to better achievements in the areas of cognition and communication. However, as already described in paragraph 1.3, the evidence for a positive relation between multilingualism and school performance is frankly weak.

In this thesis there is controlled for the home language of students in several analyses. The analyses of the success of students, who were recommended pre-vocational education as the maximum attainable level, indicated that students who only speak Frisian or a Dutch dialect at home have reached a slightly higher educational position (in terms of months of education slightly more than half a month) by the fifth cohort year than students who only speak Dutch. In the analysis of the success of students, who were recommended at least pre-vocational/senior general secondary education, this effect on the educational position achieved was not found in the fifth, but in the sixth cohort year. The difference was somewhat less than a month of education. Students who only speak Frisian or a Dutch dialect at home, however, did appear to repeat classes less often than students who only speak Dutch at home. Moreover, it appeared that students who were recommended pre-vocational education and who only speak Frisian or a Dutch dialect at home move slightly more often to a higher type of education than students who only speak Dutch. Students who only speak Frisian or a Dutch dialect at home did not obtain lower exam grades than students who only speak Dutch at home.

With respect to the educational position achieved in the fifth or sixth cohort year, demotion and promotion to another track, and repeating a class, no significant differences were found between students raised bilingually and those raised in the Dutch language only. Analysis of the exam grades has shown that those of bilingual students are slightly lower than those of students who only speak Dutch at home. For the students who were recommended pre-vocational education as maximum the difference was 0.12 points, and for students who were recommended at least pre-vocational/senior general secondary education 0.07 points.

Students with a minimum pre-vocational/senior general secondary education recommendation and who are raised in a language other than Dutch, Frisian or a Dutch dialect, have achieved a higher educational position in both the fifth and sixth cohort year than students who only speak Dutch (a difference of almost three and more than three and a half months of education respectively). It appeared that these students repeat classes less often and move to a higher type of education more frequently than students who only speak Dutch. Students who only speak a language other than Dutch, Frisian or a Dutch dialect at home did not obtain lower exam grades than those who only speak Dutch at home.

The differences in school success between students who only speak Dutch at home and those who speak Frisian, a Dutch dialect, or a language other than these at home – the multilingual students – are rather small. This result shows that the effectiveness, in terms of future success at school, of stimulating multilingualism is doubtful to say the least. The results also indicate, however, that speaking Frisian at home has by no means a disadvantageous influence on school success. The analysis in which it was verified whether students in Friesland are being under-recommended, also showed that their native language could not be explained as a part of the under-recommendation as is typical in Friesland.

Small degree of urbanisation

Friesland consists primarily of small town regions and rural municipalities. The average degree of urbanisation is therefore lower in the case of the Frisian students in the sample than in the case of students in the rest of the Netherlands. Because of this smaller degree of urbanisation the average level of the provision of facilities is likely to be lower in Friesland than in the rest of the Netherlands. As a result, some types of secondary education are not sufficiently accessible to all students. Often pre-vocational schools are in closer proximity than schools for senior general secondary or pre-university education. It is therefore assumed that some students in rural areas go to a pre-vocational school, whereas in fact they could have attended a higher level (Van der Vegt & Van Velzen, 2002). Population-wide figures have shown that Frisian students more often pass their exam in the theoretical learning trajectory of pre-vocational education (the highest level of pre-vocational education) and less often in pre-university education, and that they obtain a higher average exam grade in the theoretical trajectory of pre-vocational education than students in the rest of the Netherlands. These facts seem to confirm the assumption that students in rural areas attend pre-vocational education more often, whereas they are possibly capable of entering a higher level, given their higher average exam grade. The results of the multilevel-analyses of the exam grade confirm this hypothesis only partly. The stronger demotion to a lower type of education of the Frisian students explained only a small part of the difference in exam grade between Frisian students and students in the rest of the Netherlands. Also, the under-recommendation of Frisian students did not explain any difference.

In their research Bun-Siersma and Spruit (1982) observe that the degree to which high-standard (living) facilities are available, as well as the density of the population and the diversity of the jobs structure in a region have an indirect influence on the average achievements and school recommendations. The effect of these regional characteristics on the average achievements and recommendations was in line with the area's social disadvantage. Later research indicated that with equal achievements, students in the Randstad are given on average a higher recommendation than those outside the Randstad (Dronkers et al., 1998). In their research Van der Vegt and Van Velzen (2002) observe a difference in performance focus between regions which consist primarily of small towns and rural municipalities and more urban regions. According to the researchers this is due to the economic climate in non-urban areas. The employment in these regions, to which Friesland also belongs, is especially aimed at lower educated workers. This has a negative influence on the importance the parents of the student attach to a

higher education. Parents in these areas find it less important that their children attend higher forms of education because also (or especially) with a lower education they will be able to find a job within their own region. According to Van der Vegt and Van Velzen the teachers also adopt this mentality, as a result of which they are less inclined to stimulate students to achieve at their maximum. Research has shown similar relations among a rural labour market which is merely focussed on semi-skilled workers, low expectations of parents, and low achievements of students to explain the lower achievement rates in rural areas of the US (Roscigno & Crowley, 2001).

In this thesis the school success of Frisian students has been compared with that of students in other provinces. The analyses showed no clear differences in success at school between students in provinces with a similar jobs structure as in Friesland and students in provinces with a different jobs structure. The analyses also indicated that there are no differences between students in provinces in the Randstad and outside the Randstad, which makes it unlikely that differences in school success can be explained by differences in the degree of urbanisation. In the analyses of the sector or profile choice it was also investigated whether the degree of urbanisation, defined as the address density area per square kilometre belonging to the student's postal code, influences the choice of an educational trajectory. It appeared that students attending pre-vocational education in areas with a low degree of urbanisation choose the Agricultural sector slightly more often than the Engineering sector, and slightly less often Economics than Engineering as compared to students in more urban areas. Students attending senior general secondary education and pre-university education in urban areas opt more often for a profile focussed on societal issues than for Physics and Engineering than students in less urbanised areas. So in particular students who attend senior general secondary and pre-university education in areas with a low degree of urbanisation, choose more often an exact – and therefore more favourable – profile than students in urban areas.

Implications for practice

The analyses showed that in secondary education Frisian students obtain an educational disadvantage at choice and selection moments relative to students in the rest of the Netherlands. Most of the educational disadvantage of Frisian students arose in primary school, however. Frisian primary schools are less capable of optimising the talent of their students than those in the rest of the Netherlands. As a result, the performance level of Frisian students is lower than of those in the rest of the Netherlands. Due to this lower performance level at the end of their primary education, students in Friesland have less success at school during secondary education. Among the specific characteristics of Friesland and its population, lower ambition level seems to play an important role in explaining the differences in school success between students in Friesland and in the rest of the Netherlands.

The lower aspiration level of the Frisian parents appeared to play an important role in explaining the under-recommendation given to Frisian students. Students whose parents have a low aspiration level often are given an under-recommendation, whereas students whose parents have a high aspiration level are more often over-recommended. In addition, the aspiration level appeared to have a considerable

influence on students' school success during secondary education. A low aspiration level has a negative influence on school success and a high aspiration level a positive impact. It is likely that a low aspiration level of parents also has a negative influence on the achievements of students in their primary education. The lower aspiration level of Frisian parents is therefore a factor of importance in the emergence of differences in school success between students in Friesland and in the rest of the Netherlands. A possible explanation for a lower aspiration level of Frisian parents is the lower average level of education of the Frisian population (Source: CBS, Beroepsbevolking naar bedrijfstak, onderwijsniveau en provincie, 2001 (Central Statistical Office, labour force according to industrial branch, level of education, and province, 2001)) The socio-economic status – defined as the highest educational level of the Frisian population – of the Frisian students in the sample is of course not lower than that of the students in the rest of the Netherlands, but apart from the parents' level of education, their aspiration level could possibly also be influenced by the educational level of the area. Further research is required to provide conclusive answers to this issue.

It will be quite hard, however, to increase the aspiration level of all parents in Friesland. Modifying the aspiration level acquires a change of mentality, and accomplishing this will most likely be a costly affair. It would be wiser to make teachers and schools aware of the negative influence of parents' lower aspiration level on school success, so that they can adopt a different approach. In the formulation of school recommendation at the end of primary education, teacher and schools should let themselves be led - even more than has been the case until now - by the actual performance level of the student. In addition, teachers and schools themselves should strive for the highest attainable level of the student by setting high expectations, since this thesis as well as earlier research (Brophy, 1983; Good, 1987; Jussim & Harber, 2005) has shown that this approach influences school success positively. The under-recommendation as it occurs in Friesland, however, shows that this is not always the case in this region. The higher degree of demotion to a lower type of education in Friesland could possibly also be the consequence of a lower aspiration level of Frisian teachers and schools. Through the higher degree of demotion, students end up in lower types of education. After obtaining their diploma in secondary education many students continue their school trajectories by attending tertiary education rather than a higher type of secondary education. Therefore, the higher degree of demotion to lower levels results in students finishing secondary education at a lower level. A better alternative for demotion to a lower level of education would be to have students repeat a class in the same type of education. The on average higher exam grades obtained by Frisian students at the A-/O-level Examination indicate that students in Friesland are possibly capable of completing a higher level of education. One can therefore conclude that Frisian talent is being used insufficiently. The consequence of the lower level of education of Frisian students is that they are more restricted in the number of possible options to continue their education, with the result that they are more limited in choosing their final profession. The higher the educational level attained, the more options there are. In addition, salaries are higher as the level of education is higher (ROA, 2008). Further, from a societal point of view it is desirable that students have the maximum attainable educational level, because the higher their educational level, the more

people can contribute to society. In this way, a high educational level of the population contributes to the economic growth. Moreover, both people's prosperity and welfare increase as the level of education is higher (Healy & Côté, 2001). One extra average year of education per member of the labour force leads to an increase of the gross national product by about six percent (Bassanini & Scarpetta, 2001). Therefore, the lower level of education of Frisian students has an impact on both the individual and society.

Limitations of the research

A first limitation of the research is that the sample applies to one cohort of students rather than to a number of cohorts. The sample is, however, a large one. In addition, it is not very likely that the school success of students who attended the first year of secondary in 1999 deviates significantly from that of students in other years.

A second limitation of the research concerns its representativeness. The Frisian students within VOCL'99 appeared not to be completely representative of all Frisian students. In the sample the average recommendation of the Frisian students was lower than that of the population of Frisian students. The selectivity of the sample of the Frisian students limits the degree to which the results can be generalised with respect to the analyses, in which no correction was made for the level of the students at the beginning of their school careers. However, in the multilevel analyses there is always also corrected for student characteristics. The bias of these results due to the selectivity of the sample will therefore have been restricted to a minimum.

A third limitation refers to the way in which it was investigated whether there is a more general region-based effect on school success. To this end the province was used as a research entity. However, the province is possibly too large a measure to examine the influence of regional or area characteristics on school success. For example, within a province there may be large differences in jobs structure and the degree of urbanisation of areas or regions. However, the address area density per square kilometre is possibly too precise a measure to determine the influence of an area's degree of urbanisation on school success, because people often make use of facilities (schools) located outside a kilometre radius from their house. A more logical demarcation would be a division into nodal areas. According to this division of the Netherlands into regions, those regions have been chosen which provide a full range of primary and secondary education. These regions consist of a central core surrounded by a care area. Another possibility is a division of the Netherlands into COROP-areas. This division is based on the same principle as the nodal division, while taking account of the provincial boundaries. For the future research into region effects on school success, it is therefore recommendable to use this kind of division.

Recommendations for future research

The aspiration level of the parents has a relatively large negative influence on the school success of students in comparison to other student characteristics. Future research has to shed light on the type of intervention necessary to enable teachers to deal with parents' lower aspiration level in such a manner that there are no negative consequences for the success of students at school. In addition, it should be

investigated how the aspiration level of parents could be increased. Parents should become more aware of the advantage of a maximum level of education for their child.

The under-recommendation given by teachers – which is in fact also a form of insufficient aspiration level – appeared to leave a clear mark on the school success of students. Future research should indicate whether there is a way to avoid under-recommendation. The awareness of primary school teachers of the negative effect of under-recommendation on the school success of students will possibly be a significant step forward. In addition, it should be investigated whether teachers and schools of secondary education could prevent the negative effects of under-recommendation. In this respect, it is necessary, certainly during the first two years, to monitor regularly whether students attend an education at a level which is maximal attainable for them.

The lower aspiration level in Friesland played an important role in explaining the Frisian under-recommendation. An alternative explanation for the under-recommendation in Friesland is perhaps that teachers give lower recommendations because the suitable type of education is not located in the vicinity of the students' place of residence. Friesland mainly consists of small cities and rural municipalities where the level of facilities is generally less high than in more urbanised areas. This means that the under-recommendation as it occurs in Friesland is therefore a result of the low level of facilities in this region. Research is required to determine whether the level of facilities has an influence on the level of recommendation. If this is the case, it is the task of the municipalities and provinces to make every type of education accessible to all students.

What is most urgently required, however, is extensive research into the relationship between the quality of the primary education in Friesland and the learning achievements of the Frisian primary school students. Prior research has shown that the lower achievements in arithmetic of primary school students in Friesland compared to students in Limburg were related to the smaller amount of learning time and the lower yields of the primary schools in Friesland compared to the primary schools in Limburg (Van Ruijven, 2004). It is unknown, however, which quality aspects can explain performance differences when the Frisian schools are being compared to the schools in the rest of the Netherlands. The report of the Inspectie van het Onderwijs (Inspection of Education) (2009) offers some insight into the quality differences. In this report the Inspection's evaluations of the Frisian schools with respect to the different quality aspects have been compared with the nationwide evaluations. The research study has, however, not included the relationship between the different quality aspects and the learning achievements of students. In future research, therefore, it should be analysed to what degree indicators of the educational learning process (such as the provision of subject material, didactic approaches, an active role of students, care, and guidance) and characteristics of the schools (such as a uni-polar or a multi-polar school board, structure of the board, school size, denomination, competence of the individual teachers and of the team of teachers as a whole, composition of the student population) can explain differences in performance levels between students in Friesland and in the rest of the Netherlands.

