

A holistic model for multilingualism in education

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ABSTRACT

EN This paper presents a holistic model for multilingualism in education (Duarte, 2017), which combines different approaches to teaching and knowledge and places them in a continuum—from the acknowledgement of different languages to their actual use as a language of instruction. The model addresses attitudes, knowledge, and skills related to the multilingualism of both teachers and students (Herzog-Punzenberger, Le Pichon-Vorstman, & Siarova, 2017) and is suitable for different school types and students (i.e., for both minority and migrant students). The model is tested in the northern Netherlands in a multilingual education project that combines different approaches to multilingual education for both migrant and minority learners. Through design-based interventions, teachers and researchers collaboratively develop multilingual activities in a bottom-up approach (i.e., based on questions from the schools involved). Some preliminary results from the project are presented, and the model's contribution to research on multilingual education is discussed.

Key words: MULTILINGUAL EDUCATION, HOLISTIC APPROACH, MINORITY AND MIGRANT LANGUAGES

ES Este artículo presenta un modelo holístico para el multilingüismo en la educación (Duarte, 2017), el cual combina diferentes enfoques de la enseñanza y el conocimiento y los coloca en un continuo (desde el conocimiento de la existencia de diferentes idiomas hasta su uso actual como idioma de instrucción). El modelo responde a actitudes, conocimientos y habilidades relacionadas con el multilingüismo, tanto de los maestros como de los estudiantes (Herzog-Punzenberger, Le Pichon-Vorstman, & Siarova, 2017), y resulta adecuado para diferentes tipos de escuelas y estudiantes (por ejemplo, para estudiantes minoritarios y migrantes). El modelo se probó en el norte de los Países Bajos en un proyecto de educación multilingüe que combina diferentes enfoques de la educación multilingüe para estudiantes minoritarios y migrantes. Por medio de intervenciones basadas en el diseño curricular, los maestros y los investigadores desarrollan, en colaboración, actividades multilingües en un enfoque ascendente (por ejemplo, basado en preguntas de las escuelas involucradas). Se presentan algunos resultados preliminares del proyecto y se discute la contribución del modelo a la investigación sobre la educación multilingüe.

Palabras clave: EDUCACIÓN MULTILINGÜE, MODELO HOLÍSTICO, LENGUAS MINORITARIAS Y MIGRANTES

IT Questo articolo presenta un modello olistico per il multilinguismo nell'educazione (Duarte, 2017) che combina diversi approcci all'insegnamento e alla conoscenza e li colloca su un continuum – a partire dal riconoscimento delle diverse lingue fino al loro uso effettivo come lingue di insegnamento. Il modello affronta gli atteggiamenti, le conoscenze e le abilità relative al multilinguismo di insegnanti e studenti (Herzog-Punzenberger, Le Pichon-Vorstman, & Siarova, 2017) ed è adatto a diversi tipi di scuola e di studenti (per esempio, sia per le minoranze che per gli studenti migranti). Il modello è stato testato nei Paesi Bassi settentrionali in un progetto educativo multilingue che combina diversi approcci all'istruzione multilingue per studenti migranti e studenti di gruppi linguistici minoritari. Attraverso interventi basati sulla progettazione, insegnanti e ricercatori sviluppano collaborativamente attività multilingue in un approccio dal basso verso l'alto (cioè, sulla base delle domande delle scuole coinvolte). In questa sede vengono presentati alcuni risultati preliminari del progetto e viene discusso il contributo del modello alla ricerca sull'istruzione multilingue.

Parole chiave: EDUCATIVO MULTILINGUE, MODELLO OLISTICO, LINGUE MIGRANTI E MINORITARIE

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1. Introduction

The recent increase in the population of multilingual pupils in European schools has led to a renewed examination of models of multilingual education, or MLE (Cenoz, 2009; Hobbs, 2012) as means to improve school participation and outcomes of multilingual pupils. According to Cenoz and Gorter (2015), “multilingual education refers to the use of two or more languages in education, provided that schools aim at multilingualism and multiliteracy” (p. 2). It is thus an umbrella term for various pedagogical approaches that utilize several languages of instruction, also for those aiming to foster elite bilingualism. One common feature of many recent programs framed within an MLE perspective is the active inclusion of pupils’ family languages as a resource in instruction. Some pedagogical approaches have been developed to include pupils’ family languages in instruction even within typically monolingual education settings. However, these approaches have limitations when implemented within complex linguistic settings. This paper puts forward a new form of MLE, which we have termed *holistic multilingual education*, and discusses empirical evidence deriving from the implementation of this approach. We aim to determine whether our development is yet another “new something” or indeed something new.

The pressing need for the development of the holistic multilingual education approach derived from the particular context of the research. The study is set in Fryslân, a bilingual province in the North of the Netherlands, where Frisian is a regional minority language. About 55% of the 646.000 inhabitants of Fryslân speak Frisian as their mother tongue, whilst 30% speak Dutch as their mother tongue and 15%, often from a migrant background, speak another language (Provinsje Fryslân, 2015). Native Frisian speakers are typically proficient in Dutch, since Dutch is the dominant language. Frisian is typically spoken in rural areas and to a much lesser extent in urban areas, where Dutch or dialects are spoken (Provinsje Fryslân, 2015). English is the most commonly taught foreign language. Our setting is thus a typical case of a region still in the process of consolidating the position of a regional minority language in education, while at the same time dealing with increasing migration-induced diversity (Duarte & Günther-van der Meij, 2018).

Within this complex language ecology, teachers struggle with several issues in relation to language(s) education (Herzog-Punzenberger, Le Pichon-Vorstman, & Siarova, 2017). First, schools are required to help students achieve certain levels of proficiency in the Frisian regional minority language, although not all pupils speak the language at home. Second, English is increasingly being introduced at earlier grades of primary education and demands for proficiency in this language are rising. Third, based on their understanding of the significance of the Frisian language for Frisian-speaking pupils, most teachers are aware that pupils with an immigrant background should also be supported in using their languages within mainstream education, but state that they are un-prepared to do so (Duarte & Jellema, 2017). Hence, the main challenge deriving from our setting is how to meet the demands of multilingual education in an education system in which a national language, a minority language, a foreign language, and many different migrant languages co-exist.

An answer to this challenge is currently being developed within the 4-year project **3M: Meer kansen Met Meertaligheid** (More opportunities with More Languages). Using a design-based research approach (McKenney & Reeves, 2013), 24 teachers in 12 primary schools are participating in the project to develop and implement a holistic multilingual education intervention that acknowledges and uses several languages in instruction. As part of this project, the aims for the present article are to a) present the principles of the model for holistic multilingual education, b) to discuss examples of the intervention program developed by participating schools in relation to the model, and c) explore a case-study of the implementation of the holistic approach on the basis of the work of one school. To do this, we will explore the views and opinions of the principal, teacher, and pupils on the holistic approach, as well as provide examples of classroom interaction.

The paper starts with an overview of MLE approaches and presents the principles behind the model for holistic multilingual education. After the methodology section, examples of activities developed within the project and results of the interviews and scenes from classroom interaction will be discussed in relation to the model. In the conclusion, we will evaluate the utility of the proposed approach.

2. From bilingual to multilingual education

Traditionally, bilingual education models are aimed at fostering productive and receptive skills in two or more languages (Baker, 2011). These programs differ in the target degree of bi-/multiliteracy and whether the languages used in instruction are dominant or non-dominant in the surrounding societal context. Bilingual education can be classified into different models, according to the time spent in teaching the

different languages, the pupils they serve, and the degree of support in teaching languages (Benson, 2009). Bilingual education models for regional minority languages have been implemented in the Basque, Catalan, and Welsh contexts (Gorter & Cenoz, 2012). Likewise, bilingual programs aiming at including migrant languages in education have been widely implemented (review of results in Sierens & Van Avermaet, 2017). Furthermore, there is a growing number of bilingual programs that seek to foster two dominant languages (e.g., German and English) and which are typically reserved for a minor group of elite pupils (Lindholm-Leary, 2001). Baker (2011) makes a distinction between weak and strong forms of bilingual education. Weak programs only make use of bilingualism to achieve native-like monolingual competence in L2, whereas strong programs aim at full development of the students' bi-/multilingual competence.

In general, the key rationale behind bilingual models draws upon the time-on-task hypothesis (Hopf, 2005), which argues that pupils need maximum exposure to the languages of instruction in order to acquire native-like proficiency. In order for this to be operationalized in curricula, materials and teaching hours, these models are organized according to principles of strong separation of the involved languages of instruction (Creese & Blackledge, 2010). This rigid separation of languages has also been termed the "two solitudes" assumption (Cummins, 2008). In addition, traditional bilingual models are also very much based on monoglossic conceptualizations of speakers, language and culture, "developed as part of the rise of nation-states in Europe to create structures and goals that normalize monolingualism and erase the bilingual language practices of language-minoritized students" (Flores & Baetens-Beardsmore, 2015, p. 219). In the past decades, increased mobility has also led to more multilingual classrooms, and with these, the realization of plurilingualism rather than balanced bilingualism as the suitable goal for education (Jaffe, 2012). Recently, several approaches have been put forward in order to move away from traditional bilingual models and take on a more heteroglossic stance in bilingual education (Flores & Baetens-Beardsmore, 2015). Horner, Lu, Royster and Timbur (2011), for example, propose the development of a *translingual approach*, which acknowledges the authority of language users to shape language to specific purposes, recognizes the linguistic heterogeneity of language users, and directly challenges monolingual expectations (Horner et al., 2011). The idea of translingualism thus differs from the concept of balanced bilingualism in that it challenges monoglossic ideologies of distinct languages in which pupils must be separately proficient (Flores & Baetens-Beardsmore, 2015).

Other recent approaches focus on fostering language skills of multilingual pupils, usually in students' home languages and the (often national) languages of schooling. Examples of these are *linguistically responsive teaching* (Lucas, Villegas, & Freedson-Gonzalez, 2008), *language-sensitive subject teaching* (Leisen, 2013), *culturally responsive pedagogy* (Gay, 2010) and *continuous inclusive language education* (Gogolin et al., 2011), which is the most comprehensive and systematic concept. Drawing from research on language acquisition of multilinguals, Cenoz and Gorter propose a "focus on multilingualism" approach (2011, 2015) meaning that schools should take on a holistic perspective "when looking at multilingual students and their languages" (2015, p. 4) by acknowledging the full linguistic repertoires of multilingual pupils. While these approaches have proven successful in raising competencies in the languages of schooling, they often do less well at making use of pupils' multiple languages and varieties as functional resources for learning. Cummins's (2008) interdependence hypothesis, however, states that successfully acquired knowledge in the home languages can be easily transferred to other languages, as long as there is adequate exposure to and motivation to learn the language. This notion of cross-linguistic transfer can be linked to Cook's (2003) notion of *multicompetence*, which aims at explaining multidirectional transfer in multilinguals and implies that all the languages of the learners form one shared system, rather than a collection of completely isolated systems.

Several pedagogical approaches have been put forward in order to include multiple languages in mainstream instruction. One feature of these models is that they include the family languages of their pupils as a resource in instruction. One of these approaches is *language awareness*. Generally speaking, language awareness approaches aim at four dimensions of language competence: (1) the ability to reflect upon and reveal some degree of awareness of their own dispositions and motivations regarding languages (socio-affective dimension); (2) the capacity to manage their linguistic and communicative biography in new interaction situations (management of linguistic and communicative repertoires dimension); (3) the ability to manage acquisition processes (management of learning repertoires dimension); and lastly (4) the ability to reflect upon the interactive processes which characterize language contact situations, (management of interaction dimension) (Andrade et al., 2003, p. 489). Activities that foster language awareness (Candelier, 2010) have the following features: (a) integrated language learning, aimed at establishing associations between different languages (minority, immigrant, instruction and foreign languages); (b)

intercomprehension, which particularly works with various languages within the same language family, and (c) a pedagogy for awakening to languages, implying attempts to break with the segmentation and isolation of the language teaching methods at schools. The positive academic results achieved in teaching programs that aimed at raising language awareness extend beyond language minority students to all pupils (Hélot & Young, 2006; Oliveira & Ançã, 2009; Wildemann, 2013).

In addition, *receptive multilingualism* refers to the ability of a speaker to understand utterances or texts in another language, even when they are not able to actively speak it. This skill, often linked to mutual intelligibility of closely related languages, can be used in as a teaching method to raise receptive skills of languages (Braunmüller, 2013; ten Thije & Zeevaert, 2007). Within this context, intercomprehension between Romance languages in Europe has been widely studied (the EuRom4 method, the Galatea and Galanet programs and the Euromania manual are well-known examples). In addition, intercomprehension between Romance and Germanic languages has also been explored (e.g., the ICE, InterCompréhension Européenne and EuroCom programs).

Research has also provided strong empirical evidence for *language comparison* as a primary learning device bringing about positive effects on conceptual learning in several areas (Gentner, 2010; Rittle-Johnson & Star, 2011). The core idea is that when two different units (e.g., objects, problems, languages) are juxtaposed, intentional comparison processes promote deeper processing of their features due to the fact that their similarities and differences become particularly highlighted (Ziegler & Stern, 2014). Furthermore, this procedure helps learners to abstract principles that may be used to solve novel problems (Catrambone & Holyoak, 1989). In an intervention focused on finding sustainable effects of contrasting early algebra skills such as addition and multiplication, Ziegler and Stern (2014) found that in the short term, during the training, students actually performed worse under the condition in which these skills were juxtaposed. Yet, in the follow-up tests, the contrast group clearly outperformed the group in which the skills were presented as unrelated to each other, which also held true for the replica of the study. The authors conclude that contrasted comparison of similar but conceptually different features results in enhanced long-term learning.

Based on the view that different communication systems form a single integrated system where languages are fluid, translanguaging approaches have recently been put forward (Canagarajah, 2011; Duarte, 2016; García, Ibarra Johnson, & Seltzer, 2017). *Translanguaging* refers to the use of the learner's full language repertoire in teaching and learning (García & Li Wei 2014; García, Ibarra Johnson, & Seltzer 2017). García and Kano refer to translanguaging in education as

a process by which students and teachers engage in complex discursive practices that include ALL the language practices of ALL students in a class in order to develop new language practices and sustain old ones, communicate and appropriate knowledge, and give voice to new socio-political realities by interrogating linguistic inequality. (2014, p. 261)

Empirical research so far has focused on analyzing classroom interaction by zooming in on the ways translanguaging is used for constructing meaning, acquiring knowledge, and negotiating power in diverse classrooms. An array of studies has underlined the advantages of a translanguaging pedagogy at different levels of school performance and for both migrant and minority languages. These advantages include better lesson accomplishment (Arthur & Martin, 2006; Lin & Martin, 2005), balancing the power-relations among languages in the classroom (Canagarajah, 2011), protection and promotion of minority languages (Cenoz, 2017), increased participant confidence and motivation (Creese & Blackledge, 2010), maximization of learning (Hornberger, 2005; Hornberger & Link, 2012), empowerment and language learning (Latisha & Young, 2017), and higher cognitive engagement in content matter learning (Duarte, 2016).

A more traditional and widely accepted method for using foreign languages in education is the *CLIL* approach. CLIL stands for *Content and Language Integrated Learning* and refers to teaching subjects such as science, history and geography to students through a foreign language (Cenoz, 2013), focusing on both content and language. CLIL approaches are often implemented as a means to provide instruction in recognized foreign languages, such as English, French or German.

In sum, several approaches to including multiple languages in education have been shown to bring about positive academic, attitudinal, and socio-affective results for pupils (see Cenoz & Gorter 2011, 2015; Sierens & Van Avermaet, 2014). However, as Herzog-Punzenberger et al. (2017) point out:

it appears that the most important challenge is not so much a lack of evidence-based strategies in highly diverse classrooms – although clearly more research is needed – but rather the availability of this knowledge and the need for a shift in attitudes of those who

work with highly diverse classrooms on a daily basis, teachers, educators and policy-makers. (p. 33)

As a result, the focus of research should be on finding ways to disseminate and implement available knowledge in a sustainable way. In addition to the lack of practical implementation of these approaches, there seems to be a lack of interconnection between them in terms of empowering professionals to combine elements from different approaches, which would allow them to develop tailored approaches for their specific school setting. This may be due to the fact that research and available materials within the different approaches have been developed in isolation from one another. An extra aspect clouding the implementation of different approaches is that they have often been developed with specific groups of multilingual pupils in mind: language awareness programs for newly arrived pupils; trilingual models for minority language maintenance; CLIL programs in international schools. Professionals often have access only to materials and approaches generally used for the target groups of pupils attending their own schools.

The current research aims to address these shortcomings, through the development of an approach to explicitly explore the multilingual resources of all pupils for learning in mainstream classrooms. It combines different perspectives in order to acknowledge and use multilingualism of different types of multilingual pupils attending diverse school types in the Netherlands.

3. A holistic approach to multilingualism in education

The broad consensus across approaches is that effective learning of languages requires a holistic approach. At the level of school development, whole-school approaches focus on creating an inclusive school culture as an important component of multilingual education. When implementing a whole-school approach, a positive attitude towards all languages is fundamental (Herzog-Punzenberger et al., 2017). An example of such an approach was put forward in the “European Core Curriculum for Teacher Education” (Roth, Duarte, Bainski, & Brandenburger, 2012). The program proposes that the teaching of academic language skills for both multilingual and monolingual pupils with reduced exposure to the academic register in their home environment should be a whole-school endeavor, addressing the levels of leadership, material development, and language and content-subjects. Other approaches focus on the notion of inclusion, operationalized as the intertwining of language aspects transversely in the curriculum, across subjects and in all teaching activities. The *Multilingualism Curriculum* (Krumm & Reich, 2013), for example, spells out a fully inclusive approach from grades 1 to 12 for general and vocational education, both for language and content teaching. In their *Focus on Multilingualism* approach, Cenoz and Gorter (2011, 2015) take a holistic stance on how the full linguistic repertoire of pupils can be used in educational settings. Hence, holistic education defines the concept of inclusion as widening the scope of language(s) education in three dimensions: (a) horizontally, across subjects; (b) vertically, across the age span of pupils, and (c) transversally, in terms of encompassing diverse layers of education and educational agents (leadership, materials, curricula, teacher training, parental involvement). However, we claim that, from the perspective of teacher professionalization and sustainable implementation, these efforts are not yet sufficiently comprehensive to offer a holistic approach for multilingual education.

Our *Holistic Model for Multilingualism in Education* (Figure 1) was first developed to address the needs of schools within the official bilingual region of Fryslân, in the North of the Netherlands. Although linguistic diversity in the region is rapidly growing, it contrasts with the persistent monolingual orientation of mainstream schools (Kroon & Spotti, 2011), in which standard Dutch is not only a central subject but also the main language of instruction. Large-scale monitoring studies have identified insufficient proficiency levels in the language of instruction as a major contributor to the achievement gap between pupils with and without an immigrant background (OECD, 2016). This gap is also present in the Dutch context, where a considerable part of immigrants’ low educational achievement cannot be explained by their differences between their family background and that of natives (Schnepf, 2007). Although much less investigated, a similar gap has been found for the Frisian minority (De Boer, 2009). To address this issue, the investigation of both minority and migrant multilingual forms—that due to political reasons deriving from the different statuses of the languages have not been jointly examined so far (Extra & Gorter, 2001)—has to be combined in order to reach a broader understanding of the potential of the pupils’ linguistic repertoires in the learning process. Accordingly, the first principle of the developed model for holistic multilingual education lies on its

combination of the knowledge and teaching approaches that have proven effective in education of both minority and migrant pupils into one model and is thus suitable for different school types.

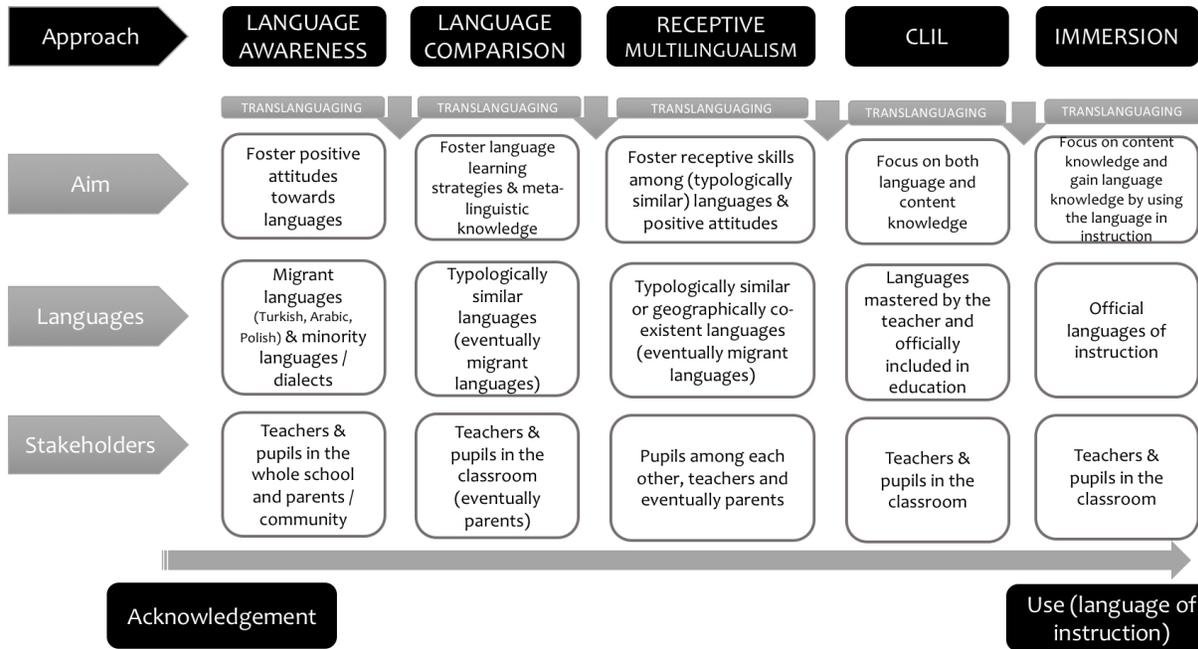


Figure 1. *Holistic Model for Multilingualism in Education* (Duarte, 2017).

The second principle of the model is its incorporation of the different approaches towards multilingual education mentioned above, by placing them along a continuum that oscillates between the acknowledgement of different languages and their actual use in instruction. This supports teachers in distinguishing between what they can do with languages that they speak themselves and the possibilities for them to engage with languages which they do not share with their pupils. Within the scope of the acknowledgment of languages, approaches can be used that convey knowledge about languages and language learning, thus broadening the meta-linguistic knowledge of pupils and teachers. Language awareness allows for the exploration of all existing languages and dialects in the classroom and in the surroundings and a reflection about the role of languages and linguistic diversity in society. Also, different cultural features can be integrated in the classroom. The aim is to promote positive attitudes towards language learning and linguistic and cultural diversity. In order to foster explicit language learning strategies, language comparison methods can be used both with languages of instruction and the languages of the pupils. Language comparison raises knowledge of how languages work as formal systems (grammar, phonology, lexis, etc.) by comparing specific features across languages. Pupils can become experts in their own languages and may ask parents to provide extra information when needed. Typologically similar languages mastered by the teacher and migrant languages from the pupils can be compared in class. In terms of using languages in instruction, receptive multilingualism stimulates the pedagogical use of situations in which asymmetric communication between typologically similar languages is used to raise receptive skills of learners. This mode, which is characteristic of border regions in Europe, can also be applied to the context of learning a foreign or minority language, present in the teacher’s own repertoire. Furthermore, CLIL can be used to convey content knowledge via a foreign language. Immersion necessarily entails the use of foreign languages, although for minority and migrant pupils, learning in the official language of schooling is also considered an immersion approach.

The third principle of our holistic model is that it addresses multilingual attitudes, knowledge and skills of both teachers and pupils (Herzog-Punzenberger et al., 2017). Teachers are invited to combine different approaches into tailored teaching activities. While experimenting with language awareness, language comparison, and receptive multilingualism can promote positive attitudes of teachers and pupils towards multilingualism, CLIL and immersion-based activities provide language knowledge. To stimulate

theoretical knowledge of teachers cooperating in the project, there are regular workshops and study days in which several aspects of the FREPA, the Framework of Reference for Pluralistic Approaches to Languages and Cultures (Candelier, 2010) are addressed. Teaching skills are gained through cyclic experimenting (see more in methods below).

4. Methods

This study is part of a larger project which includes the design, implementation, and testing of the Holistic Model for Multilingualism in Education. The 4-year project “3M: Meer kansen Met Meertaligheid” (More Opportunities with More Languages), financed by the Dutch Science Foundation, intends to test the model within the official bilingual region of Fryslân, in the north of the Netherlands. The project is at the end of its first funding year, so nothing can be said yet about its long-term effects on attitudes and performance. This paper is concerned with the development and implementation of one intervention based on the model.

4.1. Research questions

The research questions for the current paper are:

- 1) What elements of the holistic model for multilingualism in education are implemented by teachers, teacher trainers, student-teachers and researchers in their pedagogical experiments?
- 2) What are the impressions of all stakeholders at one school working within a holistic multilingual education approach?

To answer RQ1, examples of teaching activities and materials developed within the project will be presented in relation to the above discussed model. To answer RQ2, data from interviews, focus groups, and video observations in one school will be presented.

4.2. Study design

The 3M-project has an intervention pre-post design. It is based on both a quantitative examination of the effects of the implementation of design-based interventions on attitudes and knowledge of teachers and pupils, as well as on the qualitative exploration of the processes triggered within the schools in developing the proposed holistic multilingual strategies.

To answer the research questions in the current paper, we make use of a case-study methodology (Yin, 2009) and present different elements of the implementation focused on a specific school. We will mainly focus on providing examples of the activities developed so far within the project and on the impressions of the different stakeholders when engaging with holistic multilingual education.

4.3. Design-based research (DBR)

The study aims at developing, implementing and evaluating design-based interventions (McKenney & Reeves, 2013) for holistic multilingual education. DBR acknowledges the complexity of educational contexts by carefully examining the different processes, levels, and actors involved in carrying out a jointly engineered educational experiment (Cobb, Confrey, diSessa, Lehrer, & Schauble, 2003). McKenney and Reeves describe DBR as

situated in real educational contexts, focusing on the design and testing of interventions, using mixed methods, involving multiple iterations, stemming from partnership between researchers and practitioners, yielding design principles, different from action research, and concerned with an impact on practice. (2013, pp. 97–98)

As in the case of an intervention, these experiments are based on previously-gathered theoretical knowledge. However, design-based approaches are of formative nature, in that they must possess an iterative, cyclic design intended to systematically improve the original experiment and report back to all participants involved. They are thus well-suited to yield positive results in teacher-training (Collins, Joseph, & Bielaczyc, 2004).

As seen in Figure 2, conducting educational research from a DBR perspective includes several phases, during which all stakeholders, including teachers, are seen as experts for their own field. After jointly

exploring theoretical knowledge on one of the approaches for multilingual language instruction by means of a workshop with an expert, teachers analyze their own situation at school and formulate a research question aiming at improving the quality of instruction in terms of multilingualism. Together with researchers, teacher trainers and teacher-students, the school team designs a teaching activity and material. Small aspects of the experiment might be tested with the pupils. Once the activity is developed, it is implemented in class. Video observation is conducted during implementation. Recordings are analyzed by the research team and a feedback form is filled in by the teachers. At a later phase, each of these first developed activities will be implemented at another school in order to be improved and finally enter the project's online toolbox. In the current project, we are in the phase of designing and evaluating the first teaching activities with teachers, so we have not yet reached the phase of implementation.

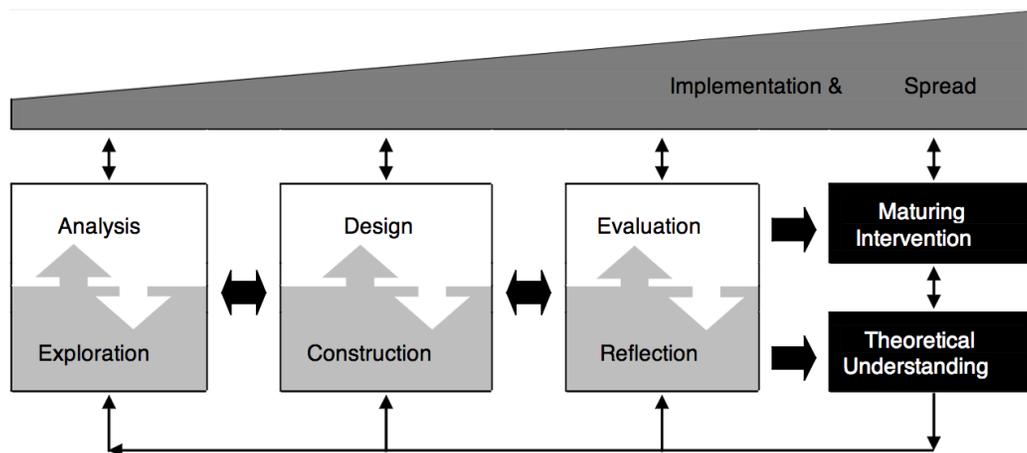


Figure 2. Generic model for conducting educational design research (reproduced from McKenney, Susan & Reeves, Thomas C. [2012]. *Conducting educational design research*. New York, New York: Routledge.)

4.4. Participants, setting, and data collection

In the 3M-project, 12 schools, 24 teachers, about 600 pupils, 4 researchers, 3 teacher trainers, and 4 teacher-students jointly develop the educational experiments, following the holistic model for multilingualism in education. For the current paper, we present the specific case study (Yin, 2009) of the implementation of the project in one trilingual primary school in Fryslân. In this small rural school, Dutch, Frisian, and English are the official languages of instruction and the curriculum is divided between these three languages. Since 2015, the school has received a considerable number of migrant pupils, mainly of Polish and Syrian backgrounds. As this school participated in a pilot in 2016-2017 (Duarte & Jellema, 2017), they have had three DBR developmental cycles. The schools' overarching research questions for the project are: "How can we integrate other languages in our trilingual concept without speaking those languages?" and "How can we guarantee that minority and migrant languages have an equal position at our school?"

Data for the current paper consist of one interview with a teacher, one interview with the director, two focus groups with four children, and observation of classroom interaction during two classroom days (12 hours total) recorded via video. In order to provide an overview of the practices and impressions of all stakeholders participating in the implementation of the experiments for holistic multilingual education, key quotes were selected from the interviews and focus groups. Excerpts were selected to exemplify the different features of the implemented project activities. In addition, transcripts of classroom interaction will be discussed, so as to provide an insight into classroom activities.

5. Results

5.1. Development of the activities from a holistic multilingual education perspective

The first research question (*What elements of the holistic model for multilingualism in education are implemented by teachers, teacher trainers, student-teachers and researchers in their pedagogical experiments?*) will be answered by presenting two examples of teaching activities and materials developed in the project in relation to the model presented, using the design-based approach.

5.1.1. Meta-linguistic awareness through cognate comparison

Together with several trilingual schools in the project, the 3M team developed a quiz around cognates in Frisian, Dutch, and English for pupils aged 7-8. Exploring cognates can benefit pupils' cognate awareness, i.e. the ability to use cognates in a home language as a tool for understanding the language of schooling (Pérez, Peña, & Bedore, 2010). While the three languages are typologically related and share various common features at phonetic, phonological, and morphosyntactic levels, they are typically taught separately from each other and not often explicitly compared. The quiz is intended to foster meta-linguistic awareness about the different levels in which these three languages are comparable to each other and thus expand language learning strategies. The pupils were divided into three expert language groups: Frisian, Dutch, and English and asked to give the answer to 10 riddles (e.g., "What is the opposite of sour?" yields the answer "sweet"). Pupils answered in the language of their expert group. The answers were written down and then discussed to check for differences and similarities at different levels (phonetic, orthographic, etc.). It became clear that sometimes Frisian and English words are closer to each other compared to the Dutch words, e.g., Frisian *swiet* and English *sweet* against Dutch *zoet*. Figure 3 gives an overview of some of the answers.

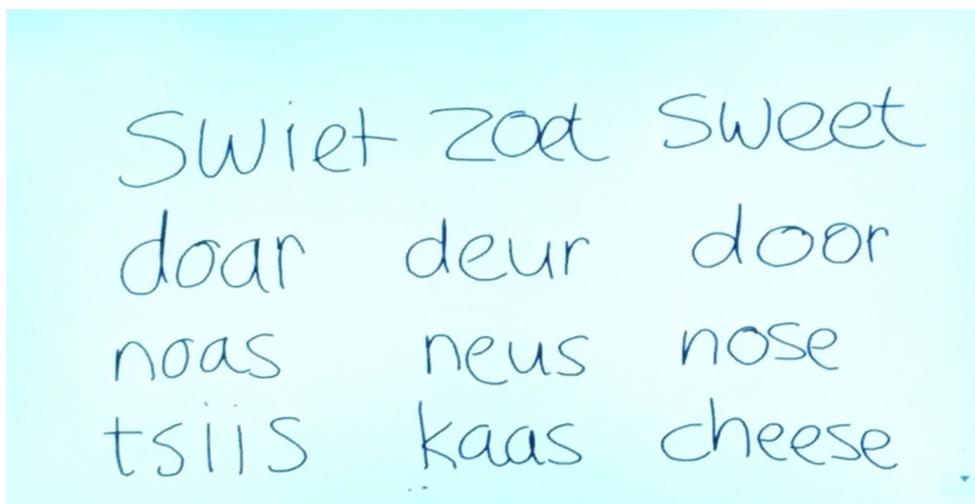


Figure 3. Examples of cognate riddle with Frisian, Dutch and English words.

Linking this activity to the model presented in Section 3, this was an example of explicit language comparison, as common features between the three languages were discovered by the pupils. These features could appear at the phonological, semantic, or orthographic levels. In addition, the activity was also conducted using an immersion approach, as the language of instruction used was English. Although pupils used also Frisian and Dutch in their answers, instructions and answers were mainly provided in English and paraphrased in other languages, allaying teachers concern about reducing the use of English in language comparison activities, since these activities raised awareness of language similarities and differences while still targeting pupils' English language proficiency. Overall evaluation of the activity was very positive. Teachers, teacher-trainers, and researchers noted a great engagement of pupils with the activity. Through the presence of different language groups, the pressure to use only English decreased; pupils were focused on the task at hand and not on producing correct English sentences. They gradually used the English language more, but as means to communicate their results and not as an end in itself.

5.1.2. Translanguaging with Dutch and Polish

Another activity created by the 3M-team for a trilingual school with a high percentage of migrant pupils was a lesson within the subject of natural sciences in which the process of making bread was discussed, from growing the grain to baking. This particular activity was developed for a class of pupils aged 8-9 of which about 15% of the pupils speak Polish as home language and one pupil speaks Arabic at home. The 3M-team's Polish pre-service teacher performed the activity with the class. The pupils first had a tasting of twelve sorts of bread from all over the world, learning their names and where they were originally produced (e.g., *naan* from India, or *pide* from Turkey). Pupils discussed the differences in color, taste, and texture. Then, the teacher explained all the different steps involved in the baking process. She used a translanguaging approach to alternate between Dutch and Polish. The pupils formed groups of four, and it was ensured that each group had speakers of several languages (Frisian, Dutch, Polish and, in one case, Arabic,). However, each group was an expert for one of the languages. The groups had to place the different steps of the breadmaking process in the right order and to match the words in Frisian, Dutch, English, and Polish corresponding to each step (Figure 4). The single Arabic pupil added the words in Arabic to the other languages. At the end the work was checked and discussed with the whole class.



Figure 4. Breadmaking process with steps in four different languages.

This activity is an example of the explicit use of translanguaging through the alternation of two languages of instruction, Polish and Dutch. In its original formulation as coined in Welsh by Williams (1994), translanguaging referred to the deliberate practice of alternating the language of input and the language of output, the basic idea being that one language reinforces the other in order to raise understanding as well as pupils' activity in both languages (Lewis, Jones, & Baker, 2012). The activity also included a language

awareness element, as in addition to Polish and Dutch other languages—such as Frisian, English and Arabic—were acknowledged in instruction by collecting knowledge from the pupils, even though they were not actively used by the teacher herself.

5.2. Interviews with stakeholders and recording of classroom interaction

To answer research question 2, (*What are the impressions of all stakeholders at one school working within a holistic multilingual education approach?*), key data from interviews with the principal and one teacher, focus group discussions with pupils, and a transcript of classroom interaction obtained through video-observation are discussed.

5.2.1. Welcoming migrant languages in the whole school

The school where the case-study data was obtained is a trilingual Frisian-Dutch-English school which has recently received Polish and Syrian pupils. The school's aim is to welcome all home languages spoken by the pupils and to integrate the holistic multilingual approach in the whole school. As the principal puts it: "To us it is very important to acknowledge the children in their own languages". She mentions that the Polish pupils had reached a minimum language threshold (Cummins, 1976) required to speak Dutch and by encouraging them to use Polish with each other they can now translate important information from Dutch, supporting both their language development and their participation in class. Before the project, the school was hesitant to allow Polish in the classroom, as teachers could not control what the children would be discussing, but as the interviewed teacher said:

Eventually we felt slightly ashamed for that attitude since it is their language, their way of communicating, and their only way of communicating. If we forbid it, how can they communicate with us? How can they express how they feel, what is going on inside them? So, for us it was important to let them feel, "You're welcome here, whatever language you speak. And for us it is difficult to learn your language as well."

All teachers now incorporate migrant languages in their lessons. By doing this, they show the pupils that they are trying to understand and learn the pupils' family languages, which lowers the threshold (Cummins, 1976) needed for the migrant pupils to learn Dutch and even Frisian. In addition, this bi-directionality of learning supports teachers in understanding difficulties of migrant pupils when coping with the three new languages of instruction offered at school.

5.2.2. Fostering language transfer

The school decided to develop an own operationalization of Cummins's (2008) interdependence hypothesis, based on the idea of teaching for language transfer. After discussion in one of the project's workshops, the idea that fostering language knowledge in general would reinforce all languages and enhance meta-linguistic awareness was embraced by the school. After one year of implementation, the principal now highlights the fact that languages are not in competition with each other but in fact reinforce each other. As a result, migrant languages are not seen as a threat to learning Dutch or Frisian. She indicated that:

Actually, we see that because the pupils are already familiar with certain concepts in their mother tongue, they can more easily link a second concept onto that and that enables us to compare languages in the middle and upper grades.

This way, the school makes explicit use of the languages the pupils already know to facilitate learning of the other languages of instruction, as suggested by Cenoz and Gorter's Focus on Multilingualism approach (2011, 2015). In the annual national exams, which are conducted in the Dutch language, the pupils of this school attained comparable or slightly higher results to similar schools, although they have a considerable number of multilingual pupils.

5.2.3. Awakening to languages

From the focus group discussions with four pupils it became clear that the pupils themselves feel positively toward the use of several languages at their school. They feel that it allows them to understand many types of languages all over the world, for example on holiday, and to have contact with other children. They learn Arabic words from their classmates and in return teach their peers Frisian. As one pupil remarks, "It is very interesting when you visit another country, to be able to speak the language spoken there."

They also highly value the multicultural aspect of their school; they find it interesting to have several cultures at their school and to learn about the customs of different families. Further, pupils are curious and positive in relation to each other's languages. When speaking about the Arabic alphabet, one pupil mentioned in the focus group, "There is a girl from Syria in my class. When she writes in Arabic the signs she uses are *beautiful*."

5.2.4. Integration of migrant languages in classroom routines

Excerpt 1, the first example of classroom interaction, is from a lesson of the first grades of primary education (pupils aged 4 to 6 learning together). At the day of the recording, the language of instruction was Frisian. However, from the start of the lesson onwards it is clear that all home languages of the children are integrated into the school's daily routines. The class starts with a greeting and welcome in five languages (Frisian, Dutch, English, Polish and Arabic) by five different pupils. Next, two pupils get the English dolls (Pompoms) and speak English. The class asks "Good morning Pompoms, how are you?" "I'm fine, thank you," answer the two pupils who have the dolls. Then the date of that particular day is discussed (the 14th of December). The whole class recites the days of the week aloud in Frisian, Dutch, and English, after which the whole class counts to 14 in Frisian, Dutch and English. The teacher asks the Polish and Syrian pupils to count to 14 in their home languages:

Excerpt 1.

-
- | | | |
|----|---------|---|
| 1. | Teacher | En Iwan dy is hiel knap want Iwan syn opa en oma wenje noch yn Poalen hin Iwan? Kinste ek yn it Poalsk telle?
<i>[And Iwan is very bright because Iwan's grandparents live in Poland, right? Can you count for us in Polish?]</i> |
| 2. | Pupil | Ja.
<i>[Yes]</i>
(counts to 14 in Polish) |
| 3. | Teacher | Do krijst fan ús in hiele dikke duim.
<i>[You receive a huge thumbs up from us.]</i> |
| 4. | Teacher | Mar wy hawwe ek Isra yn 'e klasse en Isra komt fan Syrië. Isra kin yn Arabysk telle hin? Mar Isra begjint nooit mei de tomme mar Isra begjint mei de pink te tellen. Moatte jim mar ris sjen.
<i>[But we also have Isra in the classroom and Isra is from Syria. Isra can count in Arabic, right? But Isra never starts counting with the thumb but Isra starts with the little finger. All of you pay attention.]</i> |
| 5. | Isra | (counts to 14 in Arabic) |
| 6. | Gustavo | Wat knap hin?
<i>[Isn't that smart?]</i> |
-

The Pompoms return to their homes: "Bye bye see you next time" says the whole class. Next, in Excerpt 2, the teacher introduces a color domino game, using Frisian, English, and, for the color name, Polish:

Excerpt 2.

-
- | | | |
|----|--------------|--|
| 1. | Teacher | Gean wy noch in lyts spultsje dwaan hin, hienen we fan 'e wike al efkes oefene, der sitte allegear kleurkes yn, <i>we will play a little game, with the colors</i> . No moatte jim even hiel goed oplette. Ik sil it ris even yn in oare taal sizze. Wy begjinne mei <i>niebiesk</i> .
<i>[We will play a little game, which we've practiced this week, there are several colors in (the box), we will play a little game, with the colors. Now you all have to pay close attention. I'll say it in another language. We'll start with niebiesk.]</i> |
| 2. | Pupil | <i>Niébiesk</i> . |
| 3. | Teacher | <i>Niebiesk</i> , wie hat der <i>niebiesk</i> ?
<i>[Niebiesk, who has niebiesk?]</i> |
| 4. | Polish pupil | (lays down a blue stone) |
| 5. | Teacher | <i>Niebieski</i> is blauw. Wie hat der noch mear in <i>niebiski</i> , of in blauw or <i>in blue</i> ? |

6. Pupil *[Niebieski is blue. Who else has a niebiski, or a blue or a blue (stone)?]*
(indicates she has a blue stone)
7. Teacher Isra kom mar. En Isra kinst ek fertelle hoe't blauw yn it Arabysk hjit?
[Come here, Isra. Isra, can you tell what blue is in Arabic?]
8. Isra *Azraq*
9. Teacher *Azraq hin? Azraq is blauw yn it Arabysk.*
[Azraq, right? Azraq is blue in Arabic]
10. Teacher Wa hat der swart of giel? *Black or yellow? Wolsto de kleur even sizze? Wolsto it even yn it Ingelsk fertelle?*
[Who has black or yellow? Black or yellow? Will you name the color? Will you say it in English?]
11. Pupil *Red and swart*
[Red and black]
12. Teacher Hoe hjit dat yn it Ingelsk?
[How is that called in English?]
13. Class *Black.*
14. Teacher Witsto Isra, wat grien yn it Arabysk is?
[Do you know Isra, what green is in Arabic?]
15. Isra *Akhdar*
[Green]
16. Teacher and pupils *Akhdar.*
[Green]
17. Pupil Muoilik wurd.
[Difficult word.]
18. Teacher Muoilik wurd hin? Knap hin fan Isra?
[Difficult word, right? Smart of Isra, right?]

The teacher then asks a Polish pupil to name red and green in Polish, she repeats the words, and he corrects her pronunciation. The teacher involves the whole class and they repeat the Polish words. Excerpt 3 highlights a metalinguistic discussion that took place immediately after this repetition.

Excerpt 3.

1. Polish pupil Het is in een andere taal.
[It is in a different language.]
2. Teacher Ik vind jouw taal best een beetje moeilijk hoor.
[I do find your language slightly difficult.]
3. Polish pupil Eigenlijk zijn die letters anders gezegd.
[Actually, you pronounce the letters differently.]

The last remark in Excerpt 3 illustrates that the pupil is aware that Polish is not a transparent language. The above transcription shows that although the language of instruction is Frisian, and the main focus is on the English words for the colors, all languages present in the class are involved and moreover, all pupils are encouraged to use all languages. In addition, the aim is that both pupils and teacher learn from each other.

5.2.5. Multilingual approach in foreign language teaching

The last example of classroom interaction, Excerpt 4, was recorded in grade 5 (pupils aged 8-9). The language of instruction was Dutch on the day of filming. The class counts to 10 in six languages (Frisian, Dutch, English, Arabic, Swedish, and Polish). Then they play a multilingual version of the *Wie ben ik?* (Who am I?) game. One pupil picks a card from a set of cards on which names of characters are written. Without looking at it, the pupil shows the card to the class. The pupil then picks a language from a set of cards (Frisian, Dutch or English) and is provided a paper with questions to ask in the chosen language, in order to try to guess which character was written on the first card. The answers are given by the class, who also choose a

language card and who can answer only *yes* or *no* in that language. In the first round, a picture of Santa Claus is picked and the pupil who plays the character asks the questions in English, while the class answers in Swedish. The teacher supports in English and Frisian, as needed.

Excerpt 4.

- | | | |
|----|------------------|--|
| 1. | Pupil | Do I have a hat on? |
| 2. | Class | Ja.
[Yes.] |
| 3. | Pupil | Am I on television? |
| 4. | Class | Nej.
[No] |
| 5. | Teacher | Sometimes, soms wel.
[Sometimes, <i>sometimes</i>] |
| 6. | Swedish
pupil | Ibland
[Sometimes] |
-

As the game continues, as shown in Excerpt 5, the teacher repeats the questions in English, sometimes elaborating on them. The next pupil whose turn it is to play the character picks Queen Maxima of the Netherlands, and Dutch as the language to ask questions in. The class answers in English.

Excerpt 5.

- | | | |
|----|---------|---|
| 1. | Pupil | Ben ik een mens?
[Am I a human being?] |
| 2. | Class | Yes. |
| 3. | Teacher | You are a person. |
| 4. | Pupil | Heb ik zwart haar?
[Do I have black hair?] |
| 5. | Class | No. |
| 6. | Teacher | No, you don't have black hair. |
| 7. | Pupil | Heb ik blond haar?
[Do I have blond hair?] |
| 8. | Class | Yes. |
| 9. | Teacher | Yes, you are blond. |
-

On each of the class's yes/no answers, the teacher elaborates: "Yes, you are a woman. No, we don't know. No, you are not a princess, but you are close, *je bent dichtbij* (you are close)." This scene shows how the multilingual approach is also used in the teaching of English as a foreign language. The teacher oscillates between moments of immersion in the English language with moments in which several languages are used. However, during the multilingual moments, language choice is not always random. While in moments of great cognitive engagement pupils are free to choose the language they wish to discuss in, in moments of practice or summarizing of acquired knowledge, the teacher manages language use and increasingly scaffolds the use of more English.

6. Discussion and conclusion

The aims of the current paper were to present a holistic model of multilingualism in education, discuss concrete activities developed within a design-based project implementing the model, and provide insight into the concrete activities of one case study school. Due to the complex language ecology of our research setting (Duarte & Günther-van der Meij, 2018), which derives both from an increase in different languages and from the tensions in promoting a regional minority language in education, a holistic model for multilingualism in education was developed in order to work with teachers in developing tailored interventions that tackle new needs in language education. The model was labeled *holistic*, as it aims at being

suitable for (a) both minority and migrant pupils, (b) different school types, (c) combining various approaches towards multilingual education, and (d) tackling attitudes, knowledge and skills needed by teachers to implement multilingual education in a successful and sustainable way.

While whole-school approaches (Gogolin et al., 2011; Herzog-Punzenberger et al., 2017; Roth et al., 2012) frequently depart from the required conditions for successful language development of multilingual pupils and thus focus mainly on fostering the language of instruction across the curriculum and lifespan of the pupils, our holistic model addresses both the language-learning requirements of pupils and the needs of teachers. It operates at three levels—symbolic, linguistic, and cognitive—tapping into needs of both pupils and teachers. A summary of the dimensions involved in this process, from both the perspective of pupils and teachers, is provided in Table 1.

Table 1
Dimensions of operationalization of holistic multilingual education from pupils' and teachers' perspectives

Dimension	Pupils' perspective	Teachers' perspective
Symbolic	Acknowledging all languages in education fosters positive attitudinal and motivational aspects that, according to research, enhance school outcomes in the long run.	Acknowledging all languages raises teachers' own language and cultural awareness which has positive attitudinal and motivational aspects towards implementing a multilingual approach.
Linguistic	Fostering language comparison and raising meta-linguistic knowledge enhances language learning strategies of pupils.	Fostering language comparison and raising meta-linguistic knowledge improves language teaching methodology of teachers.
Cognitive	Linking multilingual language learning to content knowledge across the curriculum supports high cognitive engagement of pupils in all learning areas.	Linking multilingual language learning to content knowledge across the curriculum supports higher understanding of teachers for the basic requirement of language education as transversal task.

The challenges faced by our teachers in Fryslân are similar to those described by Little and Kirwan (2018) within the Irish-English context. They describe the five features of one school's response to the growing linguistic diversity in Dublin: "an inclusive ethos, an open language policy and an integrated approach to language education, a strong emphasis on the development of literacy skills, teaching methods that strive to be as explicit as possible, and respect for teachers' professional autonomy" (Little & Kirwan, 2018, p. 317). The activities developed so far within the 3M-project presented here follow similar principles. However, they also add the central aspect of teacher professionalization for MLE which is a key aspect in the success of the project. Professional development of teachers and language development of pupils thus go hand in hand. As such, the model is not to be implemented without the design-based research methodology for the work with teachers. The cyclic design-based approach (Cobb et al., 2003; McKenney & Reeves, 2013) allows teachers to develop their own pedagogical experiments and first implement those in their teaching at a small scale. In order for this to succeed, teachers need to (a) create safe spaces in which to experiment with multiple languages in the classroom; (b) operationalize the various approaches for MLE for their own context and particular aims, and (c) combine them in ways that allow them to tackle their concrete challenges. So far, this design-based approach has been successful in fostering a sense of ownership of the developed activities in the participating schools and high levels of acceptance of the model, as teachers acknowledge its potential to provide answers for language education in their complex linguistic settings.

Yet the question remains: Is our holistic multilingual education approach really something new or simply another new something? By this question, we wish to reflect on whether the model is transferable to other contexts as a means of enhancing implementation of MLE. The answer to this question is not yet a straightforward one. On the one hand, the model does seem to provide a means to tackle several challenges which also appear in contexts outside the province of Fryslân. First, it provides one way to address the societal and educational challenge of fostering language development and scholastic achievement for migrant, minority, and majority pupils. Second, it addresses the research challenge deriving from the

compartmentalization of research into the various existing approaches for MLE. Finally, it also addresses the third challenge, an implementation challenge of MLE approaches, which are widespread in mainstream education (Herzog-Punzenberger et al., 2017) and related to the lack of teacher professionalization for MLE.

On the other hand, the implementation of the model as described in this study is in the beginning stages and does not yet allow for effects on language proficiency and school attainment of pupils to be assessed. A longitudinal measurement of teacher attitudes is being carried out but has not yet yielded the necessary conclusions. What we can tentatively conclude so far is that it takes time for schools and teachers to adopt the model. In our research design, the implementation phase is therefore planned for two years. This assumes a long-term commitment of schools when adopting the model. This commitment extends to the fact that implementation should be carried out by the majority of the team and not by isolated teachers. As such, the model still has shortcomings related to the lack of quantifiable results and the degree of involvement of schools needed for its implementation. Nevertheless, we hope that our research design will provide the needed empirical evidence to allow us to turn our holistic model for multilingualism in education into something new.

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