Article

Migrant Maths Teachers: Deficit, Translanguaging, and Growing Authority

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Abstract: This article draws from a longitudinal case study of trainee (the term used in official documentation related to Initial Teacher Training (ITT) in England and with some reservations throughout this paper) and early-career teachers (ECT) of mathematics. The sample represents migrant teachers that the Immigration Act of 2020 seeks to attract to the UK to address national shortages identified by the Migration Advisory Committee (MAC). The analysis examines how multimodal semiotic repertoires of language, bodies and pedagogical practices are entangled in classroom encounters. It shows how the ideology of Standard English can create an uncomfortable sense of different deficits amongst multilingual professionals and evidences how these can be addressed through a model of authority in which teachers get the right mix of mathematical subject knowledge (epistemic authority), the use of school practices and expectations (practical authority), and individual biography (personal authority). It uses translanguaging spaces to examine how teachers use communicative repertoires to orchestrate semiotic resources and manage their identity positions in ways that promote intercultural competencies during the daily encounters of teachers and their pupils.

Keywords: migrant; maths teachers; deficit; authority; translanguaging; multimodality; repertoire; contextualization cues; identity alignment

1. Introduction

Mathematics occupies an esteemed position on school curricula worldwide, both as an area of knowledge and for its perceived importance along, with other STEM (science, technology, engineering, and mathematics) subjects, as a driver of economic growth. International comparisons provided by PISA (the Programme for International Student Assessment) provide comparative reviews of mathematics attainment that have led to policy initiatives in England, such as Maths Mastery, and requirements to include more mathematics content in the training of teachers. These policy priorities, together with a shortage of mathematics teachers with a degree in the subject (Allen and Sims 2018), have led to mathematics teachers featuring on the UK's shortage occupation list (MAC 2020). This decision will continue to privilege migrants with maths teaching qualifications under the skills-based policy of the 2020 Immigration Act. These will add to the pool of migrants using other migration channels (for example family migration) and those already in the country who are seeking to train as teachers through one of the many routes that are available to qualify as a teacher. This paper explores how multilingual trainee and ECT teachers grow their authority in both the expected and unexpected encounters they experience as mathematics teachers in the early stages of their careers.

1.1. Power and the Production of Deficit for Multilingual Teachers

All applicants for a Post-Graduate Certificate of Education (PGCE) are required to obtain a GCSE (General Certificate of Secondary Education) in English or pass an equivalency test in order to be offered a place on a PGCE course. Furthermore, the professional standards for teachers in England explicitly state that all teachers must:

> demonstrate an understanding of and take responsibility for promoting high
> standards of literacy, articulacy and the correct use of standard English, whatever
> the teacher's specialist subject
>
> (DfE 2013)

This establishes English as the legitimate language of the teaching profession, against which, as Bourdieu (1992) suggests, all other languages are to be judged.

Standard English represents an ideology of language entangled with discourses of belonging and national policies of cohesion. Yosso (2006) argues that this creates a range of deficits for migrant teachers. Speakers of European imperial languages are privileged by the inclusion of these languages in the school curriculum; a privilege that others do not enjoy. For those from former British colonies, the ideology of English extended to the privileging of the colonisers' knowledge systems and traditions. South African scholars have recently argued that as well as making colonial Africans invisible, the use of English constructed 'African languages as vessels of the past' (Stroud and Kerfoot 2020, p. 6). This shows the historical reach and sedimentation of colonial ideologies that create a differential deficit for multilingual speakers from outside Europe that can inform racist stereotypes in classroom encounters.

In contrast, the category of 'native speaker' endows the monolingual (L1) English speaker with power. Furthermore, there is a sense of exclusivity in this category that it is impossible for a multilingual migrant to join (Piller 2016). Issues of accent can create considerable tension for teachers in front of an audience of L1 speakers who might challenge their right to be there:

> speaking audibly and without anxiety in another language is an enormous chal-
> lenge for all but the most extrovert and intrepid
>
> (Miller 2004, p. 295)

These tensions are heightened by deficit and the fear of failure in the face of judgements made by pupils and school managers. This is what Puwar (2004), in her aptly named 'Space Invaders. Bodies Out of Place', referred to as 'supersurveillance', and it plays a particular key role when a migrant teacher who has been educated outside of England interacts for the first time with English schools and classrooms.

1.2. Everyday Classroom Encounters and Translanguaging

In mathematics, Schleppegrell's (2007) description of mathematics teaching as multimodal has been emphasised by the use of digital resources and the recent work of de Freitas and Sinclair (2013) has described how, by gesture and gaze, the body is folded into the process of making meaning in mathematics teaching. Li (2011) acknowledges these processes of making meaning by taking a perspective of translanguaging, in which multilingual migrant teachers learn how to orchestrate (Zhu et al. 2017b) elements of the local semiotic nexus of classrooms to challenge the assumed deficit of language by making use of the multimodal possibilities of diagrams and digital resources. By focusing on process rather than code, languaging draws attention to the personal and professional communicative repertoires of migrant teachers:

> the collection of ways individuals use language and literacy and other means of
> communication (gestures, dress, posture, or accessories) to function effectively in
> the multiple communities in which they participate
>
> (Rymes 2014, p. 510)

The use of repertoires is a reminder of the biography of migrant teachers (perhaps histories of mobilities rather than a single journey ending in England) that may be written onto their body (Blackledge and Creese 2017), in ways that they may be more or less aware of, until their contact with schools and audiences of pupils. Through the processes of languaging, identity can be performed in many creative ways, and through critical awareness, migrant teachers can begin to challenge established identity discourses. These processes of

creativity and criticality are both central to Li's (2011) description of translanguaging spaces that can offer opportunities to perform new identities as well as to challenge stereotypes and discourses of linguistic deficit in a process of transcendence. His attention to 'moment analysis' (Li 2011) identifies the importance of scale in encounters and the significance of an appreciation of time as part of an adequate description of encounters throughout the PGCE course. The subject of this article is the emergence of these often-momentary practices that have the potential to develop psycho-social security (Capstick and Ateek 2021) for migrant teachers and their pupils by becoming normalized in 'translanguaging spaces':

> a social space for the language user by bringing together different dimensions of their personal history, experience, and environment; their attitude, belief, and ideology; their cognitive and physical capacity, into one coordinated and meaningful performance (Li 2011, p 1223), and this Translanguaging Space has its own transformative power because it is forever evolving and combines and generates new identities, values and practices
>
> (Li 2018, p. 23)

The paper will also explore circuits of power and authority that are part of the process of languaguing for migrant teachers. Some of these may be anticipated, for example, in the ways experience of education outside the UK may be at odds with the practices promoted in the PGCE course, or the effects of audible, visual, or readable cues. Pupils may recognise and respond to other identity cues (that teachers may choose to hide or be unaware of) that 'can become more salient and intense than others in the process of communication' (Zhu 2018, p. 215) in ways that teachers find themselves momentarily 'put on the spot', especially without appropriate training and discussion. This paper will draw on Gumpertz's (1982) description of contextualisation cues to show how, intentionally or inadvertently, migrant teachers may be assigned discourse positions that become points of physical enunciation that can be uncomfortable and unsettling as well as a source of pleasure and pride. This complicates the processes of translanguaging to show how 'the categorisation of cultural identities is subject to both self selection and ascriptions by others' (Zhu 2018, p. 219). By discussing the identity alignments of teachers and the ascription of identities of others (Zhu 2018, p. 228), the paper will examine the processes of emotional tension, mismatch and resolution that Capstick (2021) acknowledges as part of intercultural education. These aspects of the professional experience of migrant teachers are often misunderstood or ignored (Tereshchenko et al. 2020), and the paper therefore contributes to both the training of all school staff and especially the retention of migrant teachers in the shortage area of mathematics, where many of them find employment.

At any time during the school day, including whilst they are teaching mathematics, a contextualization cue might be taken up, and 'their recipients may choose to align with, avow, resist or ignore cultural identities evoked by these cues' (Zhu 2018, p. 225). Teachers are discursively (and practically by their schools) positioned as authority figures, and this account will discuss how they use their authority to manage the openness of translanguaging space and contextualization cues. It will outline a distributed model of teacher authority performed through the communicative repertoires of epistemic authority, practical authority, and personal authority. Knowledge of mathematics and related pedagogies are a basis for the development of epistemic authority. The focus of practical authority is upon 'high expectations' (DfE 2013), as interpreted locally by school procedures and practices for classroom management. Finally, personal authority is framed by the dispositions of a teacher's habitus (dispositions sedimented by their personal biography) and how it interacts with their schools and the different classes they teach. Whilst specifically drawing upon the fluidities of translanguaging spaces, this model will show that, although the professional development needs of migrant teachers are particular, they are not exceptional. Managing contextualization cues is an important aspect of the performance of identity for all teachers and pupils, and so this analysis of the growth of authority could be a part of behaviour management training for all teachers.

2. Collecting and Interpreting Data

The sample (see Table 1) was purposive and designed to represent the diversity that existed amongst participants in the sample regarding age, gender, and migration trajectory. From this work, I have selected data to address how language supported the professional becoming and growth of authority for early-career migrant mathematics teachers.

Table 1. Sample Frame.

Pseudonym	Age	Gender	Migration Trajectory	Migration Channel	UK Work Experience
Aharya	29	F	India	Family	Teaching assistant
Christophe	37	M	Cameroon/Germany	EU	Warehouse labourer
Dieter	31	M	Germany	EU	Retail trainee
Doina	26	F	Romania	EU	Hospitality
Giana	38	F	Italy	Student	Management Mother
Idman	31	F	Somalia/Holland	EU	Student Casual worker
Imane	39	F	France/Algeria	EU	Photocopy engineer
Osasune	37	F	Spain	EU	Pharmaceutical Chemist Mother
Pilvi	29	F	Finland	EU	None
Semye	28	F	India	Highly skilled	Legal administrator

The research gained the approval of the university's ethics committee. Semi-structured interviews were used to collect data for a longitudinal case study that enabled trainees to reflect upon their experiences at the end of school placements during their PGCE (Mathematics) course or during their early teaching career. The down-skilling of migrants is well-established in the literature (Fernandez-Reino and Rienzo 2022), and this, along with the gratitude that many of the trainees showed on being offered a place on the course after, at times, giving up hope of becoming teachers in the UK, presented opportunities and challenges for the collection of data. The fact that I knew the interviewees lent itself to a sense of familiarity that provided a safe space (Capstick 2019), aiming to develop a psycho-social security that, through a combination of intense listening and flashes of conversational humour, provided opportunities to collect rich data. This conversational fluidity emphasised the politics (Giampapa 2016) of my own change of role from course leader to researcher. The opportunity to be listened to when talking about what, at times, could be difficult issues drew on approaches to narrative interviewing in which the participants construct knowledge by following 'their trails' (Riessman 2008, p. 24) and to refer to details that might otherwise have remained untold. Follow-up questions allowed me to explore inconsistencies as well as to probe further in order to answer my research questions.

I reflected upon the interview (and began preliminary analysis) in notebooks afterwards and, more systematically, through a thematic analysis (Braun and Clarke 2013) after transcription. During this process, some data seemed to be more suggestive, either because of their detail or brevity, or of the precariousness and anxiety that many participants described experiencing in growing their authority in classrooms. This sense of data 'glowing' (MacLure 2011) provided seminal points for my consideration of the development of migrant teachers' semiotic nexus in translanguaging spaces (Li 2018) and the analysis I shall present for the growth of their professional authority.

3. Analysis: Growing Epistemic Authority

3.1. Mathematics and Epistemic Authority

Mathematics curricula, pedagogies, and classroom assemblages differ between jurisdictions (Pepin 1999). Data handling (statistics) is included in the English National Curriculum but is not part of the curricula in much of Europe.In many parts of the world pupils work individually at desks laid out in rows facing the teacher, whereas in many English schools, tables are arranged in fours to facilitate pedagogies of collaboration and group work. In addition, many jurisdictions do not allow the use of calculators or do not

fund the use of other digital and interactive devices in the teaching of mathematics. For migrant teachers, this combination of personal mathematical experience and the assemblage of an English classroom is a challenge to their sedimented mathematical experience and therefore the growth of their epistemic authority in English schools.

3.2. Diagrams and Powerpoints: The Semiotic Possibilities of Multimodality

In England, diagrams (bar modelling and number lines) and, increasingly, digital manipulatives displayed on interactive whiteboards, offer mathematics teachers a multimodal semiotic repertoire. The possibility that this multimodal repertoire could promote learning, and thereby help grow epistemic authority, could come as a surprise:

> [It] took me more than five minutes first to explain it without the number line but as soon as you draw that magic, I wish I had a number line because it's quite magic. It just made them understand it and just gave me the answer quick. (Imane)

Imane's comment acknowledges the usefulness of the number line diagram. Her use of the phrase 'quite magic' alludes to her surprise at how using a multimodal semiotic repertoire enabled her pupils to make unexpected links with prior knowledge and make progress. Pilvi experienced the same benefits when she designed an interactive presentation to define a sample space by listing all the possible different outfits the Beckhams (David and Victoria, at the height of their celebrity) might wear:

> I can make the students explain the topic and I don't need to do it because probably the student can make it better than me or something like that. (Pilvi)

Pilvi revelled in the opportunities that digital technologies offered, and the quality of her presentation extended her communicative repertoires by empowering her pupils in a translanguaging space in which her PowerPoints folded into her own linguistic repertoires in English to make meaning for everyone in her maths classroom. Yet, Pilvi was not able to recognise the growth of her epistemic authority:

> I have the most beautiful presentation on the interactive board but I felt that I failed in my ability to explain the topic [. . .] Because I couldn't explain it so well as a native-speaker teacher. So it was like a hard feeling and even if I have the board and I have everything really great, visual material, but then my explanation is bad. (Pilvi)

The power of the 'native' (L1) speaker is clear in this quote, as is the assumed importance of teacher explanation in the process of teaching mathematics rather than teacher talk being part of a semiotic repertoire for learning. The inhibiting power of the emotions of shame and inadequacy is clear and was frequently reported by trainee teachers in the study, both by those, like Pilvi, who were recent arrivals in the UK and those, like Semye, who had been teachers in India and had already been working in the UK:

> I know my disadvantage, my accent and all these things [. . .] wherever possible I make PowerPoints so that they give you [. . .] they should understand what I am saying and go along with [. . .] so that they can see. If they do not understand what I am saying they can see and understand. (Semye)

Semye's reference to her accent as a contextualization cue of 'audible difference' (Miller 2003), and Pilvi's comments about native speakers, both show the production of deficit and the importance of developing and acknowledging a multimodal communicative repertoire for teachers. The migration histories of Semye and Pilvi were between UK and India and Finland, respectively. More complicated stories of migration, better described as histories of mobilities, resulted in different communicative repertoires. This is clearly shown by Idman, a Somali refugee who had completed A-levels in Nairobi before joining her extended family in London (including her younger school-age sisters), and then worked part time as a packer with Amazon whilst gaining a degree in mathematics:

When we did the transformation of the graphs and they actually came to the board and then sort of [. . .] let's see what would happen in this function if you have this function and f(x) + 1, what would happen? They all start drawing on the [mini-white]board, so they draw all on the [mini-white]board and I said, 'Okay. Now, let's check'. And then when they are finish, they say, 'Oh, miss. I'm wrong'. 'What? Okay. What did happen?' Shift to that. Shift to this and okay. Now, what do you think happens?' and [. . .] I said, 'Now, discuss with the person next to you', and then they sort of done it. (Idman)

Here, we can see how Idman's repertoires as a teacher are informed by her experience of sitting in English-speaking classrooms and by the advice of her sisters who were at school in England. There is the clarity and confidence of command, in which Idman uses typical phrases that are connected to established rituals of the mathematics classroom: 'let's check' and 'discuss with the person next to you'. In this lesson, the authority of spatial position—'when they actually came to the board' (to be like a teacher)—is also a clear reminder of the power of multimodality, especially when a computer package is used to project the right answer, and how different repertoires can be fluidly orchestrated (Zhu et al. 2017b) by a teacher, Idman, who is herself used to the fluidities of translanguaging both in her history of mobilities and her daily life amongst her family.

In showing how digital presentations and interactive whiteboards are a useful part of the communicative repertoire for migrant teachers, I have also shown how the concept is useful for all (L1 and L2) trainee teachers. Pilvi's comments about the quality of her spoken explanations compared to an L1 ('native') speaker point to specific issues that exist for migrant L2 (multilingual) teachers, many of whom had learnt mathematics in a language other than English from a young age. This meant that the vocabulary of mathematics could be a problem even for trainees like Aharya who had been deliberately sent by her parents to an English language school in Chennai to improve her life chances:

I found out they did not know what addition is, what a subtraction is, what multiplication is, because people, or most of the teachers, communicate saying 'Do take away' rather than saying 'subtraction'. Because I was taught in the traditional way of saying 'subtraction, addition, multiplication' take away and all that, it's new to me. So that's the reason I asked you, do you have to use proper maths language or just colloquial language. (Aharya)

Aharya's comments again emphasise the observation by Blommaert and Bakus that repertoires are 'individual, biographically organized complexes of resources, and they follow the rhythms of actual human lives'. (Blommaert and Backus 2012, p. 8) as well as drawing our attention to the differences amongst speakers of English around the world. At the same time, all members of the PGCE course are learning to 'acquire(s) the discourse patterns of specific and specialized [teaching] professions' (Blommaert and Backus 2012, p. 9), which again points to how the language needs of migrant teachers are shared with all other L1 trainee teachers on the PGCE course.

Translanguaging is an important reminder of all the language resources that multilingual teachers bring to their work in schools (and not just for the purpose of interpreting at parent meetings). Some L2 mathematics teachers reported that they always recalled their times tables mentally in L1 when teaching mathematics, and that their silent translation, as well as their use of different mathematical symbols, sometimes required unacknowledged, but necessarily very quick, adaptations:

Okay, you just do 12 divided by 3 and I just put the dots (:). But in England, you put the line in between as well. I didn't know that. It never came across. I know on the calculator, you've got that but I thought it was just from the calculator. I never thought about that. And the kids said, 'Hey miss, shouldn't you put the line in between?' And I said, 'Oh really?' I just put it in because I thought oh maybe I'm going wrong [. . .] So that's what I'm saying. That's what I need to

be careful, really. That I need too [...] and there's nobody there telling me or helping me out. (Giana)

Giana's funny admission of the importance of improvisation in maintaining her epistemic authority is a good example of how teachers need to improvise to save face. It is useful to see the range of resources that Giana had with which to correct her error and maintain her authority as a maths teacher. It is noticeable that, on reflection, she felt constrained to treat the incident as an error rather than referring to differences in mathematical symbolism that would have made a useful teaching point in which the prefix of translanguaging points, as Li (2018) suggests, to a moment of creative transcendence. This fleeting moment (similar to Giana's admission that she carries out multiplication in Italian), together with the ideology of Standard English, contributes to the invisibility of the moment itself that makes it difficult to discuss with others. Giana had spent 10 years in a successful marketing career before entering teacher training, and the emotional significance of her compromise and isolation is an important reminder of the durability of mathematical practices and the effect of language ideology that constructs languages spoken by multilingual teachers (and their pupils) in a way that Cummins has memorably described as 'the two-solitude assumption' (Cummins 2007, p. 221). The evidence I have presented in this section challenges this assumption. Instead, it points to the importance of considering the language fluidities of a translanguaging perspective and the way in which the development of a semiotic repertoire (Blackledge and Creese 2017) promotes a multimodal view of mathematics to support the growth of epistemic authority of all trainee teachers both L1 and L2 speakers of English.

4. Analysis: Growing Practical Authority

Getting the wrong answer can present problems for a maths teacher, and this may not provide an opportunity to collaboratively check a solution to find an error but instead for the class wag to ask, 'Call yourself a maths teacher?'. The humour draws on the difference described by Zhu (2018) between self-selected identity and identity ascribed by others. It also shows how the requirements of authority can quickly change from completing a maths question (epistemic authority) to managing an unruly, cheeky pupil by exercising practical authority to reinforce expectations and school procedures. This section will acknowledge the importance of intersectionality by markers of identity to which pupils and teachers may orient differently during classroom encounters and thereby illustrate the differential affects and power and the way different bodies are listened to.

4.1. Responding to Classroom Challenges and Growing Practical Authority

For many of the teachers, this was their first time in English schools, with their local practices and vocabulary that were new and could create an unexpected deficit:

Actually, the first couple of weeks when you came in and you actually act as a teacher, said, 'John, you're late', 'Sofia, turn off your phone'. And actually, sort of doing the role-play of how a teacher should be. I've picked up a lot from there. So in that term, you've actually, you've prepared us what to say, how to act if the child comes in late, if the child has a phone, and a load of other behaviours. (Idman)

Idman's use of the word 'behaviours' suggests the use of gesture and actions, in addition to vocabulary, legitimised by local institutional rituals and somatic norms (Puwar 2004) that trainee teachers could observe other teachers using in schools:

Well actually it's not OK, is it? Because you're coming here to learn and I'm coming here to teach. That's what I get paid for, and that's your interest to learn. (Doina)

In this excerpt, Doina shows how the language and 'body idioms'(Goffman 1963) of other teachers can be used to develop her professional repertoire (Blommaert and Backus 2012) by producing a space that emphasises that all parties are in a school, thereby growing

her practical authority as a school teacher. Various studies (Wessendorf 2013; Zhu et al. 2017b) have shown how the practices of everyday mixing in local shops and playgrounds in diverse areas of London might introduce the trainee teachers to repertoires that are very useful when faced with direct challenge in classrooms:

> He was misbehaving again direct [. . .] and again I asked him to be quiet and he said, 'What? What?' He confronted me but, 'I can't understand you', and he told me that and 'I know, can't you understand me? We are not having a conversation out here now? I won't argue with you anymore. I won't mess with you anymore. We'll just have one-to-one conversation in front of everybody', and I faced him up and [. . .] he never went on with that. (Osasune)

In the syntax of Osasune's account of the translanguaging space of this encounter, the divergence from Standard English—the legitimate language of the school—is clear: 'direct' instead of 'directly' and the phrase (influenced by Spanish structures) 'We are not having a conversation' instead of 'Aren't we having a conversation?', which could be the basis of the boy's claim to not understand. However, in response to this claim, when the boy changed scale to claim the authority of a native speaker, Osasune also changed scale by using the local vernacular—'I won't mess with you anymore' (repeated in the phrase, 'I faced him up')—which successfully brought the challenge to an end.

Teachers of colour could face similar challenges:

> each and every word I am saying they are just kind of 'Miss this is not how to pronounce [. . .] you pronounce like "this"', and I was telling, 'But you know what I'm saying about, for example square, for example area of the square' and 'Miss you can't pronounce like this, you can say [. . .]' 'Of course I understand, my apologies, but you know what I am telling' (Semye)

Unlike in the example involving Osasune, the incident Semye recounts took place in a white majority school outside London in the South Midlands, where she had moved in the expectation of purchasing a house. Again, the teacher's syntax illustrates divergence from the legitimate language, and again, pupils claim the authority of the native speaker to repeatedly belittle Semye, despite the fact that she changes scale and claims epistemic authority by using completely correct mathematical language. Both instances illustrate a difference between the teacher selected identities and those ascribed by pupils with other audible and visible cues affecting the unfolding of the encounters. The invisibility of this racist belittling and infantilisation (Puwar 2004, p. 58) of a person of colour can affect staff retention: in this case, Semye decided to return to London.

4.2. The Creation of Translanguaging Space in Superdiverse Classrooms

In contrast to Semye, Christophe, a multi-lingual Cameroonian man who spoke French and English (and who had spent five years unsuccessfully trying to become a teacher in Germany), worked in a superdiverse (Blommaert and Rampton 2011) south London classroom where pupils could speak many different languages. His interactions were not limited by assumptions of the power exercised by native (L1) speakers in the previous encounters I have described; instead, he recounts a discussion about language use:

> My English at the start of it I thought it was here: 'The Queen's language'. I was just speaking the English as the English, what my student would call the 'dictionary English'. They tell me that 'Sir that's dictionary English' and I will tell them, 'No it's the Queen's language'. I say, 'It's not Cockney' and they will start laughing. I said, 'I don't speak Cockney, I speak the Queen's language'. They say like, 'Yes Sir, because your language is too direct, too straight, it just [. . .] you don't say anything that's not in the dictionary'. (Christophe)

Here, in contrast to Osasune and Semye and exercising the power of his male identity, Christophe claims to be speaking a legitimate English, albeit the legitimate and highly prized variety of English of the English-speaking minority in Cameroon, which loses its

symbolic value in the process of migration and becoming a teacher in a South London classroom. Instead of the processes of racist infantilisation endured by Semye, both Christophe and his pupils remain on the same scale by discussing the form of Christophe's language. This sophisticated awareness of repertoire and the ability to discuss language was the basis for forming a translanguaging space (Li 2011) in which Christophe and his pupils learnt from each other, as Christophe recalled:

> I never thought I would say to somebody, 'Are you all right?' 'Yes it's all right, evening', 'Good afternoon, how are you?' It's not like, 'Are you all right?' 'Yeah I'm all right'. I had to learn that from them 'Are you all right?' 'Yes', coming down 'Are you all right?' 'I'm all right, thank you'. (Christophe)

Here, there is the process of learning a phrase and Christophe's astonishment at all that this means: instead of cue contextualization that I have used elsewhere the translanguaging space challenges categorizations by being 'transformative' (Zhu et al. 2017b, p. 412). It is not the words in themselves but the ways in which their use affected his own view of the professional status of a teacher, which Christophe had previously attached to the legitimate language, 'the Queen's English'. The phrase 'coming down' indexes a different (and softer) enunciative tone and, with it, a valuing of difference by orchestrating resources through a process of 'attunement' like 'players in an orchestra who need to respond to each other's playing.'(Zhu et al. 2017a, p. 388). It is a process suggested by the combination of sound, indexicality and pensive repetitions that Christophe outlines. Christophe is not positioned as an outsider and belittled like Semye; nor does he feel impelled to silence the acknowledgement of his varied language resources like Giana. Instead, he and the pupils have a created a translanguaging space:

> by bringing together different dimensions of their personal history, experience and environment, their attitude, belief and ideology, their cognitive and physical capacity into one coordinated and meaningful performance, and making it into a lived experience
>
> (Li 2011, p. 1223)

Doina also pointed to how the acknowledgement of difference in translanguaging could affect classroom relationships and thereby practical authority:

> I don't feel vulnerable, I feel as if I'm telling them, 'Look, I don't know everything myself and I'm happy to share this with you. You don't know everything so, you know, how about we kind of helping each other. We're all in the same boat'. So trapezoidal, I'm still struggling with this word. (Doina)

In the next section, I will describe how this can be further developed by the ways in which teachers can use their own biographies and dispositions to make their personal authority a distinctive feature of their classrooms, enabling learning and transformation (Li 2018) through the further development of the possibilities of translanguaging space.

5. Analysis: Growing Personal Authority

Despite the routine claims of practical and epistemic authority that a school and a teacher expect, 'audiences hear in a way special to them'. Goffman (1981, p. 137). Listeners may take contextualisation cues from a teacher's performance that can interpellate a teacher to identity positions that are surprising in content and sudden in timing and, therefore, very challenging. How teachers respond to these interpellations is the focus of this section. It will discuss what Li (2011) describes as the creative and critical moments of translanguaging space to show how teachers respond in the moment but also create possibilities for different categorisations and identifications for themselves and their pupils. It will evidence how the processes of translanguaging and the openness of translanguaging space (Li 2011) contribute to intercultural learning processes that:

> Support participants in understanding the impact of their cultural background on
> their identity development, and on their interpersonal and intercultural relations'
>
> (Capstick 2021, p. 135)

5.1. Phatic Communion: Small Talk

Talk in mathematics classes is not always about learning mathematics and phatic communion or more suggestively 'small talk [. . .] a conventialised and peripheral mode of talk. It seems to subsume 'gossip', 'chat' and 'time-out talk' (Coupland 2014, p. 1) through which, by a 'labour of conviviality' (Wise 2016, p. 482), teachers develop a classroom atmosphere. The routines and rituals of this labour could be very confusing. Pilvi admitted that she expected something more in response to the question 'How are you?' than 'Fine, thank you'. Semye, a self-confessed cricket fan, found it difficult to respond to questions about her football allegiances: 'Miss, which team you support?' Before that I was supporting Man U and now I'm supporting Arsenal. I don't know'. Nonetheless, trainee teachers could attune to these symbolic practices (including talking about the weather) as well as critically engaging with the mismatches of communicative cues, in the process of creatively developing a translanguaging space for themselves, and with their pupils, in ways that this section illustrates.

5.2. Questions about Where Are You From?

In assuming the answer, 'not from here', this oft-reported question establishes migrant teachers as outsiders. In the context of migration, the assumption of a world divided into nation states overlooks what may be complex migrant trajectories and mobilities that do not have simple answers. Luckily, the subject of mathematics is often considered a common international language, and so migrant maths teachers do not have to face the kind of difficult belittling questions about their epistemic authority reported by Smyth and Kum (2010) in the case of refugee English teachers in Scotland. Other cues, including skin colour and accent, are folded into establishing the boundaries of categories in the question 'Where are you from?', which can result in various degrees of comfort in its answer. Giana's Italian accent and skin colour led to many discussions, about

> football teams, about Lamborghini, about Ferrari. This sort of questions I was
> getting which I was happy to answer. Or they were asking how say in Italian such
> and such. They were fine. They find it fascinating that I can speak any foreign
> language. (Giana)

These questions indexed the symbolic prestige of Italy, with which Giana was entirely (and perhaps proudly) at ease, in such a way that she was able to gain more personal authority by drawing confidently upon her 'Italianess'. 'They were fine', she says in commenting upon a mutually rewarding translanguaging space. This was not always so, even for white European migrants, who could be interpellated into uncomfortable positions:

> 'Are you German, do you know Hitler?' That's really [. . .] that's really classic
> [. . .] and I say, 'Well, I don't know Hitler in person but I know how he looked
> like'. If the question is, 'Do you like Hitler?' then I say, 'No I don't like Hitler' and
> I say, 'I think it's a very hard thing to like Hitler because he did all these awful
> things you probably learned about in history' [. . .] So I try to be as kind of like
> calmly and nicely about it as possible. (Dieter)

Dieter's use of the phrase 'really classic' to describe this question about Hitler (which came in the midst of solving an equation) indicates not only his command of local vernacular but also his amusement at the frequency with which he was asked questions about the Second World War. His response drew on the way in which discussion of the Second World War is central to the German education curriculum (Kampfner 2020). The authority he grew by using this resource to upscale is demonstrated by the clarity of his arguments and by attuning his own delivery in order to demonstrate that 'he was not that kind of

German' (Dieter). Other white trainees were pleasantly surprised that history and sound offered them a sheltered invisibility: Pilvi, from Finland, reflected that 'when you look at the map maybe I am East European' and Doina, from Romania (and certainly from Eastern Europe), was happy to enjoy the comforts described by Giana when her accent led to her being classified as Italian. Invisibility was not an option, however, for migrant teachers of colour or those who wore religious dress.

5.3. Race, Power and the Possibility of Resistance through Playful Talk

Playful talk or 'a range of verbal and multimodal activities and routines, including humour, parody, teasing, which can emerge in teacher's and students' talk' (Tai and Li 2021, pp. 606–7), is an element of intercultural competence (Capstick 2021) that can be developed and displayed in the becomings of translanguaging space.

Despite being subjected to racist belittling, Semye, who had been a teacher in India, followed her ambition to teach in England when she joined her husband through the highly skilled migrant route:

> Oh just my colour, I can't change my colour, but I can change my dress and hair care. I tried all sorts of things to get along with the kids, so that the kids can, you know, recognise me and they can approve me as their teacher so that they will come and approach as well. (Semye)

This shows the identity discourses that Semye orchestrated in classrooms but also that not all identity positions are equally attainable because 'the cultural supermarket is not a completely free market' (G. Mathews (2000) cited in (Block 2006, p. 36). Semye was defined by the racist cues and assumptions about audibility and skin colour that are regularly reported by teachers of colour in England (Haque and Elliott 2017). Playful talk could provide both a critique and an emotional release:

> The first time when you say 'Algeria' they say, 'Oh, Nigeria'. I said, 'No, no, no. It's not Nigeria, it's Algeria, and it is a country between Morocco and Tunisia. I know you know Morocco and you know Tunisia. But Algeria is in the middle'. (Imane)

Imane had been a photocopier maintenance engineer before becoming a teacher, and the way in which she tells this story demonstrates a repertoire that included the kind of call and response humour that is familiar to her from the scripts of TV comedy and the banter of a (heterosexual) male-dominated workplace. Playful talk provided information, grew her personal authority by 'having a laugh' and challenged assumptions that her audience might entertain about her as a Muslim woman dressed traditionally in abiyah and hejab. As well as enjoying the relief of humour like Imane, Christophe consciously used it to challenge stereotypes ascribed to him as an African man and other categorical differences:

> It started coming out as a joke. Telling them my own side of the jokes also, like, 'When you don't have a pen, how can you go hunting with a bow and an arrow?' They would [. . .] stay back, think about my joke. I said, 'Ah-hah, did you get my joke?' they said, 'No sir'. I said, 'That is why I didn't get your joke also yesterday where you'd [. . .] say[ing] something'. They started [. . .] the fun about it was we started creating an environment whereby we knew we were different. I made them understand that I'm different. (Christophe)

By claiming the authority to tell his side of the joke, Christophe deliberately identified himself as 'a proud African' who used his intercultural and symbolic competences not only to declare difference but track its acceptance through the translanguaging space of his classroom by challenging local assumptions and empowering his pupils in a superdiverse working class neighbourhood in South London. He used the authority of his black body and migration trajectory to create an environment in which difference, instead of being grounds for othering (as it was for Semye), was normalised. However, although the possibility of playful talk was a key creative dynamic of the translanguaging space that

reframed difference it was, for Christophe, secondary to engaging his pupils in the learning of mathematics:

> I found myself at times that they come back and tell me that 'Sir, you're funny'. I don't dwell on that. I say that 'Did you learn something today?' 'Yes Sir'. I say, 'What did you learn? Hope you didn't learn that I was just funny'. 'No, no, no Sir, we learned this, we learned that, we learned this'. And that's what makes it different to me. (Christophe)

In this exchange Christophe was keen to emphasise from his multiple identity positions the priority of his professional commitment to learning. He uses the creative posibilities of translanguaging space to empower pupils and make them laugh, and, by growing the authorities identified in this paper, to be listened to as a teacher of mathematics.

5.4. The Challenge of Growing Authority

Although the data presented have been chosen to illustrate a model of how migrant teachers grow authority, it is clear that the boundaries of the categories of epistemic, practical and personal authority are permeable, and that these authorities may be exercised momentarily in the process of languaging, as happened, for example, with Dieter when he was interrupted by a question about Hitler whilst solving a quadratic equation. This shows the identity mismatches (Zhu 2018) and very difficult challenges that may be faced by migrant maths teachers. They must be prepared, at least in the early years, to respond to them successfully and authoritatively if they are to realise their own ambitions and satisfy the surveillance of all their audiences (including pupils, other staff, and OFSTED (Office for Standards in Education, Children's Services and Skills)) in schools.

6. Conclusions

This article has shown how the ideology of Standard English referred to in the Teachers' Standards (DfE 2013) can create an assumed deficit amongst multilingual trainee teachers. In contrast, Li Wei's description of the possibilities of translanguaging space focuses on the use of repertoires that trainees have developed biographically and during their professional training as teachers. Trainee teachers have shown how they can challenge local discourses, and some, like Christophe and Doina, have shown how a critical and creative awareness has prompted them to develop constructive professional relationships with pupils that promote both mathematics and intercultural learning. The perspective of language as a process of translanguaging in which multimodal resources are orchestrated for learning provides an approach for a much-needed agenda for the development of professional language repertoires and training for all teachers.

By a specific consideration of multilingual migrant teachers, this paper has added to research (Tereshchenko et al. 2020) that has documented the difficulties experienced by teachers of colour that effects staff retention in areas of shortage like mathematics. The racist belittling experienced by migrant teachers of colour and the unexpected interpellations based on historical stereotypes experienced by Dieter have shown the importance of Zhu's (2018) model of contextualization cues and identity alignment (or misalignment) in discussing identities ascribed to migrant teachers. The research has documented the relative isolation of migrant teachers as they face such momentary challenges during their work in classrooms. It shows that schools (and all providers of Initial Teacher Training) must have clear policies concerning the particular needs of multilingual migrant staff. They should aim to create a safe culture in which staff can talk with confidence about their experiences, and that their hard-won successes in creating translanguaging spaces are not dismissed as being the achievements of mavericks.

The model of the growth of authority (and agency) has shown how issues of classroom organisation and management benefit from the translanguaging model. Epistemic authority has focused on the way that diagrams and digital tools can be an important part of a multimodal semiotic nexus that helps migrant teachers and pupils alike. Practical authority emphasises the importance of repertoires and local practices learnt outside school

to produce language capitals that can be used to challenge assumptions of deficit made by L1 speakers of English. Personal authority, through the processes of small talk and playful talking, draws attention to ways in which migrant teachers can challenge ascribed identities, as well as, through the ethos and openness of translanguaging space, enable them to transcend categorisations, at least momentarily. By focusing on the growth of authority, multilingual (L2) trainee teachers and their mentors can audit their communicative repertoires and plan for their development in ways that increases their professional agency.

The conclusions of this paper develop from thinking about the professional linguistic practices of migrant teachers and drawing upon Li's (2011, 2018) model of translanguaging to explore the implications for their training and workplace mentoring. In so doing, it provides a framework for considering the identity practices and professionalization of other groups and a basis to review the use and understanding of the processes of languaging in the training of all teachers and other social professions.

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