

A sustainable advantage

The findings of a study
into bilingual education



Scientific research into bilingual education

At the request of the European Platform and the Network of Dutch Bilingual Schools, a team of researchers from the University of Groningen has completed a study into the organisation and the results of bilingual education in the Netherlands (*tweetalig onderwijs* or *tto*). The researchers presented their findings in a report that was published in mid-2010. This is the public version of the full research report that can be consulted through www.tweetaligonderwijs.nl.

European Platform

The European Platform – *internationalising education* helps students look across borders. In its capacity of internationalisation centre of the Dutch education system, it enables students, teachers and school leaders to discover Europe and the rest of the world. The European Platform supports primary and secondary schools as well as teacher training and adult education institutions.

Dutch network of Bilingual Schools

Since 1993, all schools with a *tto* department have been united in the Network of Dutch Bilingual Schools. The Network is coordinated by the European Platform, and cooperates on such areas as certification, the development of educational materials, and standardisation.





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1 Bilingual education works

Bilingual education (*tweetalig onderwijs*, abbreviated 'tto') is an education reform success story. Secondary schools that have adopted this reform offer half of their classes in English (excepting one school which offers them in German).

The concept of tto was developed by a group of secondary schools in the early 1990s with the support of the Ministry of Education, Culture and Science as well as that of the European Platform. In mid-2010 there were 151 tto departments spread out over 121 different schools. Until recently, tto was only practised in havo and vwo schools, but 2009 saw the official introduction of the first bilingual *vmbo* departments, with more departments being developed.

Bilingual education in the Netherlands counts over 20,000 students. They are doing well, as is confirmed by their central final exam scores and supported by teachers' and visiting inspectors' impressions of their achievements. It also becomes obvious from a comparison of tto and non-tto schools' data. Third form students in bilingual education achieve substantially higher scores in English tests than students of regular schools, in the Netherlands as well as in surrounding countries. For that matter, tto students' performance in other subjects does not deviate from the national average. As of yet, there have been no reports of any negative effects of tto.

RESEARCH INTO THE WORKINGS OF BILINGUAL EDUCATION

That bilingual education works is evident. But it raises the question why it works. When and how do tto students learn more and faster? What makes learning processes different, and better, in tto? And how may tto schools and regular schools alike profit from the changing insights into foreign language acquisition?

To answer these questions, the European Platform and the Network of Dutch Bilingual Schools commissioned a study by a team of researchers from the University of Groningen. The research team focussed on bilingual education in *vwo** schools. Their report, published mid-2010, confirms that tto students score significantly higher in English than students in regular *vwo* schools. The report lists the differences between language acquisition approaches in both school types, and offers suggestions as to how schools may benefit from these findings. One of the most striking conclusions of this study is that tto students not only achieve a higher level of proficiency, but that their language usage is also more *authentic* and more natural-sounding than that of their peers in regular *vwo* schools.

*See glossary (page 31).

The current publication is an abbreviated version of the original research report which seeks to elucidate the researchers' findings. If you are interested in reading the full report, it can be accessed through the website of the Network of Dutch Bilingual Schools: www.tweetaligonderwijs.nl.

The next chapters will first offer a brief description of bilingual education in the Netherlands (2), followed by an explanation of the study and the two main questions it poses (3). The next two chapters provide answers to these main questions (4 and 5). The final chapter contains suggestions for finding further information on tto (6).



2 Retrospective: the bottom-up concept of tto

In the Netherlands, the term *tweetalig onderwijs* ('bilingual education') signifies two things:

- a *methodology* of integrating language and subject teaching. Non-language subjects are taught in another language than the native tongue;
- an *educational programme* for regular secondary schools. Approximately half of the classes in the curriculum are taught in a modern foreign language and half are taught in Dutch.

The decision to offer tto is made by each individual school: it is never imposed as policy. This is how the first schools started their bilingual education programmes twenty years ago, and it still works today. At the time, schools were looking for a way to satisfy the demand expressed by parents for more internationally oriented education. Soon after the first school started a bilingual programme, other schools followed, and from their combined experiences, the tto concept was developed.

In this start-up phase, the Ministry of Education asked the European Platform to lend their support to the schools. This was the birth of the Network of Dutch Bilingual Schools, in 1993. Schools, researchers and teacher training institutes worked with the European Platform to draw up an official Standard for tto schools. This was done with a view to put power of decision with the schools themselves; then as now, the schools themselves determined the content of the curriculum, and hence of the Standard. Strikingly, tto has been linked from day one to the Common European Framework of Reference for Languages (CEFR), the European guideline for comparing and grading language proficiency. The tto Standard prescribes a CEFR level of B2 for tto students at the end of the third form (see box). Because students should also acquire knowledge about Europe and the rest of the world, schools pay a great deal of attention to European and International Orientation (EIO).

LEVEL B2 OF THE COMMON EUROPEAN FRAMEWORK OF REFERENCE FOR LANGUAGES (CEFR)

The CEFR describes six language proficiency levels: two for basic speakers (levels A1 and A2), two for independent speakers (B1 and B2) and two for proficient speakers (C1 and C2). Tto students must have attained level B2 at the end of the third form. This means they will be independent users of English, able to grasp the main ideas of a complex text, to communicate fluently and spontaneously with native speakers, and to produce clear, detailed texts and express viewpoints on topical subjects.

The European Platform is in charge of granting a seal of approval to tto departments. At the time of the research report's publication, about half of the tto departments in the Netherlands had been granted such a hallmark. This is not to say that the rest were not found up to the standard: schools cannot apply for a junior certificate until the first group of tto students has reached the fourth form. A school cannot be fully acknowledged as a tto school until after the final exams of this first group.



3 A study in two questions:

- How does bilingual education work?
- How can this knowledge be put to use?

To research the success of bilingual vwo education, the University of Groningen team posed two main questions:

- 1 How does language acquisition take place in bilingual education?
- 2 How might the characteristics that make tto a success be put to use in further improving foreign language education?

To answer these questions, the team commenced a three-part study. In the first part, they compare proficiency levels of tto students and students in regular secondary education. The second part is a study into how students learn a foreign language, and in what way tto students learn differently. In the third and last part, the researchers zoom in on teaching strategies in bilingual education.

PART 1 OF THE STUDY: PROFICIENCY ASSESSMENT

To compare students' achievements, the research team created three experimental groups based on students' scores in the final primary school exam (the *Cito-toets*). On average, regular vwo students will have lower *Cito* scores than bilingual students, because schools select for the tto programme on the basis of high *Cito* scores. A control group consisting of regular vwo students *alone* would not be sufficiently reliable, and for this reason, a second control group consisting of high-scoring students was created. This resulted in the following experimental groups:

- a group of bilingual vwo students from the first, second and third forms;
- a group of regular vwo students from the first, second and third forms, enrolled at a school that does have a separate bilingual stream which is also participating in the study;
- a control group: vwo students from the first, second and third forms enrolled at a school *without* a bilingual stream (but with students with high *Cito* marks) and *gymnasium* students. Students in this group have the same average *Cito* scores as those in the first group.



For a proper comparison of student performance, the research team determined the backgrounds of all 549 students. One of the most important background aspects was the previously mentioned *Cito* test score in the final year of primary school. Besides this, the researchers determined the students scores in English reading tests, their motivations for learning English, their view of foreign languages, and the extent to which students came into contact with English outside of classes. Significant differences in any of these respects would necessitate correcting the results. However, the only significant variation was the difference in *Cito* scores (as mentioned above, students from groups 1 and 3 scored higher than those in group 2), so in the end the results were corrected only in this respect.

The performance of the three student groups were measured at several successive times. Three tests were taken by each form, with each test consisting of a vocabulary test and a written assignment. A team of eight researchers of the University of Groningen assessed the test results and determined the proficiency levels of the students on a scale of 0 to 7.



PART 2 OF THE STUDY: AN EXAMINATION OF LANGUAGE ACQUISITION ASPECTS

The examination of language acquisition aspects made use of the first set of written assignments from Part 1 of the research. After dividing the assignments into proficiency levels on a scale of 0 to 7, they were extensively analysed according to over 60 linguistic characteristics. The proficiency levels were also compared and linked to CEFR levels.

PART 3 OF THE STUDY: A SURVEY OF TTO TEACHING STRATEGIES

The final part of the study consisted of a survey of a small group of tto teachers who were quizzed on their opinions of teaching strategies. To provide a contextual background, the researchers also observed 75 classes: 65 in tto and 10 in regular vwo schools.



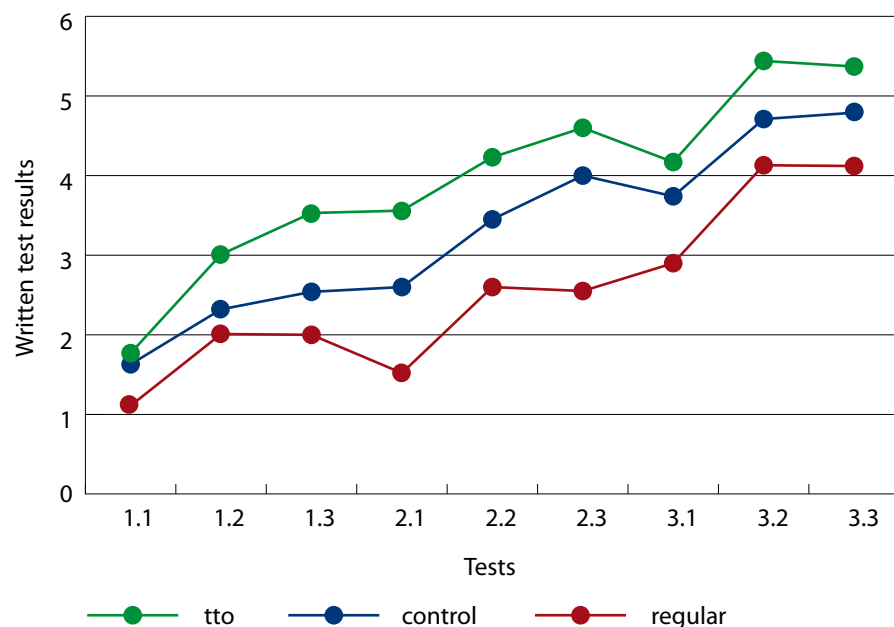
4 How does bilingual education work?

This study unequivocally shows that tto students become more highly proficient in English faster than others, that their usage of English sounds more natural, that they make fewer mistakes, and that they attain the intended CEFR level (B2) on time.

MORE PROFICIENT IN ENGLISH MORE QUICKLY

Students in bilingual education attain higher proficiency levels in English more quickly than students in regular vwo schools and in the control group. At the end of the third form, tto students have significantly higher scores in vocabulary and writing skills, although hardly any difference can be discerned at the beginning of the first form. Students in the bilingual stream produce comparatively longer, more complex sentences, they use more different verb tenses, more difficult and

LANGUAGE ACQUISITION



infrequent vocabulary, and they make fewer mistakes. This rapidly gained lead does not increase a great deal after the third form, but it does remain constant during the remainder of the students' secondary education.

MORE AUTHENTIC ENGLISH

Not only do tto students learn English faster, but in one important respect they learn it differently. Since language acquisition in tto is more implicit, without explicit attention to grammar, tto students use more authentic English than their peers: they sound more natural, even in earlier stages of proficiency. Tto students do not build sentences word-for-word, but instead fall back more easily on idiomatic 'chunks' (groups of words that form grammatical units; see box). The higher the number of chunks students have at their disposal, the more fluent they are. Groups of words are more easily remembered when they are encountered often, and that is exactly what happens in tto.

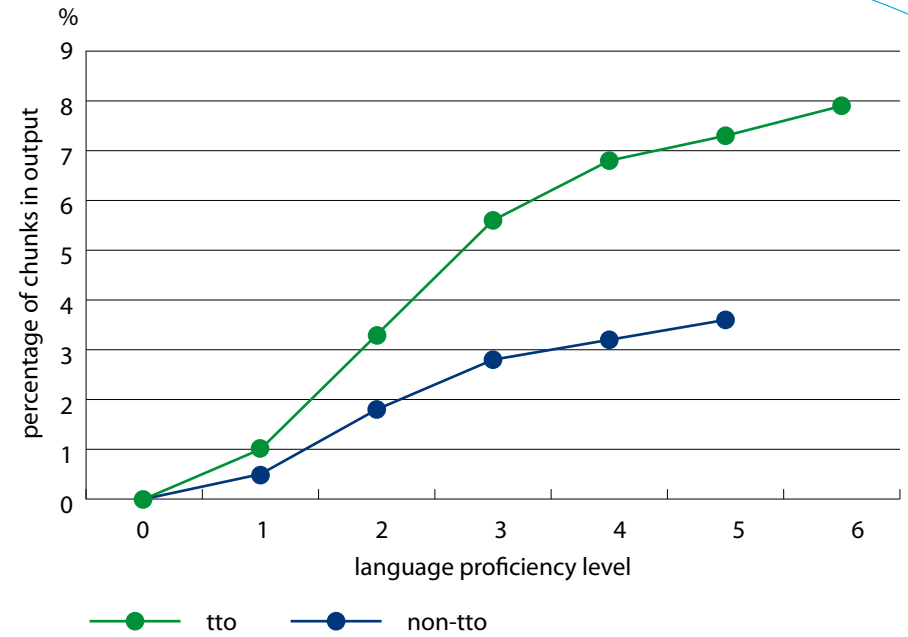
WHAT IS A CHUNK?

Fluent language production is greatly facilitated by the use of so-called language 'chunks'. This is connected to the brain's limited processing capacity; if the brain is allowed to process information in portions, the speed and accuracy with which language is produced and understood are increased. Beginning learners mostly use separate words, but practised learners (mostly subconsciously) will find chunks in language input. The greater the amount of input, the more learners will be able to use language chunks in their entirety, actively as well as passively. Students in bilingual education produce more chunks than non-tto students. This goes for grammatical as well as lexical chunks. Some examples of the former are comparisons (*as cold as, even warmer than*), verb-proposition combinations (*I'd like to buy something*) or phrases concerning time (*some minutes ago*). Examples of lexical chunks are compounds (*navy blue, crystal ball*), fixed combinations (*in the end, at school*) or idiomatic expressions (*take a dive, to get cold feet, guess what*).

In all other respects, tto students learn English in the same way as their peers in regular vvo education. No differences were found in grammar development, such as the use of verb tenses, and sentence complexity (simple, compound or complex sentence structures). The key difference concerns the speed with which tto students learn these things, not the way in which they do so.



**AUTHENTIC USAGE (OF TTO AND NON-TTO STUDENTS)
AT DIFFERENT PROFICIENCY LEVELS**



FEW MISTAKES

The tto students examined did not make many grammatical errors. The first developers of tto worried that students might attain high proficiency levels, but that certain grammatical mistakes would creep in and become ingrained. This study has shown their concern to have been unfounded. Most of the mistakes tto students make concern word selection, spelling and capitalisation, not grammar or word *order*. Errors mainly occur at the start of the language acquisition process, and several other recent studies show that making mistakes is a necessary part of learning a language. This is why it is not necessary for teachers to correct every mistake: this is only functional if errors threaten to become ingrained. Usually, the errors disappear once students attain higher proficiency levels.

MOST FREQUENT MISTAKES ARE LEXICAL, NOT GRAMMATICAL

Mistakes were most frequently made in the use of language chunks. Some examples of the mistakes that were made at levels B1 and B2 are: *you could see the blood running **out of** my leg; I saw an enormous statue **from** the president of France; we were scared **about** this awful place*. Another type of persistent error was the misuse of words that are semantically related to the intended word: *during (while) I was doing this I fell; I have to imagine (make up) a story*. Finally, students tend to make mistakes with the use of very similar words or choose words wrongly: *the other (next) day we were tired; I grabbed (pulled) myself together*.

THE CORRECT LEVEL AT THE END OF THE THIRD FORM

An important question the researchers sought to answer is whether, on average, tto students attain the proficiency level prescribed by the Standard for bilingual education, namely level B2 of the CEFR (see page 9 for details). To determine whether this was the case, the team converted the marks for written assignments – which establish the general proficiency level – to CEFR levels.

The written assignments were marked on a scale of 0 to 7. Level 5 of the scale corresponds to CEFR level B1. The average mark of tto students at the end of the third form was 5.4. In other words, students can be said to have surpassed B1 level and to perform at the lower end of B2. Because writing is the hardest skill to master when learning a foreign language, it is safe to assume that students will have reached a higher level than this when it comes to speaking, listening and reading skills.

Proficiency level	Estimated CEFR level
0	None
1	A1
2	A1
3	A2
4	B1
5	B1
6	B2



FINDINGS ARE VALID FOR STUDENTS IN GENERAL

No two students are alike, but the findings of the research team may be taken to apply to students in general. As previously alluded to, the study took into account any significant differences in student backgrounds. The analysis was corrected for tto students' higher *Cito* results. Even after these adjustments were made, until the end of the third form tto students remain significantly ahead of their peers in terms of vocabulary and writing skills. It is therefore expected that bilingual education will prove to work not only in *vwo* schools, but in *havo* and *vmbo* schools as well.



5 How can the acquired knowledge on bilingual education be put to use?

That the Standard for tto schools is a success story in theory and in practice is confirmed by the third part of the study, an exploration of teaching strategies in bilingual education. According to the researchers, tto schools offer high-quality education. Their advice is to retain the current system, although there is always room for improvement.

Below is a description of the elements that contribute to the high quality of tto education, followed by the research team's suggestions for the improvement of foreign language education.



WHAT DOES THE STANDARD FOR BILINGUAL EDUCATION STIPULATE?

- 1 Students' English skills must be on a sufficient level (B2) at the end of the third form.
Final exam marks in all subjects may not deviate negatively from the national average.
- 2 The timetable must contain sufficient English-language contact hours.
- 3 Language input must be of sufficient quality. Preferably, schools should employ one or more native speakers, and subject teachers must have mastered the language at least up to CEFR level B2.
- 4 The curriculum allows for sufficient time spent on EIO – European and International Orientation.
- 5 The teaching strategies and of subject teachers as well as teachers of English aims to increase student language proficiency.

Besides this, the Standard emphatically states that subject teachers should also be language teachers; that teachers, especially English teachers, need to correct students' use of grammar and inflection; and that active learning methods are to be used in class.

HOW DO TTO SCHOOLS OFFER HIGH-QUALITY EDUCATION?

The following evidence supports the claim that tto schools offer high-quality education:

Half of all tto classes are taught in the target language

The tto departments participating in this study taught half of the total number of contact hours in English. This figure applies to the first, second and third forms. On average, the students (all of them, not just tto students) attended 1120 hours of different classes a year. Of that number, half were in fact taught in English, which means that tto students received 1680 hours of tuition in English distributed across three forms (3 x 560). In the non-tto classes, students attended the regular number of English classes, namely 280 distributed across three years.

Tto schools consistently apply the target language = instruction language principle

On average, participating English teachers spoke Dutch 5% of the time during tto classes. In other words, the target language was used 95% of the time. In regular *vwo* and *gymnasium* classes in participating schools, Dutch was spoken 30% of the time. Moreover, the survey held among tto teachers revealed that they almost unanimously agree on four issues:

- students in tto may only address the teacher in English;
- teachers should speak only English to students in class;
- students must always try to speak English, even when their discourse is not yet wholly correct;
- students in tto may only speak English to classmates.

Generally speaking, not many differences were found between the teachers of the three examination group, except that the tto teachers (both subject and English teachers) more frequently use gestures and facial expressions to clarify their meaning, likely because they do not use Dutch as often as their colleagues. Tto teachers of English also use open-ended questions more often: this pushes students to put their opinions into words and to produce language on their own. In regular (non-tto) English classes, the researchers more frequently noted teachers asking questions related to classroom procedure (such as “Could you turn to page 5 of your book?” or “Did you understand that question?”).

Tto teachers are highly qualified

Of all teachers employed in tto schools, many are native speakers of English. Two of the participating schools together boast a total of 31.6% native speakers. The same schools respectively employ 36.8% and 15.8% teachers holding *Cambridge Proficiency* or *Cambridge Advanced* certificates. Teacher qualifications in tto appear to be high indeed. Teachers in participating schools unanimously feel that they are suitably proficient in English to be able to teach their subject well. They use English for instruction and explanation. Students are required to use English for assignments and are not given vocabulary lists in two languages; translation is rarely, if at all, used as a teaching strategy. Teachers correct grammatical errors in English, and students’ English skills are only assessed in the context of assignments.

EVEN SO, HOW CAN FOREIGN LANGUAGE TEACHING BE IMPROVED?

The insights thus gleaned can be helpful for improving bilingual as well as regular education methods. The following recommendations apply to **both education types**.

Pay less attention to vocabulary lists and more to lexical chunks

It is advisable to pay less attention to learning individual words, and to focus instead on chunks; groups of words, phrases and idiomatic expressions. These play an instrumental part in becoming highly proficient in a language. Have students repeat words and expressions, preferably in different contexts, for example, by working on several different assignments surrounding a single topic. Try watching a film and discussing it afterwards in class. Highlight difficult scenes for discussion or playing out, and set a variety of writing assignments connected to the film.



Try to focus on meaning, not on mistakes

Often, there is not enough time in class to give all students a chance to speak out loud and receive feedback. Therefore, set frequent short writing exercises instead. Focus on their content, not the number of errors. This approach motivates students as well as teachers. Students at low proficiency levels will make plenty of errors when writing in English, but this is to be expected at this stage in their development. For lack of sufficient vocabulary, they use a wide range of strategies to communicate. One of these is to guess at the correct spelling or pronunciation of a word, and the easiest way is to 'anglicise' Dutch words. These mistakes gradually disappear as students work their way up to level B1. Nevertheless, teachers must continue to watch out for errors apt to become persistent – these do need to be addressed explicitly. To this end, have students process the corrected texts by rewriting the relevant words correctly.

Students at higher proficiency levels will start to produce more and longer language chunks still containing some errors. This too is part of the process of language development, and no cause for concern as such. The errors come hand in hand with increased production of chunks and higher risk-taking, and will disappear in time.

Do not give grammar instruction until students are ready

There is cause to believe that grammar is mostly learned implicitly. Take verb tenses; not until students attempt to write something in the past tense is it advisable to tackle the rules of the relevant verb forms.

Use active learning methods that draw on language skills

Active learning methods are commonly used in tto schools; for instance, students often work together on projects. Active learning of itself does not guarantee that students practise their English skills. For this, classroom activities must contain language-related tasks, such as presentations and role-playing. There is still progress to be made in this area, both on bilingual and regular vwo departments.

GRAMMAR, SYNTAX AND VOCABULARY ARE MOSTLY LEARNED IMPLICITLY

To students reach level 3 on the research team's scale (comparable to CEFR level A2) in as few as six months. Students in regular education reach this level a full year later. It is well-known that frequent language use plays an important role in second language acquisition. We may therefore conclude that tto students learn grammar, syntax and vocabulary mostly implicitly, through the frequent repetition of phrases, words and expressions. Teaching explicit grammar rules likely has little bearing on the speed with which they learn the language. At the time of the research team's second test, they already reached an average level of 3.2. The high number of language *chunks* they used was of particular interest. Such a number would have been impossible to teach explicitly in four months' time. Moreover, the complexity of the sentences and subordinate clauses produced by the students is rarely the result of explicit grammar instruction.



The following recommendations apply to **regular education** only.

Language immersion and reinforced language input

Students learn the target language by listening and speaking, by immersion in the language. This is why speaking English exclusively in English classes is absolutely *essential*, even in non-tto schools. This principle also applies to French and German classes. Schools may also consider further reinforcement of the language input, for instance, by offering one or more non-language subjects in a foreign language.

Simulation of tto situation

Providing lots of language input is important, but not sufficient. Students must also be given ample opportunity to use the target language actively and frequently. Enlist the aid of native speakers in various classes, or ask them to hold presentations or lectures. Assign homework that encourages contact with English, and read exciting and fun stories, play language-heavy video games, discuss the lyrics of popular songs or watch films or television series (without Dutch subtitles. English subtitles are fine), all in the target language. During classes, have students discuss and write about these assignments as much as possible. Setting shorter written assignments will enable you to provide sufficient feedback. Do not correct all mistakes in spoken English right away, and use English to correct grammatical errors.

Test adaptation

When the guidelines above have been implemented in foreign language teaching, it is advisable to adapt tests and examinations accordingly. For instance, test continually (all tests count towards the final mark) or link tests to English texts and mark them with respect to content.





This publication is a condensed version of the research report *Tweetalig onderwijs: vormgeving en prestaties* ('Bilingual education: organisation and performance', June 2010).

The report was written by Dr M.H. Verspoor, Professor Dr C.L.J. de Bot and E.M.J. van Rein, all working at the University of Groningen, Faculty of Arts, Applied Linguistics; J. Schuitemaker-King of Fontys University of Applied Sciences, Sittard; and Dr P. Edelenbos, consultant. The full text of the report can be found through www.tweetaligonderwijs.nl

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Glossary

Cito-toets	common final test for primary schoolers, and one of the main tools for determining the right secondary education path
gymnasium	school type in which students take Latin and Greek classes and are instructed in Ancient Greek and Roman culture
havo	senior general secondary education (short for <i>hoger algemeen vormend onderwijs</i>)
tto	bilingual education in the Netherlands (short for <i>tweetalig onderwijs</i>)
vmbo	pre-vocational secondary education (short for <i>voorbereidend middelbaar beroepsonderwijs</i>)
vwo	pre-university education, comprises <i>atheneum</i> and <i>gymnasium</i> (short for <i>voorbereidend wetenschappelijk onderwijs</i>)

More information

For more information about bilingual education in general, please contact the European Platform:

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