



Teachers' implementation of bilingual education in Taiwan: challenges and arrangements

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Received: 26 January 2022 / Revised: 1 August 2022 / Accepted: 8 August 2022 / Published online: 22 August 2022
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Abstract

This qualitative study reports on the early implementation of bilingual education by teachers working in pre-tertiary contexts in Taiwan, with a specific focus on perceived challenges and the resulting bilingual education arrangements. Taiwan's public schools have begun to implement bilingual education in response to the Bilingual 2030 policy. Several scholars have identified potential challenges that may affect implementation. However, little is known about the challenges perceived by teachers and their effect on the implementation of bilingual education. This study addresses this gap using data collected through semi-structured interviews with 12 teachers from various academic disciplines in five primary schools and five junior high schools in northern Taiwan. Three challenges and six bilingual education arrangements were reported by the participating teachers. The paper discusses how these challenges may produce varying arrangements that are designed to achieve different outcomes, highlighting the need for policymakers to clearly define the intended outcomes of the bilingual education policy.

Keywords Bilingual education · English language learning · Language planning · Primary education · Secondary education · Taiwan

Introduction

García (2009) described bilingual education as an “umbrella term covering a wide spectrum of practice and policy” (p. 9). Given this, bilingual education has been conceptualized and implemented through different language and learning arrangements worldwide (Baker & Wright, 2017). Taiwan has recently implemented its own bilingual education policy to “build upon Taiwan’s advantages as a Mandarin-speaking nation” and “enhance young people’s English communication capabilities” (National Development Council, 2021, p. 1). For primary and secondary education, the Bilingual 2030 policy calls for “optimizing bilingual conditions in a balanced manner” (National Development Council, 2021, p. 8), mainly through “using English for teaching English classes ... Mandarin for Mandarin and social science classes, [and] bilingual teaching ... for other subjects” (National Development Council, 2021, p. 21). The planned implementation

of the policy is rapid, where “one in every three schools is expected to implement bilingual teaching” by 2030 (National Development Council, 2021, p. 18).

Though the policy is relatively new, first released in December 2018 (National Development Council, 2018), scholars have already called attention to the emerging challenges to the policy, which may drive Taiwan’s bilingual education toward undesired outcomes (e.g., Chen et al., 2020; Lin & Wu, 2021; Wang, 2021). While challenges have been identified, discussion of their effects on teachers’ practices remains limited. Thus, this study explores teachers’ perceptions of challenges in Taiwan’s bilingual education and the resulting bilingual education arrangements teachers report implementing in their classrooms.

Conceptual framework

The conceptual framework of this paper is driven by two propositions. First, bilingual education systems are created when forces (ideologies) influence the creation of educational policies (Mehisto et al., 2015). Second, when the resulting educational policies are not adequately defined, various arrangements of bilingual education may emerge

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(e.g., Czura & Papaja, 2013), each suited to achieving different goals. These two propositions are expanded upon below specifically as they pertain to the bilingual education system in Taiwan.

Forces and policies in Taiwan's bilingual education

In Taiwan, there are three main forces that drive education policy: internationalization and economics (National Development Council, 2018), and politics (Hsu, 2021). The original bilingual policy document, *Blueprint for Developing Taiwan into a Bilingual Nation by 2030* (henceforth, the Blueprint), was explicit about goals of “raising the nation’s international perspective” (internationalization; National Development Council, 2018, p. 2) and “spurring the prosperity of our national economy” (economics; National Development Council, 2018, p. 6). Similar language can be found in the updated *Bilingual 2030* document (National Development Council, 2021). While neither of these forces are new, Wang (2021) suggested that past education policies have failed to produce outcomes that have satisfied the internationalization and economics forces, thus spurring Taiwan’s pursuit of a new bilingual education policy.

However, apart from these policy documents, it has been suggested that a third force—politics—may also be driving the bilingual education reform. According to Hsu, the bilingual policy “enables Taiwan to assert a de-Sinicized national identity in opposition to China” (p. 355), while also serving “as a method to further secure close relations with the United States” (p. 358). Similar to the other two forces, this force is not new, and the relationship between politics and language education policy has existed for decades in Taiwan. Yeh and Chern (2020) asserted that “English has functioned as the medium for Taiwan to strengthen its cooperation and exchanges with other countries in diplomacy, business, culture, technology, academia, and so forth” (p. 175). They noted that in response to these forces, the bilingual education policy has shifted policy from a traditional view of English as a subject to a more contemporary view of English as a tool for communication.

Regarding this bilingual turn in Taiwan’s education, several scholars have raised concerns about the nature and direction of the policy. Huang (2021) argued that the policy is vague and unclear in defining the intended bilingual education system. While the *Bilingual 2030* policy states that schools should “implement bilingual teaching” (National Development Council, 2021, p. 18), it fails to define bilingual teaching. Moreover, Ferrer and Lin (2021) argued that rather than being a policy for bilingualism, the “policy rhetoric is over-whelmingly English-focused” (p. 6), and Lin and Wu (2021) expressed concern that this approach to bilingual education would lead to it being interpreted as English teaching. Wang (2021) similarly asserted that the bilingual

education policy might be the next iteration of Taiwan’s English language education policy, not necessarily bilingual education at all.

Alongside the lack of a clear definition of bilingual education are concerns regarding insufficient teacher training (Chen et al., 2020; Lin & Wu, 2021; Wang, 2021). As Chen et al. (2020) and Graham et al. (2021) have noted, teachers who lack proper training are unlikely to implement bilingual education as intended and will likely rely on their strengths and past experiences when deciding on their bilingual education arrangement. While the government has been actively hiring native English-speaking teachers (NESTs) in the hope of mitigating the current shortfall of local trained teaching talent, several scholars have raised questions regarding NESTs’ own level of training and familiarity with Taiwan’s education system (Chen et al., 2020; Graham et al., 2021; Lin & Wu, 2021).

One final concern that has been raised is how bilingual education may conflict with Taiwan’s current academic culture, one that is primarily driven by exams (Chou & Ching, 2012). Lin and Wu (2021) have noted that many schools purposefully choose non-nationally tested subjects to avoid negative academic consequences. Further, Chen et al. (2020) observed that bilingual education classes did not always provide instruction on the appropriate content, substantiating worries that bilingual education will negatively impact academic outcomes.

The above studies have identified several challenges that may hinder Taiwan from realizing the intended bilingual education system, though what exactly is intended remains ill-defined (Ferrer & Lin, 2021; Huang, 2021; Lin & Wu, 2021). These challenges may produce a range of bilingual education arrangements within the country (e.g., Czura & Papaja, 2013), some representing a bilingual education as intended by policymakers and others markedly deviating from the policy. While scholars have provided various acronyms and modifiers to define different arrangements of bilingual education (Brinton & Snow, 2017), these terms are often interpreted in varying ways (Airey, 2016; Macaro, 2018). Therefore, rather than using these terms, defining bilingual education arrangements across a spectrum of learning goals and language use may provide more clarity about the nature of teachers’ bilingual education practices. Toward this end, this study uses the bilingual education arrangements grid to define the arrangements Taiwan’s teachers plan to implement in response to the perceived challenges of bilingual education.

The bilingual education arrangements grid

The bilingual education arrangements grid, shown in Fig. 1, was designed to define learning goals and language uses in a bilingual education classroom. Scholars such as Brinton and

		Language Continuum		
Learning Continuum	Target Language Dominant	Language Multiplicity	Local Language Dominant	
	Content Learning	Content Learning	Content Learning	
	Target Language Dominant	Language Multiplicity	Local Language Dominant	
	Content-Language Learning	Content-Language Learning	Content-Language Learning	
	Target Language Dominant	Language Multiplicity	Local Language Dominant	
	Language Learning	Language Learning	Language Learning	

Fig. 1 Bilingual Education Arrangements Grid. Note “Bilingual Education Arrangements Grid” by Keith M. Graham is licensed under CC BY 4.0 (<https://creativecommons.org/licenses/by/4.0/>). <https://doi.org/10.6084/m9.figshare.16551369.v4>

Snow (2017), Macaro (2018), among others have previously defined arrangements along a single continuum ranging from language learning to content learning. This continuum has been helpful in understanding how different arrangements may target different learning goals, but it assumes use of only the target language. In bilingual education, consideration of the local language is equally important as the target language, rendering the use of a single continuum insufficient. To adequately describe bilingual education, a second continuum is needed that ranges from target language use to local language use. Thus, the bilingual education arrangements grid builds on previous single-spectrum models by defining arrangements using two continuums: a learning continuum and a language continuum.

Running vertically along the grid is the learning continuum, which describes the focus of learning in the classroom—content, language, or both. Here, content learning is defined as the learning of the “subject specific conventions, norms, and values that define disciplinary areas” (Dafouz & Smit, 2020, p. 60). Language learning, on the other hand, focuses on the development of communicative skills that conform to “socially conventionalized situated practices” (Dafouz & Smit, 2020, p. 60). Learning of these academic communicative practices may occur at various levels of language, including academic vocabulary, grammar, and discourse-level organization. In the context of an academic discipline, this is often referred to as academic literacies (Coyle & Meyer, 2021; Dafouz & Smit, 2020; Lin, 2016).

García (2009) drew a clear distinction between language courses and bilingual education, indicating that “bilingual education programs teach content through an additional language” (p. 6). Thus, the learning continuum begins with an arrangement labeled content learning. In a content learning arrangement, the only outcome that the instructor expects for students is the learning of academic content, or in other words, the development of an understanding of the academic discipline. While traditionally, most classrooms, bilingual or not, tend to be focused on content learning, Meyer et al. (2015) criticized that “the teaching of academic language seems to be neglected” (p. 44), that is, academic literacies are not explicitly addressed in instruction. These scholars further explain: “The consequences of a lack of awareness and focus on academic literacies may well impact on the construction and communication of deep knowledge” (Meyer et al., 2015, p. 44). This has led Lin (2016) and Coyle and Meyer (2021) to advocate for more attention to academic literacies and language across the curriculum. This attention to academic language alongside content is labeled as a content–language learning arrangement. The other end of the continuum is labeled as a language learning arrangement. While García (2009), among others (Baker & Wright, 2017; Ball et al., 2015; Coyle et al., 2010; Macaro, 2018), were firm on defining bilingual education as focused on content learning, some courses within a bilingual education system may set language learning, or academic literacies, as an outcome (e.g., the language course in an adjunct model or strict-separation models; Brinton & Snow, 2017; García, 2009) while leaving instruction in the academic discipline to other courses. Thus, the continuum includes a language learning arrangement to allow for such courses to be identified and defined in bilingual education settings.

Running horizontally across the grid is the language continuum, which describes the role languages take in the classroom. As Baker and Wright (2017) lamented, whether right or wrong, bilingual education has been defined both as settings that “foster bilingualism” as well as settings where simply “bilingual children are present” (p. 97). Thus, this continuum spans from target language dominant to local language dominant. A target language dominant arrangement best resembles what García (2009) termed as flexible convergent. In this arrangement, use of the target language is the primary goal, and any use of the local language is simply for support, rather than as an outcome. On the other side of the continuum is local language dominant. In this arrangement, most instruction occurs in the local language, and the target language is viewed as a bonus rather than as an explicit outcome. Generally, the target language is rarely used for learning, although words or simple classroom language in the target language may be used in this arrangement. Between these two arrangements is language multiplicity. In contrast to the other two arrangements, in a

language multiplicity arrangement, both the target and local language are set as outcomes and used for learning. Students in this arrangement are expected to engage meaningfully with content material and communicate in both languages within the class.

Together, the learning and language continuums can describe the various arrangements practiced within a bilingual education system. Though in Taiwan, various terms (e.g., content and language integrated learning [CLIL], English-medium instruction [EMI]) are often used to define bilingual education (Chen & Lin, 2021; Chen et al., 2020; Graham et al., 2021; Lin & Wu, 2021; Tsou, 2021), whether or not these terms constitute bilingual education continues to be vigorously debated (Airey, 2016; Baker & Wright, 2017; Ball et al., 2015; Brinton & Snow, 2017; Coyle & Meyer, 2021; García, 2009; Macaro, 2018). The bilingual education arrangements grid attempts to circumvent these disagreements by allowing for arrangements to be defined in relation to practices, thus preventing confusion that could arise from around poorly defined terminology.

The current study

The preceding two sections identified current challenges to Taiwan's bilingual education system, and a grid of possible bilingual education arrangements was introduced. While several studies have reported scholars' observations and concerns regarding bilingual education, the identified challenges have not been connected to bilingual education arrangements. Moreover, while scholars' voices have been registered, the voices of teachers remain absent. These gaps deserve attention as the challenges acknowledged by teachers ultimately drive their decisions in planning bilingual education arrangements for their classrooms. Thus, this study seeks to address this by drawing connections between the challenges acknowledged by teachers and the bilingual education arrangements they report implementing in their classrooms. Specifically, this study addresses the following research questions:

1. What challenges do teachers perceive in Taiwan's bilingual education system?
2. How do these challenges affect teachers' reported implementation of bilingual education arrangements?

Method

This study takes a qualitative approach to examine the challenges and arrangements of bilingual education in four cities in northern Taiwan. All local and national research ethics guidelines were adhered to while conducting this study.

Participating schools and teachers

Various purposeful sampling techniques were used to recruit participants for this study with the goal of "document[ing] diversity" and "identify[ing] important common patterns that are common across the diversity" (Patton, 2015, p. 267). We began with purposeful random quota sampling, a process in which "a predetermined number of cases are selected to fill important categories of cases in the larger population" (Patton, 2015, p. 268), with the goal of recruiting instructors from one elementary school and one junior high school from each of the four major cities in northern Taiwan—Keelung City, New Taipei City, Taipei City, and Taoyuan City—to account for the effects of varying local policies. We did not actively seek out high schools because, according to the Ministry of Education, only 12 public senior high schools offered bilingual experimental classes across all of Taiwan at the time of the study (Ministry of Education, 2020). Within this quota, we sought to achieve maximum variation sampling, where researchers are "purposefully picking a wide range of cases to get variations on dimensions of interest" (Patton, 2015, p. 267); this was achieved by recruiting a sample of bilingual teachers who had been trained as content or English teachers, taught bilingual education through a variety of disciplines, and were working in schools with varying levels of experience with bilingual education. While conducting the study, we became aware of other schools that offered bilingual classes that either were in the process of applying to become government-recognized bilingual schools or had no current plans to apply for this status. Through our contacts, we expanded our recruitment to include variation in this respect.

Table 1 provides information on the participating teachers. In total, teachers from five elementary schools and five junior high schools were included in the study. Half of these schools were located in Taipei City ($n_{\text{elementary}} = 2$; $n_{\text{junior high}} = 3$), while the other cities had one elementary and one junior high school each, except Keelung City, which had no bilingual junior high schools at the time of the study. Seven schools were officially recognized as bilingual schools by the government, two were in the process of applying for official recognition (Schools G and I), and one school had no plans to become a bilingual school (School H). At the school with no plans to apply for bilingual status, the teacher (JT4) had been assigned to the school through a government bilingual training program, and only a limited number of students at the school received bilingual instruction. Half of the schools were in their first year of implementing bilingual education implementation, three were in their second year (Schools B, F, and I), and two were in their third (School D) and fourth (School J) years.

From the 10 schools, 12 teachers ($n_{\text{female}} = 10$; $n_{\text{male}} = 2$) agreed to be interviewed for this study. All of these teachers

Table 1 Teacher demographics

Code	City	School	Teacher type	BE course	NEST Co-teacher
ET1	Keelung	A	English	Integrated studies	Yes
ET2	Taipei	B	Content	Physical education	No
ET3	Taipei	C	English	Health	No
ET4	New Taipei	D	English	Integrated studies	Yes ^a
ET5	Taoyuan	E	Content ^b	Music	Yes
JT1	Taipei	F	Content	Environmental science	Previously ^c
JT2	Taipei		Content & English ^d	Art	Previously ^c
JT3	Taipei	G	Content	Health	No
JT4	Taipei	H	Content	Geography	No
JT5	New Taipei	I	Content	Physical education	Yes
JT6 ^d	Taoyuan	J	English	Scouting	Yes ^a
JT7 ^d	Taoyuan		English	Performing arts	Yes ^a

^aContent teachers were involved in course planning meetings, though not necessarily instruction

^bSchool administrator who spoke on behalf of the local music instructor

^cNEST co-teachers were no longer involved due to 2020 COVID-19 pandemic restrictions

^dTeacher had a bachelor's degree in her subject and a master's degree with a focus on teaching English to speakers of other languages (TESOL)

^eJT6 and JT7 were interviewed together at their own request

ET elementary school teacher; JT junior high school teacher; NEST native English-speaking teacher

had at least three or more years of experience in local schools, and all were citizens of Taiwan. Half of them held permanent teacher licenses, and half held provisional licenses, with three enrolled in a permanent license program. Six of the teachers were trained in their content area, five were trained as English teachers, and one held degrees in both their subject area and English teaching.

Interviews

Semi-structured interviews were conducted individually with each teacher, with the exception of two teachers at School J who preferred to be interviewed together. Prior to the interviews, participants were informed of the purpose of the study and of their rights as study participants. All participants gave their consent for the interview to be recorded and for the findings to be disseminated under the condition of anonymity. All interviews were held in quiet, private rooms at the teachers' respective schools.

Interviews were conducted bilingually in Mandarin and English by the first author and a research assistant and ranged in length from 41 to 93 min (mean length 57 min). The choice of language at any given time was driven by the participant's preference. All interviews involved some language switching, which at times was done for clarification while at other times was simply part of the natural flow of conversation between two bilinguals. Eight participants used English for the majority of the interviews, two used a combination of English and Mandarin, and two chose to

speak mostly Mandarin. The first author communicated in both languages throughout the interviews, as needed.

The semi-structured interviews were facilitated with the use of a researcher-created interview guide. Questions for the interview guide were designed around the ROAD-MAPPING Framework (Dafouz & Smit, 2020), composed of six dimensions describing the multidimensional nature of bilingual education. The first author adapted the framework for use in a pre-tertiary context and employed the interview guide to ensure all dimensions were discussed. Additionally, the first author asked impromptu follow-up questions throughout to elicit details for each dimension. Below are the subjects for questions posed for each dimension:

- Roles of English: ways the teacher uses languages in their classroom
- Academic Disciplines: how bilingual education has changed their teaching; the balance of content and language objectives
- Management: impact of top-down policies on teaching
- Agents: student reactions to bilingual education; teacher collaboration
- Practices and Processes: strategies for bilingual teaching
- Internationalization and Glocalization: beliefs regarding bilingual education policies globally, nationally, and locally

Though ROAD-MAPPING was initially developed for use in higher education, it has been applied in other levels of education as well (Graham et al., 2021). Smit and Dafouz

(2012) contended that higher education exhibits unique features, which justify its differentiation from compulsory education, perhaps most prominently with respect to the dimension of internationalization and glocalization. Nonetheless, governments are increasingly seeking to internationalize compulsory education in ways similar to higher education (e.g., Taiwan; National Development Council, 2018, 2021), suggesting that the ROAD-MAPPING dimensions may be increasingly valid for describing these changes at the primary and secondary levels of education as well.

Data analysis and researcher reflexivity

Interview recordings were first transcribed using automated transcription software and cleaned by the first author. Data were then coded in several cycles using procedures detailed by Miles et al. (2020). In the first cycle, transcripts were coded using a combination of in-vivo and descriptive coding. Then, data and first cycle codes were read and grouped into pattern codes. Pattern coding was conducted across several rounds using a process of constant comparison, confirming themes in the data until final themes were determined. Throughout this process, the first author also utilized jottings and analytic memoing as a way to facilitate “the researcher’s reflections and thinking processes about the data” (Miles et al., 2020).

Two types of analyst triangulation were utilized to enhance the credibility of the findings. Patton (2015) noted that researchers “can learn a great deal about the accuracy, completeness, fairness, and perceived validity of their data” by engaging participants in the review process. All participants were provided with a draft of this manuscript and were asked for feedback. The second type of analyst triangulation utilized was what Patton (2015) refers to as the “critical friend review” (p. 668). Because the first author was the sole data analyst, the second author acted as a “critical friend” throughout the research process—including data collection, sampling, and analysis—by asking questions, offering alternative viewpoints, and critiquing the work. The second author, an expert on Taiwan’s education system and faculty mentor of practicing bilingual teachers, conducted a final review of the analysis and findings to ensure its credibility.

The first author engaged in reflexivity throughout the process as a way of being “attentive to and conscious of the cultural, political, social, linguistic, and ideological origins of [his] own perspective” (Patton, 2015). The first author remained conscious that his identity—an English–Mandarin bilingual from North America living in Taiwan—could affect how he views bilingual education. He came to the study with strong views about what bilingual education should be (preferring García’s [2009] flexible multiplicity), though he stayed open to other arrangements as legitimate practices. He also maintained awareness of how his previous

experiences teaching in a private bilingual school in Taiwan may also inform his beliefs. More specifically, it became important for him to realize the contextual factors in public education that may have differed from those he experienced as a teacher in a private school. His conversations with the second author throughout the researcher process helped him explore and better understand these potential biases so as to let the data speak for itself.

Findings

RQ 1: What challenges do teachers perceive in Taiwan’s bilingual education system?

Analysis of the data revealed three challenges perceived by the interviewed teachers: policy ambiguity, teacher/co-teacher background, and academic culture. Each is discussed below.

Policy ambiguity

Every interview contained at least one segment that was coded for confusion regarding the bilingual education policy. ET5 expressed that teachers at her school “don’t know the expectations,” and ET3 expressed that she was “very confused about ... what bilingual [education] really is.” The result of an absence of detailed guidelines is that “each teacher’s thinking about bilingual education is different” (JT3). This became a challenge for planning bilingual education courses because, as one teacher described, “If the teacher does not have enough information about how to teach the bilingual class, everything is hard” (JT5). Teachers reported going through “a lot of trial and error” (ET2) to map their own way through bilingual education.

In some respects the teachers appreciated the “space” (ET2 & JT5), “freedom” (JT3), and “autonomy” (ET1) provided by this ambiguity, but there were questions about how teachers would be evaluated in the future. JT7 questioned about “what kind of goal the government wants” and ET2 suggested that “it’d be really hard to have a KPI (Key Performance Indicator)” for bilingual education. These questions raised fears that teachers would be evaluated “based on the results of [an English] test” (ET5), which several doubted would adequately measure program success.

Teacher/co-teacher background

While policy ambiguity left many questions unanswered, the teachers also shared how teacher backgrounds were the fallback guides for arranging the bilingual classroom. In some instances, NEST co-teachers influenced classroom language policy. The local teachers who co-taught with

NESTs generally believed that English should take the main role in bilingual education, which also held true for JT1 and JT2, who taught independently but previously worked with NESTs. At their school, “due to the [COVID-19] pandemic [NESTs] from abroad couldn't come, so the local teacher [taught] the bilingual class” (JT1). The previous involvement of NESTs in the school appeared to have an ongoing influence on the teachers' visions of bilingual education, establishing English as the main language of instruction. For teachers who had never worked with NESTs, there was a shared belief that both English and Mandarin belonged in the bilingual classroom. An exception to this was ET2, who firmly believed that Mandarin should remain the dominant language in class.

In terms of beliefs about learning in bilingual education, content teachers believed content learning should take precedence in bilingual education, whereas local English teachers put a greater emphasis on incorporating language learning in the bilingual classroom. This finding held in all cases except with JT6 and JT7 (same school), where content teachers worked alongside English teachers for planning. For these teachers, the collaboration favored content: “[In] the lesson meetings ... the [NEST] will double-check with the subject teachers the content for each week” (JT6). Thus, even with the involvement of English teachers, the NEST who led the class was influenced by the content teacher's role in the collaboration.

Academic culture

Entrance exams and student scores are a strong force in Taiwan's education system (Chou & Ching, 2012), especially at the junior and senior high school levels. Among the 12 participants in this study, 11 expressed doubt about bilingual education in relation to exams and student academic achievement. Eight of the participants directly addressed the issue of exams, and an additional three discussed academic achievement concerns more generally. ET2 explained that in Taiwan, “we put a lot of emphasis on tests.” JT1 illustrated what this may mean for bilingual education: “I am not sure that the ninth grade will emphasize bilingual education. They may carry on class like usual [monolingually]. I think they won't have time to expend effort like students in the seventh and eighth grade; the ninth grade will focus on the exams.”

As a result of this prevailing academic culture, more often than not, the schools we visited for this study chose subjects for bilingual education that have “nothing to do with the entrance exam” (JT6). These subjects were often in the arts, health and physical education, or integrated studies courses. Bilingual courses in the core subjects of science, social studies, and math were generally avoided because of their representation in national exams.

However, there was one notable exception—namely, JT4, a geography teacher. This teacher was enrolled in a city government initiative for training bilingual teachers and had been placed at her school by the government. The teacher noted that the school administration expressed reservations and requested that she restrict her use of English. She also had reservations and admitted to being anxious “about the test because there are too many things to teach in a really short class time.” She noted that “parents send their kids here because they want their student to get a higher score and go to a good high school,” so she felt the need to balance her desire to “add more English” and the desire of the school administration, parents, and students to keep the focus on the content of the exam. JT2 had faced a similar problem in a previous school: “I tried to speak a lot of English with my students, but the parents and my administrator complained. They complained that if I teach in English, students cannot understand and cannot get a higher score.”

RQ 2: How do these challenges affect teachers' reported implementation of bilingual education arrangements?

The three challenges—policy ambiguity, teacher/co-teacher background, and academic culture—seemed to have had some influence, to varying degrees, on the bilingual education arrangements that teachers reported implementing in their schools. Together, these challenges led to teachers reporting six different bilingual education arrangements practiced in northern Taiwan, as shown in Fig. 2. Each arrangement is described separately below.

	Target Language Dominant	Language Multiplicity	Local Language Dominant
Content Learning	JT1	JT3	ET2
	JT5	JT4	
	JT6	ET5	
	JT7		
Content-Language Learning	JT2	ET3	
		ET4	
Language Learning	ET1		

Fig. 2 Bilingual arrangements practiced in northern Taiwan

English dominant/content learning

Four teachers described arrangements resembling English dominant/content learning. All had or previously had NEST co-teachers (teacher/co-teacher background), and all worked in a junior high school setting, where the challenge presented by academic culture is strong. These teachers expressed English dominant philosophies where “all English would be the ideal” (JT5). Therefore, the goal was to “use English as much as possible” (JT1). All of these teachers expressed that “in an ideal situation, we will paraphrase and elaborate first [in English]” (JT7), and all agreed that Mandarin, if used, was reserved for “some students with lower English ability” (JT5) and when the subject matter “is really complicated” (JT6).

In terms of the learning continuum, JT7 shared that English is seen only as “a medium for [students] to learn the subjects,” and JT6 explained teachers “don’t really emphasize the vocabulary and grammar skills.” JT1 shared a similar philosophy: “I know that I am using English to teach subjects but not teaching English directly.” JT5 provided examples of what a content learning arrangement looked like: “PE class should focus on physical training. ... I will explain some skills like how to pass, catch, and shoot the ball.” In all of these schools, the focus was for students to “get the important concepts” (JT5).

English dominant/content–language learning

Only one teacher, JT2, described a classroom that was English dominant/content–language learning. JT2 was unique among the participants in that she held an undergraduate degree in her subject and a master’s degree in TESOL. JT2’s teacher background seemed to play a strong role in the bilingual arrangement implemented. In terms of the role of English, JT2 often considered how to “offer more English support or offer more English environment for them.” She discussed the importance of maximizing English language use in the classroom but acknowledged the need to use Mandarin sometimes to “help [the students] understand.” When asked whether she had concerns about all-English classes affecting students’ Mandarin abilities, she dismissed these concerns, stating, “When they go outside, they still speak Chinese.” She saw her role as giving as much exposure to English as possible.

However, coupled with this strong belief in using English in the bilingual classroom, JT2 also acknowledged the need to teach language to support the use of English in the content classroom. This teacher reported teaching language using different strategies and scaffolding such as visuals, gallery walks, and sentence frames, all with the goal of supporting content and language learning together.

English dominant/language learning

ET1 was the only teacher to report an English dominant/language learning arrangement. Both this teacher and the NEST co-teacher had English teaching backgrounds, with no training in the content areas that they had been asked to teach, suggesting that their background may have been a factor. ET1 shared that the bilingual education class was led by a NEST who sought to keep the course nearly all in English. The teacher indicated that the NEST encouraged the local teachers to not “give [students] the answers [in Mandarin] too fast” and “let [the students] think.” This English dominant approach was believed to prevent the students from “rely[ing] on [the local English teacher] or their home-room teacher” for Mandarin translations. ET1 also shared a bilingual education philosophy where “if you want to integrate English into content-based teaching, it is better that kids have some idea about the language structure or they go nowhere.” At the time of the interview, the teacher explained their approach as “teaching the language structure” first. In other words, the teacher believed language learning should precede content learning.

Language multiplicity/content learning

Three teachers described their classrooms as language multiplicity/content learning; however, there were some differences in the way language multiplicity was achieved. JT3’s decisions about languages would often “depend on the topic,” incorporating more English with simpler topics. However, she also emphasized that regardless of the topic, “[the students] still need to learn in [Mandarin].” JT4 described a slightly different approach in which “[English] is mostly for doing some activities” and “in my [lecture] I always speak [Mandarin].” Put another way, different languages were used for different instructional purposes. Notably, both teachers made these decisions about language allocation out of concern for student achievement (academic culture).

A similar approach was described by ET5, but these practices were divided between two teachers: “The [local] music teacher is using [Mandarin] to teach the main parts like the notes and all the difficult words and the concept of the music, and then the [NEST] will be there to introduce a song or the musician or the background story.” Unlike the other teachers in this category who were working alone, at ET5’s school students received instruction in both languages but from different teachers who took roles that were related to their backgrounds.

In terms of content learning, JT3 explained that “bilingual teaching in Taiwan is content-driven not language-driven,” and JT4 expressed that “the most important thing for me is content teaching. ... Teaching the sentences and grammar”

is the job of the English teacher. These beliefs may be connected to their backgrounds as content teachers or could be attributed to the academic culture. However, ET5 added that this content focus was not “teach[ing] them the technical term” directly but “just [learning] it naturally.” While this could also be associated with teacher background, it may also be connected with policy ambiguity. As ET5 commented, it was “recommended to us to use EMI” (ET5),” which the teacher reported as being implemented but with doubts about whether this was truly bilingual education.

Language multiplicity/content–language learning

Two teachers, ET3 and ET4, described arrangements that were language multiplicity/content–language learning. However, these two teachers achieved this balance in different ways. ET3 had experience teaching her health course through Mandarin in a previous academic year and explained that “all the content [objectives] are the same.” However, this year she has added English language objectives to her planning: “I just write down some target sentences or language or the words or sentences that they should be able to produce.” She explained that it is important to her that the students both understand the health content and learn the target language. She believed that bilingual education “should be [Mandarin] and English at the same time.” She described how both languages were present in her classroom: “Our book is a [Mandarin] book” and “I changed [the worksheets] into English.” She further shared that sometimes “[students] answer in [Mandarin] and I just rephrase in English” and “I give them pictures” to help elicit English production. ET3’s background as an English teacher with previous experience teaching health through Mandarin likely influenced the arrangement chosen, but ET3 also reported a lot of uncertainty about this approach (policy ambiguity), stating feelings that this arrangement may be “against what government wants.”

Whereas ET3 implemented the language multiplicity/content–language learning arrangement on her own in a single classroom, ET4 implemented this arrangement through a strict-separation model (García, 2009). The integrated studies course was divided between two teachers in separate classrooms taught at separate times. The teacher explained that “there are three classes of integrative activity. [The NEST and local English teacher] take one class each week and teach it through English. There are two classes for a homeroom teacher to teach [through Mandarin].” This allows the English class to “build up [students’] English ability first” so that students can “learn the concepts through the language.” It also allows the homeroom teachers to address the majority of the content learning through Mandarin. ET4 reported making this decision both out of concern for content learning in the subject (academic culture) and to align

the teaching roles with the skills and training of the teachers (teacher/co-teacher background).

Mandarin dominant/content learning

ET2 was the only participant to describe an arrangement classified as Mandarin dominant/content learning. This teacher took a strong stance on making the course Mandarin dominant: “I already chose one side. I already chose Mandarin.” This did not mean that he avoided English in the classroom; rather, the teacher described “looking for a chance to speak English” within a predominantly Mandarin-driven lesson. ET2 admitted that originally he “tried speaking a lot of English” based on his interpretation of the policy, but he lamented that “that doesn’t work” and thus decided not to force English into his course. The teacher expressed confusion and doubt about the arrangement (policy ambiguity), sharing “if you just look from outside, people will say, ‘Oh, is that bilingual? That doesn’t seem like a lot of English going on’.” ET2’s background in content teaching also likely contributed to his position that “the subject is the most important thing.”

Discussion

This study examined the challenges and bilingual education arrangements as reported by teachers in northern Taiwan. Through semi-structured interviews with 12 pre-tertiary teachers, three challenges and six different arrangements were identified. Extending previous research where scholars identified emerging challenges in Taiwan’s bilingual education system (Ferrer & Lin, 2021; Hsu, 2021; Huang, 2021; Lin & Wu, 2021; Tsou, 2021; Wang, 2021), this study sought to highlight the voices of teachers and create links between the challenges perceived by teachers and the bilingual arrangements they report to implement.

Policy ambiguity was a challenge identified by all participants, suggesting that the concerns voiced by Huang (2021) and Lin and Wu (2021) were shared by practicing teachers. This challenge is a possible explanation for the identification of six different arrangements in this study. While we will refrain from taking a position in this manuscript on which arrangements we believe to be and not be bilingual education, we will put forth that it is unlikely that all six represent what policymakers would define as the intended bilingual education since each is likely to produce different outcomes (Ball et al., 2015; Brinton & Snow, 2017). In terms of the language continuum, the policy may be seen as contradictory. As Ferrer and Lin (2021) noted, the Blueprint appears to be overly focused on English, with explicitly declared goals to “raise citizens’ English ability to a more internationally competitive level” (National Development

Council, 2018, p. 1). Considering this alone, teachers who are influenced by theories that call for maximizing target language input and output may gravitate toward a target language dominant arrangement. Yet, there is also mention of “equal importance attached to Chinese and English” in the Blueprint (National Development Council, 2018, p. 2) and “implement bilingual teaching” in the Bilingual 2030 policy (National Development Council, 2021, p. 18). Target language dominant arrangements are not designed to provide a target and local language with equal roles (Ball et al., 2015); if local languages are used at all, they appear only in a subordinated role of support. With respect to the learning continuum, no explicit direction is provided by the policy regarding the role of content learning or language learning in the bilingual education classroom. It is our belief that a path toward the intended bilingual education system must begin with clarity in terms of the intentions and goals along both continuums. This may come in the form of an amended policy or other clear directives from the Ministry of Education and city education bureaus. Failure to address this will result in the continued implementation of varying bilingual education arrangements, both intended and unintended.

Once the intended bilingual education arrangement has been clearly defined, the second challenge, namely, that of teacher/co-teacher background, can be addressed. While it is likely that policy confusion is a contributing challenge to the variety of arrangements, this study identified a pattern involving teacher/co-teacher background and the arrangements adopted. Schools that currently or in the past utilized NESTs took a target language dominant approach, whereas schools that only utilized local teachers implemented either language multiplicity or local language dominant. If a target language dominant arrangement is the intention of the bilingual education policy, then the NEST hiring mechanism seems to be producing the intended outcome. But if we are to interpret bilingual education as “equal importance attached to Chinese and English” (National Development Council, 2018, p. 2), then the utilization of NESTs in these programs must be further examined. In terms of the learning continuum, there is a clear divide between those with content training who favor content learning arrangements and those with language training who implement content–language learning or language learning. From the position of Coyle and Meyer (2021) and Lin (2016), content teachers should realize their role in teaching academic language/literacies for promoting deep learning in their subjects. Thus, mechanisms that provide content teachers with training in academic language/literacies are needed. Such training must extend beyond just using English in the classroom and lead teachers toward a raised awareness of the role of languages in academic disciplines and learning (Coyle & Meyer, 2021; Meyer et al., 2015). On the other side, if administrators insist on using language teachers as bilingual education teachers,

ignoring recommendations of Lin and Wu (2021) against the practice, at minimum, the language teachers must implement an arrangement where content has a role. While scholars have provided a wide range of definitions of bilingual education (Baker & Wright, 2017), we believe that most would agree with the assertion of García (2009) that bilingual education involves a focus on academic content. Thus, the language learning arrangement reported in this study is probably not an intended arrangement. Appropriate training must be provided to address this concern.

Finally, academic culture may be guiding teacher and administrator decisions about bilingual education arrangements. JT4 is perhaps the most salient example, where the pressure of teaching a nationally tested subject directly affected her arrangement choice, both in terms of the language continuum and the learning continuum. Academic culture may also explain why the majority of participants reported content learning arrangements. Yet, even those who reported other arrangements expressed concern about the academic consequences of incorporating language learning into their classrooms. In order to realize the intended bilingual education system, national curriculum developers may need to acknowledge the potential barriers that the current academic culture in Taiwan presents to the bilingual education system. Once the intentions of the bilingual education policy are clarified, the curriculum and examination system must be modified to align with the intended arrangement. Given the strength of the academic culture in Taiwan (Chou & Ching, 2012), it is unlikely that the intended bilingual education system can be realized unless there is cohesion between the arrangement and the national curriculum and examination system.

Limitations and conclusion

As Taiwan proceeds to implement the bilingual education policy, attention must be paid to challenges and how these translate to different arrangements, both intended and unintended. It is hoped that this study may encourage conversation among various stakeholders so that policy (mechanisms) and practice (arrangements) can be aligned to achieve the intended goals. However, this study has several limitations that should be considered when considering the findings and recommendations. First, this study was limited to one region of Taiwan. Although we reached data saturation with our sample, where the final interviews echoed the same themes as earlier ones and provided no new themes, future studies should investigate the unique arrangements and forces that may exist in other regions. Second, the sample included a wide variety of teacher backgrounds, meaning that many variables were present within the study. While this variation served our

purpose of including varying perspectives in our data set, the presence of so many variables greatly limits the generalizations that could be made about any particular group. It is recommended that future studies limit their sampling to one group (e.g., secondary content teachers) to allow deeper insights to be drawn. Third, this study may have been enhanced through classroom observations. Given that bilingual education was new for Taiwan's teachers, there was a noticeable reluctance to opening classrooms to observation. While self-report data can be problematic, participants were more accepting of sharing their experiences through interviews at this stage of their implementation. Finally, the absence of NESTs from the sample is a limitation given the impact of their teacher background on bilingual arrangements. The original focus of the study was local teachers, who are officially considered the lead decision-makers in public schools (though the data may indicate otherwise in practice). As we realized the size of the role that NESTs played during the data collection stage, we directly invited two NESTs from our sample schools to join the study; both politely declined without further explanation. In the other schools where we did not meet the NESTs during our visit, we mentioned our interest in speaking with the school's NESTs but received no follow-up response. Ultimately, given that NESTs were outside of the original scope of the study, we proceeded with only local teachers. However, we recommend that future studies seek to document the voices of NESTs involved in Taiwan's bilingual education and compare the findings with those presented here.

While this paper mainly focuses on the challenges and arrangements in the context of Taiwan, we believe the approach taken in this study, where challenges are identified and are then linked to the resulting arrangements, can serve useful for other countries designing and adjusting mechanisms for their bilingual education systems. We believe the bilingual education arrangements grid, in particular, may be helpful in other contexts for clarifying what arrangement is intended. The advantages of such a grid include that it can prevent or ameliorate the confusion and misunderstanding caused by the use of existing terms associated with bilingual education that are defined differently by various scholars and practitioners. If a bilingual education system is defined and challenges acknowledged, bilingual education has the opportunity of providing students with high-quality educational experiences that align with a nation's multilingual goals. Yet, when challenges remain unaddressed, the resulting bilingual education may not be the intended one.

Funding Financial support for this work was provided by the "Institute for Research Excellence in Learning Sciences" and the "Higher

Education Sprout Project" of National Taiwan Normal University, sponsored by the Ministry of Education, Taiwan, R.O.C.

Declarations

Conflict of interest We have no conflict of interest to disclose.

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