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Content teachers' beliefs and attitudes toward working with multilingual learners through integrative approaches

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Introduction: The fast-growing population of multilingual learners (MLs) in U.S. schools calls for ML-focused instructional support from content classroom teachers to acquire content knowledge and language proficiency simultaneously. However, teachers in general lack competency in content-language integrative pedagogy that builds on MLs' transliterate capabilities, placing MLs at a greater disadvantage in the content classroom. Given that teachers' classroom practices are shaped by their underlying language ideologies, it is important to examine what ideological beliefs and attitudes teachers are operating with for their day-to-day work with MLs. Framed by scholarship on content-language integrated instruction, language ideologies, and transliteracies approaches, this study examined the relations between content teachers' ideological beliefs and attitudes toward teaching MLs in the content classroom and several teacher-related variables.

Methods: This study employed a sequential mixed-methods design for a more comprehensive understanding of teachers' ideologies about working with MLs. Quantitative data analysis was conducted by confirmatory factor analysis and multiple regressions using survey responses of in-service content teachers ($N=100$) followed by focus group interviews ($N=24$).

Results: Results of a confirmatory factor analysis using a survey suggested that teachers who were more likely to endorse English-only monolingual pedagogy did not necessarily view themselves as having lesser sensitivity to MLs' backgrounds in their classroom. Results of regression analyses showed that teachers using pull-out or push-in instruction were more inclined to support language-integrated content teaching and considered themselves more sensitive to MLs' backgrounds than teachers who instruct specialized content. Interestingly, the specialized content teachers having a greater percentage of MLs in their classroom were more supportive of the language-integrated content teaching pedagogy than other teachers using the teaching role. Analysis of focus groups provided contextualized rationales for teachers' chosen stances toward the English-only monolingual, separatist pedagogy or the transliterate, integrative pedagogy for MLs.

Discussion: The findings demonstrated that teachers' ideologies were not merely individual beliefs but also intertwined with the hegemonic language ideologies of the larger education system. The complexity of the shifting ideologies points to the pressing need for integrating ML-specific attention into teacher education and ongoing professional development programs.

KEYWORDS

monolingual language ideologies, transliteracies, content-language integrated instruction, mixed methods, factor analysis, multiple regression

1 Introduction

The fast-growing student population of multilingual learners (MLs) inclusive of classified English learners (ELs¹) in U.S. schools (National Center for Education Statistics, 2020), has called for increased pedagogical support from content classroom teachers many of whom have delegated their responsibility to language specialists, i.e., ESOL/ESL teachers (Coady et al., 2016; Cochran-Smith et al., 2016). While scholars and practitioners alike agree that *all* teachers should take the shared responsibility of meeting MLs' need to simultaneously develop content knowledge and academic language proficiency in the content classroom, it is reported that content teachers are underprepared to adequately serve MLs (Janzen, 2008; Bunch, 2013; Von Esch and Kavanagh, 2018; de Jong and Naranjo, 2019). Largely, they lack the knowledge base and training in second language acquisition, cultural and linguistic diversity in the classroom, and methods of teaching academic literacy in the content classroom (de Jong et al., 2013; Villegas et al., 2018). Above all, teachers should be equipped with the pedagogical language knowledge to meet the heightened expectations in new content standards which require all students, regardless of their racial, linguistic, and socioeconomic diversity, to competently communicate content-specific, disciplinary knowledge (Bunch, 2013; Grapin, 2019).

Education policies have further marginalized MLs through the monolingual framework (Wiley, 2014; Bacon, 2020) that mandates English-only instruction in many states, shaping teachers' local practices accordingly (Fitzsimmons-Doolan, 2018; Chang-Bacon, 2022). Even bilingual teachers or those who favor bilingualism serve to enact the monolingual practices (Pettit, 2011; García, 2015; Bacon, 2020; Barros et al., 2021; Pontier and Deroo, 2023), inadvertently stigmatizing language practices of non-native speakers of English (Rosa and Burdick, 2016). Despite the effort to combat educational inequity for decades (Cochran-Smith and Villegas, 2015), teacher preparation programs have mostly focused on equipping teachers with instructional strategies to better work with MLs without duly examining the underlying ideological beliefs that bolster the U.S. education system and policies (Feiman-Nemser, 2018; Bacon, 2020). Since such ideological beliefs inform and shape teacher preparation and teaching practices (Pettit, 2011; Pulinx et al., 2017), it is problematic that monolingual ideologies codified in major education policies have contributed to the teachers' perceived incapability in serving MLs in their content classroom. Identifying and transforming teachers' taken-for-granted ideological beliefs about MLs' experiences, capabilities, and potentials should precede the informative focus on newer instructional strategies. For teacher development, therefore, it is an important first step to engage teachers in critical self-reflection on their tacit beliefs (Feiman-Nemser, 2018).

Over the past decades, there has been a significant focus in research that highlights the critical roles of teacher beliefs, attitudes,

and preparedness in shaping effective learning environments for a diverse student population in STEM content classrooms. For example, Polat (2010) pointed out a prevalent issue: both pre-service and in-service teachers often feel unprepared to effectively teach MLs in mainstream classes. In a more recent study, McLeman and Fernandes (2023) emphasized the need for preservice teachers to understand the interconnectedness of language and mathematics, which is pivotal in STEM education. They also highlighted the importance of involving MLs' families in the educational process, which can be instrumental in supporting students' learning and cultural integration. Karabenick and Noda (2004) contributed to this discourse by noting that teachers with positive attitudes towards MLs are more inclined to support bilingual education and recognize the benefits of maintaining first language proficiency. Adding to these insights, Flores and Smith (2009) identified several key factors influencing teachers' attitudes towards MLs: their own ethnicity, linguistic abilities, experience with diverse student populations, and the number of minority students in their classes. Importantly, Lee (2004) highlighted that evolving teacher beliefs and practices is a gradual and demanding process, necessitating deep reflection, formal training, and substantial support. Particularly in areas like science instruction and the integration of language, culture, and literacy, this evolution is essential for establishing instructional congruence in diverse classrooms.

Despite the growing volume of research on the topic, the exponential increase of MLs in the U.S. schools and the lack of teaching force with adequate training on content-language integrated instruction for MLs call for more research on teachers' beliefs and attitudes toward working with MLs in the content classroom (Von Esch and Kavanagh, 2018; de Jong and Naranjo, 2019). This mixed-methods sequential study (Creswell et al., 2003; Ivankova et al., 2006) aims to enrich the body of research through a quantitative inquiry with a newly validated survey scale, followed by an in-depth qualitative inquiry with a group of teachers in a very diverse East-coast school district. Particularly, this study examined a group of content teachers' ideological beliefs and attitudes toward teaching MLs in the content classroom by accounting for the relations among the major constructs in the previously validated survey on content-language integrated teaching for MLs, impact of several teacher-related variables on teachers' ideologies, and teachers' perspectives toward the monolingual, separatist pedagogy versus the transliterate, integrative pedagogy for MLs. We asked the following research questions:

1. What is the extent to which content teachers' monolingualism, their attitudes toward using language-integrated content teaching, and their sensitivity to ELs/MLs' backgrounds are related among each other in the linguistically diverse classroom?
2. For each of the factors, can variabilities in teachers' responses be explained by their self-positioned teaching role by class format, percentage of ELs/MLs in their classroom, and their prior experience and intention to take professional development trainings to work with ELs/MLs?
3. What rationales do the teachers provide to their response to the English-only monolingual and content-language separatist approaches to teaching MLs in the content classroom?

In the following, we first describe the theoretical frameworks that guide the study before introducing methodological details and findings in each quantitative and qualitative phase.

¹ Throughout this paper, multilingual learners (MLs) refer to both classified ELs and students who, while not classified as ELs, speak a language other than English at home. While we advocate for the use of MLs, we intentionally retained both terms, ELs/MLs, in the survey for teachers and in the quantitative analysis section, to acknowledge the classified student group by the school assessment system and as known by the teacher respondents.

2 Guiding frameworks

2.1 Content-language integrated instruction for MLs

Reviews of literature on content teacher preparation for MLs in the U.S. school context (Janzen, 2008; Bunch, 2013; Feiman-Nemser, 2018; Villegas et al., 2018; de Jong and Naranjo, 2019) demonstrate that (1) content teachers lack sufficient training to effectively work with MLs in the linguistically diverse classroom, (2) compared to their competence in content-specific knowledge, teachers are not equipped with the knowledge of how MLs' second language develops over time and in relation to content learning, and (3) teachers need to acquire pedagogical language knowledge to support MLs in meeting the linguistic demands to learn content knowledge. Research shares the urgent need to support content classroom teachers in their instruction of MLs, highlighting the major challenge in shifting the teachers' deficit-oriented and content-language separatist framework of teaching MLs.

Efforts to integrate content and language teaching in the mainstream content classroom have started and gained momentum, particularly in Europe through the framework of Content and Language Integrated Learning (CLIL), and globally through Content-Based Instruction (CBI) (Wolff, 2012; Morton, 2016; Lo, 2019). However, research has identified several gaps between the integrative principles of CLIL and the practical implementation by teachers, reflecting a separatist orientation where they align themselves primarily with either the identity of a content teacher or a language teacher (Trent, 2010; Lo, 2019). Even within integrative approaches, there is no consensus yet on their ideal form or the best practices to support teachers' instruction and their MLs' learning. Rather, content-neutral general good teaching strategies for all students have been advocated for their wider applicability in the field (Von Esch and Kavanagh, 2018). The complacent approach through "just good teaching" for all students (de Jong and Harper, 2005), however, does disservice by disregarding the distinct needs of MLs, let alone their intra-group differences. The long-term, integrative approach to infuse content and language instruction, an area that calls for urgent attention and transformation in teacher preparation programs, should aim to support teachers in addressing ML-specific linguistic needs as an integral part of their content instruction (de Jong and Naranjo, 2019).

2.2 Monolingual language ideologies in the content classroom

Teachers' language ideologies inform how they provide MLs with necessary linguistic supports in the content classroom. Language ideologies are defined at multiple levels inclusive of the personal dimension as one's beliefs and rationalization of language use (Silverstein, 1979) as well as the sociopolitical dimension as founding ideas that undergird existing power hierarchies of social, cultural, and linguistic relations (Irvine, 1989). These dimensions mutually construct and reinforce each other (Fairclough, 2010). As language ideologies not only mirror but also mediate discursive practices of a given society (Kroskrity, 2000), it is important to examine teachers' language ideologies. These ideologies shape and inform their attitudes and day-to-day classroom practices with their students.

With the intensifying transnational movement in today's world, *linguaging* or the act of communicating is becoming increasingly dynamic, flexible, and mobile across various national, cultural, and linguistic borders (García and Sylvan, 2011). Accordingly, a new framework of language and literacy education has captured new ways of interaction and representation among people, spaces, and semiotic modes (Hawkins and Mori, 2018; Kim and Choi, 2021). Drawing from the sociocultural notion of literacy as *doing linguaging* within social relationships, the *translisteracies* framework (Stornaiuolo et al., 2017; Smith et al., 2018) acknowledges literacy agents as "architects" of meaning (Flores, 2020) as they are navigating varying borders while repurposing texts and modes into creative hybridity for learning, identity construction, and relationship building. The translisteracies approach promotes translanguaging and transmodalising practices in the classroom by promoting flexible use of students' home language, English, and diverse modalities to access and express content knowledge.

Despite the potential of the translisteracies approach in MLs' agentic learning and identity development, it has not been well embraced within border-oriented education landscapes. Rather, many transnational immigrants encounter daily challenges as they navigate and negotiate border policies. One such institutionalized border manifests within the classroom space, particularly for speakers of languages other than English (Dorner and Kim, 2024). The monoglossic language ideologies (Otheguy et al., 2015) that view language as a static, discrete, and bounded entity have privileged the language of the white middle class, so-called Standard American English (SAE), as the norm (Paris and Alim, 2017). Conversely, MLs' home languages are devalued as a hindrance for students' English acquisition, content learning, and academic language use in school (MacSwan, 2020). The language border, constructed and reified through such monoglossic, English-only monolingual, and raciolinguistic ideologies, serves to marginalize non-native speakers of English as deviant and incompetent social agents in a more covert but compelling way than other explicit measures of social discrimination (Austin, 2009; Valdés, 2016; Flores, 2020).

Consequently, teachers holding monoglossic language ideologies tend to conceive the English-only immersive approach as most beneficial for MLs' learning. They may exclusively endorse Standard American English (SAE) and academic register of English (Flores and Rosa, 2015; MacSwan, 2020), disregarding other language varieties and registers. These beliefs affect, often negatively, the teachers' expectations, interaction and instructional approaches with MLs coming from different backgrounds than their own in terms of race, gender, class, and language (Feiman-Nemser, 2018). If unexplored through critical reflection, teachers' taken-for-granted ideologies serve as an automated operating system for their classroom practice.

Given the scarcity of teacher training opportunities with a content-language integrative focus through the translisteracies framework (de Jong and Naranjo, 2019), it is not surprising that many content classroom teachers believe that their role in MLs' learning is limited to content knowledge delivery and that it is the responsibility of ESOL specialists to support MLs' language needs in and out of their classroom. These beliefs, aligned with the monoglossic English-only ideologies in education policies (Villegas et al., 2018; Bacon, 2020), have resulted in the marginalization of MLs in the content classroom. However, teachers' language ideologies are not merely individual beliefs but are part of the more extensive systemic orientation of

society at large (Bacon, 2020). Consequently, the individual teacher's lived experience as being bilingual or working with MLs does not necessarily ensure that the teacher can or would be willing to disrupt the monolingual framework of education. As teacher educators, we posit that identifying teachers' unexamined ideological beliefs and attitudes toward working with MLs in the content classroom is an important first step for teacher development toward their recognition and mobilization of MLs' transliterate capabilities for content instruction and learning.

3 Methods and results

3.1 Research design: a mixed-methods sequential explanatory study

This study employed a mixed-methods explanatory sequential design (Creswell et al., 2003; Ivankova et al., 2006) for a more robust and comprehensive investigation of the research questions, first through a quantitative inquiry, then followed by a qualitative phase to further clarify, expand, and complement statistical results with rich, contextualized interpretations of data (Rossman and Wilson, 1985; Tashakkori and Teddlie, 1998; Riazi and Candlin, 2014). The patterns found in the quantitative analysis informed the phase of qualitative inquiry through focus group interviews (Riazi and Candlin, 2014) to examine teachers' beliefs and attitudes. The data presented in this paper were collected as part of a 5-year National Professional Development (NPD) grant project funded by the U.S. Department of Education. This larger project aimed at developing highly qualified PK-12 educators for MLs through a two-year multi-tiered professional development program.

The quantitative phase involved collecting survey responses from teachers identified as "content teachers" ($N=100$) in an East-coast school district with a growing ML population from diverse backgrounds. In this study, "content teachers" refers to those who do not hold state-endorsed ESOL (English for Speakers of Other Languages) credentials, using a survey filter asking whether the respondent was ESOL licensed/endorsed. Only teachers with ESOL licensure or endorsement were classified as ESOL teachers. Consequently, content teachers encompassed those who self-identified as "ESL teachers" (i.e., teaching ESL students) but lacked ESOL endorsement. Content teachers also include specialized content-area teachers in secondary schools as well as generalist teachers who cover multiple content areas in elementary schools. The quantitative phase aimed to verify factor structure of content teachers' beliefs and attitudes toward working with MLs that was uncovered by an exploratory factor analysis in our previous studies (Kim et al., 2023; Kim and Park, 2024); and to investigate the impact of teacher-related characteristics on the teachers' beliefs and attitudes.

Drawing upon the quantitative results, the second phase analyzed qualitative data from 24 selected teachers who took part in the NPD grant project from the same school district. In this phase, two ESOL-endorsed teachers were included, who were recruited to partake in the project because they obtained ESOL endorsement by merely passing the ESOL praxis test without any formal ESOL training, thereby having very limited experience working with MLs. The analysis at this qualitative phase allowed for a deeper understanding of teachers' ideological beliefs through

contextualized rationales and real-life examples for their responses. In the following, accounts for quantitative and qualitative research context, participants, data collection and analytical procedures are detailed in each quantitative and qualitative inquiry section with findings from each phase (see Figure 1 for the flow of inquiry).

3.2 Quantitative inquiry and results

The quantitative analyses were conducted on survey responses of $N=100$ in-service teachers without formal ESOL training (i.e., "content teachers" filtered through the respondent's status of being endorsed in ESOL), completed in August 2022, from the project partner district where classified ELs comprise approximately 28% of the total student population. The participants include 78 female teachers (78%) and 72 White or European-American (72%) teachers. The average teaching experience of the sample is $M=14.19$ years ($SD=8.71$). Table 1 summarizes the participant demographic information, also including their grade of teaching and subject of teaching.

3.2.1 Instrument: CA-CIEML survey

An initial version of Critical Awareness toward Content-Language Integrated Education for Multilingual Learners (CA-CIEML) was a 38-item questionnaire assessing the construct of teachers' beliefs and attitudes toward working with MLs in K-12 content classrooms. Survey items were adopted and created drawing from existing scales and ML-related education resources (Byrnes and Kiger, 1994; Reeves, 2006; Siwatu, 2007; Durgunoglu and Hughes, 2010; Schall-Leckrone and McQuillan, 2012; Grapin, 2019; Bacon, 2020; Thomas-Browne et al., 2020; WIDA Consortium, 2020). Some items were partially rephrased to meet the need of assessing teachers' critical awareness of ML education. Each item was rated on a 5-point Likert scale, i.e., 1 (do not agree at all), 2 (do not agree), 3 (neither disagree nor agree), 4 (agree), and 5 (strongly agree). The factor structure of the 38-item survey was discovered through exploratory factor analysis (EFA) (Kim et al., 2023; Kim and Park, 2024). In particular, the results of EFA based upon 307 teacher participants in the U.S. suggested that three latent factors underlie the survey: (a) language-integrated content teaching (LICT) included 13 items about teachers' beliefs toward including and supporting ELs/MLs in meeting the linguistic demands in the content classroom, (b) English-only monolingual pedagogy (EOMP) included 12 items about teachers' attitudes toward English-only pedagogy and students' use of home languages in and outside of classroom, and (c) sensitivity to ELs/MLs' backgrounds (SEMB) included 13 items about teachers' knowledge of multilingual development and awareness of ELs/MLs' backgrounds for their content instruction and assessment. The internal consistency reliability of the three factors were: Cronbach's $\alpha=0.93$, 0.91 , and 0.9 , respectively. The result of EFA showed that three out of 38 items had unstandardized factor loading values less than 0.45 on any of the three factors. After the deletion of the three items, 35 items (see Appendix for the full survey items) were used in the quantitative inquiry as follows. Additional details about the survey development and validation procedures along with detailed information on the three constructs can be found in the upcoming publication (Kim and Park, 2024).

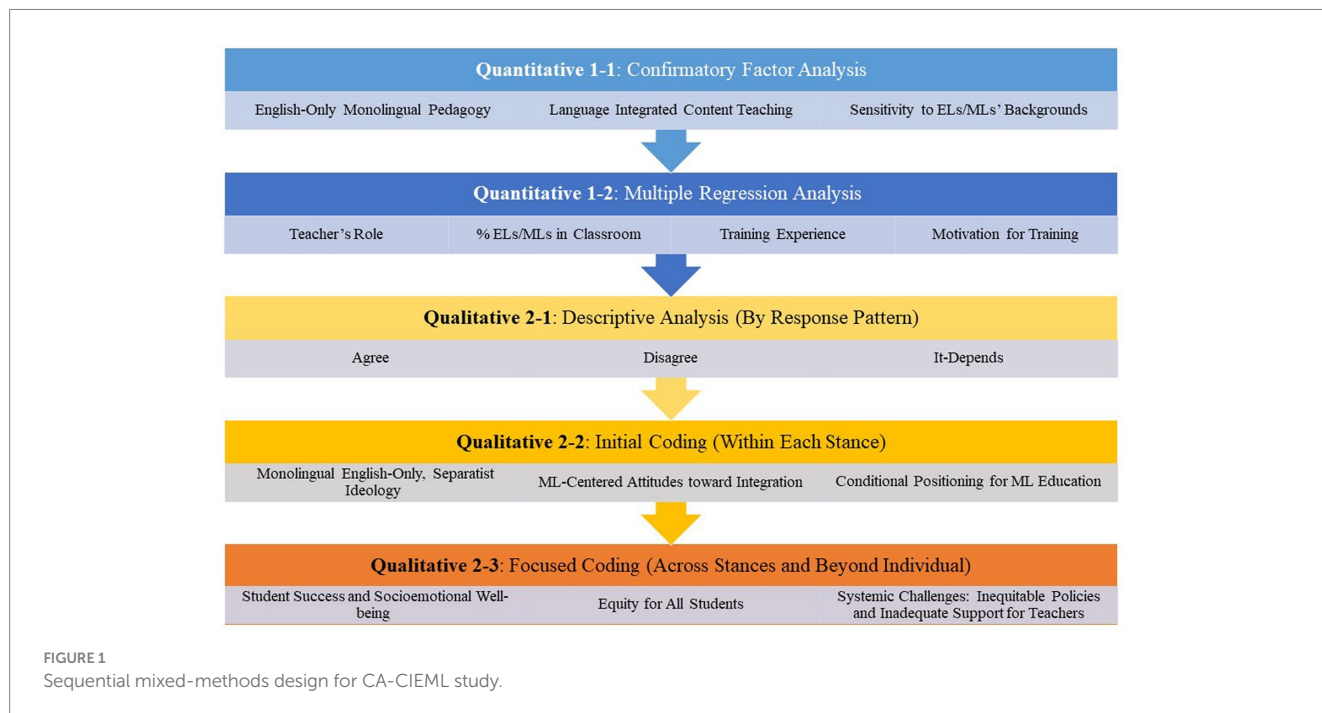


TABLE 1 Demographic information of teacher participants in CA-CIEML survey (*N* = 100).

Demographic information	Groups	<i>n</i>
Gender	Female	78
	Male	19
	Others	3
Race	Hispanic	7
	Non-Hispanic	93
Ethnicity	White or European-American	72
	Black or African American	12
	Asian	9
	Others	7
Native language	English	90
	Others	10
Grade of teaching in the past school year	Elementary	48
	Secondary	52
Subjects of teaching in the past school year (select all that apply)	English	44
	History	32
	Mathematics	39
	Science	30

3.2.2 Confirmatory factor analysis

To address the first research question of examining the extent to which the three underlying factors (LICT, EOMP, and SEMB) are correlated in the linguistically diverse content classrooms, a confirmatory factor analysis (CFA) was conducted to validate the revised version of the survey consisting of the 35 items. To confirm the three-factor structure of CA-CIEML: (a) language-integrated content teaching (13 items), (b) English-only monolingual

pedagogy (9 items), and (c) sensitivity to ELs/MLs' backgrounds (13 items), the weighted least squares means and variances (WLSMV) estimator was employed to deal with the ordinal-scale items in the survey. An R package called “lavaan” (Rosseel, 2012) was implemented. The fit indices for the three-factor model supported an acceptable fit to the data, chi-square (524) = 1585.313, *p* < 0.001; Tucker-Lewis index (TLI) = 0.922; comparative fit index (CFI) = 0.928; root mean square error of approximation (RMSEA) = 0.144. Regarding factor loadings, all items were loaded on the associated factor adequately. Specifically, standardized factor loadings ranged from 0.36 to 1 for LICIT, from 0.34 to 0.89 for EOMP, and from 0.52 to 0.90 for SEMB. Table 2 demonstrates 14 selected survey items and the correlations between items and the corresponding factors (standardized factor loadings).

Subscale scores derived from the three factors (LICT, EOMP, and SEMB) in CFA were computed by averaging over the item scores loaded on corresponding factor. Therefore, each subscale score is a continuous variable ranging from 1 (do not agree at all) to 5 (strongly agree). Overall, the content teachers have positive attitudes toward using LICIT (*M* = 4.24, *SD* = 0.49) to work with ELs/MLs in their content classroom. For example, they responded positively to items about providing additional language support for ELs/MLs to better access the content. They remained neutral or somewhat positive to the items related to sensitivity toward ELs/MLs' backgrounds (*M* = 3.52, *SD* = 0.6) such as knowing their student backgrounds (e.g., national origin, ethnicity, and years of living in the U.S.). They were neutral or somewhat less inclined to support the English-only monolingual ideology (*M* = 2.42, *SD* = 0.64) reflected in the idea that students' use of home language in school will likely slow their progress in learning English (see the bottom line of Table 3).

Regarding interrelationships among the three ideological orientations (see the last three lines of Table 2), there was a strong negative correlation between LICIT and EOMP (*r* = -0.7, *p* < 0.001), suggesting that teachers who have more positive attitudes toward the language-integrated content teaching were less inclined to support

TABLE 2 Standardized factor loadings for CA-CIEML (14 selected items out of 35 items in total): 3-factor confirmatory factor analysis (N = 100).

Statements	F1	F2	F3
I would welcome the inclusion of ELs/MLs in my class.	0.77		
Content teachers should provide additional language supports for ELs/MLs at all English proficiency level.	0.79		
All teachers are language teachers.	0.63		
It is my responsibility to deliver content instruction that connects with ELs/MLs prior learning and experiences.	0.80		
I know how ELs/MLs' English language develops over time either as a second or an additional language.	0.50		
To be considered American (U.S. citizen), one should speak English.		0.42	
Using a student's home language(s) in school will likely slow his or her progress in learning English.		0.78	
ELs/MLs can maintain their home language(s) sufficiently by using it at home without using/studying it in school.		0.34	
Content-area teachers do not have enough time to deal with the needs of ELs/MLs.		0.50	
I know the language standards of the content area(s) I teach (e.g., WIDA ELD standards in mathematics, science, social studies, language arts).			0.55
I know how to align content standards with language standards specific to the content area(s) that I teach.			0.66
I know my ELs/MLs' and their families' backgrounds in terms of their national origin, ethnicity, and years of living in the U.S.			0.79
I know my ELs/MLs' and their families' home language backgrounds and their proficiency levels in their home language.			0.90
I know ways to construct classroom-based assessments in ways that offset assessment biases that may impact ELs/MLs access and performance on assessments.			0.64
Factor 1: Language-integrated Content Teaching (LICT)	1		
Factor 2: English-only monolingual pedagogy (EOMP)	-0.7***	1	
Factor 3: Sensitivity to ELs/MLs' backgrounds (SEMB)	0.35***	-0.07	1

*** = $p < 0.001$.

TABLE 3 Means and standard deviations of three subscales in CA-CIEML by three self-report teachers' roles by class formats (N = 100).

Roles	Details	LICT	EOMP	SEMB
		M (SD)	M (SD)	M (SD)
Specialized Content (n = 56)	Teachers selected this group because they instruct several classes of students in one or more subjects. Grade: 79% are secondary teachers. Position: 55% are content teachers of such subjects as English, math, science, social science; 28% are teachers in physical education, art, music, etc.	4.2 (0.48)	2.49 (0.58)	3.43 (0.61)
Self-contained (n = 24)	Teachers selected this group because they instruct the same group of students all or most of the day in multiple subjects. Grade: 79% are elementary teachers. Position: 75% are general education content teachers of such subjects as English, math, science, social science; 8% are ESL teachers or specialists; 8% are school librarians.	4.16 (0.5)	2.33 (0.61)	3.45 (0.55)
Pull-out or Push-in (n = 20)	Teachers selected this group because they instruct selected students in specific skills or to address specific needs. Grade: 84% are elementary teachers. Position: 29% are ESL teachers or specialists; 23% are special education teachers; 23% are bilingual liaisons (could be focused on family-school relations and/or interpretation/translation).	4.47 (0.44)	2.34 (0.84)	3.85 (0.55)
Total		4.24 (0.49)	2.42 (0.64)	3.52 (0.6)

LICT = language integrated content teaching, EOMP = English-only monolingual pedagogy, SEMB = sensitivity to ELs/MLs' backgrounds; Each subscale score ranges from 1 (do not agree at all) to 5 (strongly agree).

the English-only monolingual pedagogy. In contrast, there was a positive correlation between LICT and SEMB ($r = 0.35, p < 0.001$), suggesting that teachers who have more positive attitudes toward language-integrated content teaching view themselves as having a greater sensitivity to ELs/MLs' backgrounds in their classroom. There was no significant relationship between EOMP and SEMB, however, suggesting that teachers who were more likely to endorse English-only monolingual pedagogy did not necessarily view themselves as having lesser sensitivity to ELs/MLs' backgrounds in their classroom. Internal consistency reliability for the three

subscales was acceptable: Cronbach's $\alpha = 0.88$ for LICT, 0.81 for EOMP, and 0.88 for SEMB.

3.2.3 Multiple regression analysis

Built upon the three underlying factors of the beliefs and attitudes toward working with ELs/MLs that were confirmed by CFA (i.e., LICT, EOMP, and SEMB), the second research question was to examine the extent to which variation in each of the three corresponding subscales is explained by teacher-related variables. Four teacher-related variables were chosen due to either their reported significance in predicting

teachers' ideologies from prior studies, including the percentage of MLs in the classroom (Batt, 2008; Rader-Brown and Howley, 2014), relevant teacher training, and motivation for professional development (Youngs and Youngs, 2001; Ricklefs, 2023) or their rarity in literature, that is, the teaching role by class format. As a new variable, the teaching role by class format was found to be a meaningful predictor for teachers' beliefs and attitudes as it classifies teachers more effectively than either their grade level or teaching role. Ordinary least squares (OLS) regression models were fitted by including a set of the teacher-related variables as predictors in order to predict each individual subscale as a response variable.

Among the four teacher-related variables, the first two, (a) *teaching role by class format* and (b) *percentage of ELs/MLs*, include characteristics of teachers and students in their classrooms. Specifically, (a) *teaching role by class format* is a nominal variable consisting of three response types to the question, "Which statement best describes your teaching role?"— "I instruct several classes of students in one or more subjects (specialized content instruction)"; "I instruct the same group of students all or most of the day in multiple subjects (self-contained instruction)"; and "I instruct selected students in specific skills or to address specific needs (pull-out or push-in instruction). Table 3 provides details of each teacher category. As summarized in the table, the teachers who reported they used specialized content instruction were mostly secondary teachers whereas the teachers who reported other types of instructions (self-contained or pull-out/push-in) were mostly elementary teachers. On the other hand, more than half of the teachers in either specialized content or self-contained groups identified their positions as general education content teachers whereas the teachers in the pull-out/push-in group identified themselves as ESL teachers, special education teachers, or bilingual liaisons without ESOL endorsement. Second variable, (b) *percentage of ELs/MLs in the classroom* is a continuous variable (0–100%) of the question, "What percentage of your students are designated as English Learners (ELs) or Multilingual Learners (MLs) in your class in the past year?"

The next two variables were included to examine the effect of the teachers' perceptions of their training needs in working with ELs/MLs

in their classroom teaching. Specifically, the third variable, (c) *EL/ML-related training experience* is an ordinal variable consisting of 5-point response scale to the question, "I received training from my district to work with ELs/MLs." The fourth variable, (d) *motivation for training* is an ordinal variable consisting of 5-point response scale to the question, "I am interested in receiving more training in working with ELs/MLs." Distributions of all variables were almost symmetric or moderately skewed. There were no outliers. Assumptions of normality, homoscedasticity, and homogeneity of slopes were examined.

3.2.3.1 Predicting language-integrated content teaching

From Table 4, two columns under the label "Language-integrated content teaching (LICT)" presented unstandardized (*b*) and standardized (β) coefficients of each individual predictor mentioned above. We found that variance in teachers' attitudes and beliefs toward LICT is accounted for by (a) teachers' self-described teaching roles by class format. Specifically, teachers who use pull-out or push-in instruction ($M=4.47$, $SD=0.44$) showed significantly more positive attitudes toward using LICT ($b=-0.719$, $p<0.001$, $\beta=-0.735$) than teachers whose role is specialized in content instruction ($M=4.2$, $SD=0.48$). Also, the teachers who use pull-out/push-in instruction showed significantly more positive attitudes toward using LICT ($b=-0.667$, $p<0.01$, $\beta=-0.588$) than teachers whose role is self-contained instruction ($M=4.16$, $SD=0.5$). In summary, we found that teachers who identified themselves as language specialist, bilingual liaison, or special education teacher (without ESOL endorsement) are more inclined to LICT as compared to teachers who identified themselves as general education content teachers, potentially indicating a greater need for general education content teachers' professional development on the LICT approach.

We also found that teachers who have taken EL/ML-related training showed more positive attitudes toward using LICT ($b=0.127$, $p<0.05$, $\beta=0.212$) and teachers who expressed a greater interest in taking EL/ML-related training also showed more positive attitudes toward using LICT ($b=0.111$, $p<0.05$, $\beta=0.214$). Combined, these results indicate that experience or motivation for specialized training

TABLE 4 Predicting teachers' attitudes and beliefs toward ELs/MLs for content teaching (N = 100).

Predictors	Language-integrated content teaching (LICT)		English-only monolingual pedagogy (EOMP)		Sensitivity to ELs/MLs' backgrounds (SEMB)	
	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β
Intercept	3.775***		3.858***		3.617***	
Self-contained	-0.667**	-0.588	0.248	0.166	-0.580	-0.410
Specialized content	-0.719***	-0.735	0.466	0.363	-0.711**	-0.584
Percentage of ELs/MLs	-0.005	-0.254	0.004	0.168	-0.002	-0.111
Perc. × Self-contained	0.008	0.304	-0.006	-0.165	0.005	0.155
Perc. × Specialized	0.011**	0.574	-0.009	-0.338	0.008	0.331
Training Experience	0.127*	0.212	-0.194**	-0.349	0.208**	0.280
Training Motivation	0.111*	0.214	-0.237***	-0.194	-0.124*	-0.192
R^2	0.263		0.248		0.235	
R^2_{Adj}	0.206		0.191		0.177	

Reference group for teaching role by class format variable = Pull-out or push-in instruction; Perc. = Percentage of ELs/MLs; * = $p<0.05$, ** = $p<0.01$, *** = $p<0.001$.

to support ELs/MLs is a positive indicator for LICT due to its impact on the teachers' increased attention to MLs' needs in acquiring both content knowledge and language proficiency. We found there was a significant interaction effect between the teaching role and the percentage of ELs/MLs in predicting the LICT. The impact of having many ELs/MLs in the classroom on their positive attitudes toward using LICT was significantly stronger for teachers who are specialized in content instruction as compared to teachers who use pull-out or push-in instruction ($b=0.011$, $p<0.01$, $\beta=0.574$). A simple slope analysis further showed that there was no linear relation between percentage of ELs/MLs and LICT for the teachers who use pull-out or push-in instruction whereas there was a significant positive relation between them for the teachers who are specialized in content instruction. This suggests that specialized content teachers, who are mostly secondary teachers, may attain more positive attitudes toward Language-Integrated Content Teaching (LICT) particularly when they are assigned to the class with a larger number of ELs/MLs. This is due to the evolving nature of their instructional responsibilities, which now include addressing the language needs of their students alongside content instruction. In contrast, push-in or pull-out teachers, whose primary focus is on making content more comprehensible to their students, may already possess expertise in employing language-integrated content teaching approaches. Therefore, the influence of working with a larger number of ELs/MLs on their attitudes toward LICT may be less pronounced.

3.2.3.2 Predicting English-only monolingual pedagogy

We also found that teachers who have taken EL/ML-related training ($b=-0.194$, $p<0.01$, $\beta=-0.349$) and teachers who expressed greater interest in receiving training in working with ELs/MLs were less inclined to support English-only monolingual pedagogy ($b=-0.237$, $p<0.001$, $\beta=-0.194$). There were no associations between EOMP and the remaining predictors. The result indicates that relevant teacher training or motivation for training to better serve MLs had a positive impact on their adoption of the transliteracies framework.

3.2.3.3 Predicting sensitivity to ELs/MLs' backgrounds (SEMB)

We found that teachers' self-described teaching roles are associated with their sensitivity level to ELs/MLs backgrounds. Specifically, teachers who use pull-out or push-in instruction ($M=3.85$, $SD=0.55$) revealed a significantly greater sensitivity to students' backgrounds ($b=-0.711$, $p<0.01$, $\beta=-0.584$) as compared to teachers whose role is specialized in content instruction ($M=3.43$, $SD=0.61$). We also found that teachers who have taken EL/ML-related training ($b=0.208$, $p<0.01$, $\beta=0.280$) had a greater level of sensitivity to ELs/MLs' backgrounds. In contrast, teachers who expressed greater interest in taking training in working with ELs/MLs had a weaker level of sensitivity to ELs/MLs' backgrounds ($b=-0.124$, $p<0.05$, $\beta=-0.192$). The result is aligned with the results in the two other factors in that EL/ML-related teacher training positively impacted teachers' ideological beliefs across all three factors. However, motivation to seek further training did not necessarily result in greater sensitivity among teachers. This may stem from the fact that motivation for additional training could be seen as an indication of teachers' recognition of their need for ML-related training, given their limited knowledge and experience in utilizing students' backgrounds for instructional purposes.

3.3 Qualitative inquiry and results

The second phase of this study aimed to further investigate a select group of teachers' ideological beliefs and attitudes toward ML education. Informed by the strong negative correlation between LICT and EOMP found in the quantitative inquiry, we facilitated focus groups that particularly addressed the topic of the separatist versus integrative approach to content and language instruction as well as the English-only monolingual versus the transliteracies approach to students' emergent bilingual capacity. The analysis below mainly complements the quantitative results by delving into the underlying rationales of teachers' chosen responses. Through qualitative accounts of teachers' classroom contexts, this analysis also aims to uncover contradictions and nuanced perspectives that may not have been captured in the quantitative inquiry (Riazi and Candlin, 2014).

3.3.1 Participants and data

The 24 teachers were the cohort participants of the NPD grant project, comprised of 11 elementary school teachers, 11 secondary school teachers, one instructional coach, and one school librarian. Only two teachers were endorsed in TESOL through passing the state-required praxis test without formal training in an accredited college TESOL program, thereby having limited experience teaching MLs. All 24 teachers completed the survey in August 2022, and their responses were included as part of the first phase quantitative data, with the exception of the two ESOL-endorsed teachers due to the exclusion criterion of being endorsed in ESOL.

For discussion, teachers were presented with three statements adapted from the CA-CIEML survey. Original statements were informed by the founding scholarship on monolingual language ideologies and content-language integrated instruction (Silverstein, 1979; Kroskrity, 2000; Coyle, 2006; Lucas and Villegas, 2013). Specifically, teachers were asked to share whether they agree or disagree to each statement with a rationale and/or examples. Since the three statements were worded to reflect the monolingual English-only ideology and the separatist view of content and language instruction, agreement to the statements would indicate that the teacher is more inclined to endorse the English-only monolingual pedagogy and content-language separatist stance. The three statements are as follows.

1. At school, learning the English language by ELs/MLs should take precedence over learning content knowledge.
2. Before ELs/MLs enter a general class, they should first attain proficiency in English. Using student's home language(s) in school will likely slow his or her progress in learning English.
3. Inclusion of ELs/MLs in general education classes is good in theory but does not work in the real world. Content teachers do not have time to effectively support the English language development of ELs/MLs.

3.3.2 Analytic procedure

Focus group discussions, held virtually through an online meeting software at the onset of the project in September 2022, were video-recorded and transcribed for analysis. Initially, the descriptive data analysis was conducted simply by teachers' response pattern: *Agree*, *Disagree*, *It-Depends*. Next, the two-step analysis attended to the spectrum of perspectives among teachers, guided by the constructive grounded

theory approach (Charmaz, 2014). First, through initial coding, we identified major claims under each stance with teachers' rationales and examples. Then, through focused coding, key themes across all six focus group interviews were distilled around three shared rationales for teachers' beliefs and attitudes. The results were then further examined for their alignment and complementarity with the quantitative results.

3.4 Findings from descriptive and initial coding: rationales within each stance

3.4.1 "The whole sentence is crazy to me": ML-centered attitudes toward integration

The descriptive analysis showed that 11 teachers out of 24 disagreed with all three statements, demonstrating ML-centered attitudes through integrating not only content and language instruction but also home language and English use to expedite and enhance MLs' content learning. Among the 11, eight were elementary school teachers (four in "self-contained instruction" and four in "pull-out/push-in instruction") and three were secondary teachers (all in "specialized content instruction"). These 11 teachers' inclination for content and language integration as well as home and English language use was indicative of their willingness to take the dual role of serving both as the content and language teacher as captured in one teacher's statement, "everyone is ELL teachers." Other rationales for this stance included the following:

- Teachers are holding them back if we limit them and focus on one thing.
- Language and content should happen simultaneously.
- Filling those gaps in the L1 literacy is incredibly important to content learning and second language acquisition.
- If they [students] have a home language that can help them learn, why would we not allow them, or make those connections to help them build their English and build their content knowledge?
- Home language can be an asset.

Some teachers expressed feelings of discomfort to the statements for their explicit depreciation of MLs' learning potential and their cultural and linguistic backgrounds with a comment on how such orientations would negatively impact MLs' learning and identity development. Phrases like *hand in hand*, *simultaneously*, *make connections*, *equally important* were representative of these teachers' asset-based integrative, transliteracies approach.

3.4.2 "1,000% agree": monolingual English-only, separatist ideology

On the contrary, there were seven teachers who agreed with at least one statement, thereby partially or fully endorsing the monolingual English-only, content-language separatist ideology. Except for one instructional coach, the teachers in this group were all secondary teachers practicing "specialized content instruction." A few major rationales for their agreement included: English as a "big priority" or pre-requisite for content learning, the possibility of students "getting lost in both languages" if teachers target to develop biliteracies, challenges in translating content concepts across languages, and issues of "pacing of classes." A teacher who strongly agreed with all three statements said, "I think they [ELs/MLs] should

have their ESOL class all day long, until they are able to understand what the school day is about and be able to communicate with a teacher that speaks English." To these teachers, MLs' home language and their limited English proficiency were major barriers to the teacher's instruction and students' learning. Through the deficit perspective on MLs' language capacity, teachers on this spectrum prioritized English learning before mainstreaming MLs in the content classroom. Thus, they questioned or disregarded the feasibility of content-language integrated teaching and tended to delegate ML instruction to the language specialists in the "ESOL" classroom.

3.4.3 "It depends": contextual positioning toward MLs in content classrooms

Out of 24, six teachers contextually positioned their stances. They argued that whether English and content should be taught simultaneously or in sequence should depend on the level of students' home and English language proficiency as well as their basic knowledge of the content. For example, one 6th grade ELA teacher was aware that home language proficiency can positively support English acquisition, but only depending on the proficiency level, saying "when students are learning two languages but have not mastered one, that's what slows progress. So having them master their first language helps a student attain proficiency faster in the second language." Accordingly, she implied that she would endorse the transliteracies approach only if students are already proficient in their home language. Others supported the integrative stance, again conditionally, depending on such factors as the manageable number of MLs with limited English proficiency or the transferrable level of home language proficiency for understanding content concepts. One teacher argued that students at a lower English proficiency level should acquire English first for meaningful content learning while students with decent proficiencies in both languages can utilize both in school. While these six teachers did not fully endorse the monolingual, separatist ideologies, their responses were not necessarily aligned with asset-based perspectives towards MLs, but more contingent on their classroom context and instructional challenges as described below.

3.5 Findings from focused coding: rationales across individual and structural dimensions

In this section, we present cross-cutting themes across all focus group discussions, specifically addressing how teachers' reasonings, despite their opposing stances, converged on three shared rationales: MLs' academic success and socioemotional well-being, equity for all students, and systemic challenges. The analysis demonstrates that teachers' responses were not merely about individual beliefs but were connected to and reflective of structural issues for both students and teachers such as English-only educational policies and lack of instructional support.

3.5.1 Rationale of student success and socioemotional well-being

Teachers with oppositional views (Agree, Disagree) and those in the middle (It Depends) named *student's success and well-being* as their

supporting rationale although for different assertions. They concurred in their belief that their approach would expedite and facilitate MLs' classroom learning. For some, English learning is the prerequisite for MLs to succeed in the classroom. For others, incorporating students' home language would activate their prior knowledge and cognitive schema to learn new concepts in the new language. Students' socioemotional well-being was also advocated by all groups but for divergent reasons. For example, one middle school teacher shared that poor proficiency in English would cause emotional discomfort for MLs, arguing that "students should be in the highest-level class that they feel comfortable" instead of prematurely joining the linguistically and conceptually demanding content classroom. On the contrary, some teachers disagreed with the monolingual, separatist stance since allowing and building on students' home languages in the integrative classroom, instead of pulling students out of the class, would enhance their socialization, connection to the content, and emotional confidence building.

3.5.2 Rationale of equity for all students

Likewise, teachers from both ends used the same rationale of *equity for all students*. Teachers on the separatist side took examples like how the lesson pacing in the regular classroom would be an unfair share of struggles for MLs in the content classroom. Thus, they argued for the benefit of ESOL-exclusive support through pulling out MLs from the mainstream content classroom. Teachers also claimed that if the pacing is slowed down due to MLs' presence, non-ML students' learning would be unfairly disadvantaged as well. On the other hand, teachers who advocated the integrative approach also referred to equity as their rationale; they emphasized the benefits of ML integration since it would enhance all students' multicultural competence through ample opportunities to "learn from each other" whether it's language, culture, or the content of the lesson in the "heterogenous classroom".

3.5.2.1 Good teaching is good for all Students

One salient claim to rationalize the benefit of integrating MLs in the mainstream content classroom was to highlight that "good classroom practice will benefit *all* students." Opposing the idea that content teachers do not have time to address and support EL/ML-specific needs in the third statement, these teachers argued that "good teaching is good teaching" and "benefits everyone, not just ELs," with examples of facilitating student collaboration and employing multimodal instructional strategies ("printed language or auditory, visuals") through content-language integrative approach. Considering the scholarly critique that emphasizes the inadequacy of solely focusing on good teaching for all students in effectively supporting the learning of MLs, especially when teachers lack the necessary knowledge and skills to address ML-specific linguistic and cultural needs through instructional modifications (de Jong and Harper, 2005; Harper and de Jong, 2009), this rationale, despite teachers' advocacy for ML integration, indicates the prevailing status quo in contemporary content classrooms. It highlights that specialized instructional support for MLs has yet to become a validated framework and practice for classroom teachers.

3.5.3 Rationale of systemic challenges: inequitable policies and inadequate support

Finally, the focused coding indicates that teachers' rationales were related to *systemic challenges*. Some teachers were aware of the structural constraint of U.S. schooling that is monolingually oriented, as one elementary librarian mentioned, "if you do not have the

language (i.e., English), it is extremely difficult to succeed in how our state government defines success within school." Opposing the current state-mandated testing policy of English being the only language of assessment, another teacher shared an example of how Spanish-speaking students, when given the Spanish version, did well in their other tests. Similarly, another teacher pointed out the gap between what such policies intend and how they, in reality, set up MLs for failure through the inequitable measurement system.

While these teachers ascribed MLs' struggles to the structural monolingual policies of instruction and assessment, teachers on the opposite side attributed their instructional challenges with MLs to the lack of systemic support. More secondary specialized content teachers shared this perspective than elementary teachers and ESOL teachers. One secondary math teacher even called her classroom a "dumping ground" to express her frustration of not receiving sufficient support from the school and ESOL teachers and having to work with MLs who "do not understand what I am saying." Lack of "extra help," inadequacy of translation supports when students are illiterate in their home language, and the increasing number of MLs in the classroom were also mentioned as systemic challenges by these teachers. Combined with the quantitative result that specialized content teachers (80% of whom were secondary school teachers) demonstrated a higher inclination to use LICT when their class had a larger number of ELs, it becomes evident that this systemic challenge of an increasing ML population without adequate support has spurred content teachers, particularly at the secondary level, to seek out sufficient training and support systems.

4 Discussion

For the first research question, this study validated the revised version of CA-CIEML designed to assess ideological beliefs and attitudes of teachers toward MLs in content classrooms among a sample of K-12 content teachers in a linguistically diverse school district. Results of a confirmatory factor analysis suggested that three latent factors, (a) language-integrated content teaching (LICT), (b) English-only monolingual pedagogy (EOMP), and (c) sensitivity toward ELs/MLs' backgrounds (SEMB) underlie teachers' response patterns in the survey. Considering the urgent call to integrate content and language instruction for MLs' learning through the transliteracies framework in mainstream content classrooms (de Jong and Naranjo, 2019), this new survey scale can be a critical tool to examine classroom teachers' tacit and taken-for-granted ideologies and ultimately to move them beyond the separatist framework toward the integrative pedagogy for MLs.

Overall, this study found that teachers with a greater orientation toward language-integrated content teaching (LICT) were more sensitive to ELs/MLs' backgrounds (SEMB) and less likely to endorse the English-only monolingual pedagogy (EOMP). The other two factors, EOMP and SEMB, accounted for the remaining variance but these two were perceived unrelated, suggesting that teachers viewed their monolingual or multilingual orientation as independent of their sensitivity to students' backgrounds. In other words, even those teachers with a higher sensitivity to students' cultural and linguistic backgrounds may not necessarily perceive the transliteracies approach as a feasible or effective classroom pedagogy. Possibly this is due to the lack of the transliteracies focus on making instructional connections to students' linguistic backgrounds in teacher development programs.

This also testifies the complexity of educators' language ideologies (Metz and Knight, 2021) or what McBee Orzulak (2015) labeled as "language ideological dilemmas." That is, even teachers who personally value students' linguistic backgrounds and their diversity may still hold hegemonic language ideologies for their classroom practice by subscribing to teaching methods grounded in Standard English-only pedagogy. Such contradicting language ideologies are indicative of the hegemonic power of monolingual ideologies in major education policies that easily outrun teachers' personal experience and value system (Bacon, 2020; Barros et al., 2021). The monolingual status among most of the U.S teaching force (Austin, 2009) as well as the dearth of content and language infused teacher education programs (de Jong and Naranjo, 2019) and empirical scholarship on transliteracies frameworks in the multilingual classroom (Kim, 2021) are other reasons for teachers' support of the monolingual education ideologies.

For the second research question, this study found that among the predictors, the percentage of MLs and prior training or motivation for training in working with MLs were positively associated with the ideology of language-integrated content teaching (LICT). While this result is congruent with prior studies (Byrnes et al., 1997; Youngs and Youngs, 2001; Lee and Oxelson, 2006) in that generally, teachers with ESL training had more positive attitudes about teaching MLs, our study adds a unique insight on how such attitudes can translate as the content and language integrated instruction through transliteracies approaches. Another novel finding of the study is that the teacher's role by class format (specialized content instruction vs. self-contained instruction vs. pull-out or push-in instruction) was a meaningful indicator of teachers' orientation toward LICT and SEMB while each role includes grade of teaching and position of the teachers. The results demonstrated that push-in/pull-out classroom teachers (85% being elementary teachers; e.g., ESL teacher, special education teacher, reading specialist) were more positive toward LICT and SEMB than either self-contained content teachers (80% being elementary school teachers) or specialized content teachers (80% being secondary school teachers). It is assumed that this group of teachers tend to be more knowledgeable of and responsive to the specific needs of their students than other groups due to their assigned role and particular training in supporting the target student group using analytic data of their students' backgrounds, learning performance and progress. This tendency manifested as a stronger inclination toward content-language integrative approaches with a greater sensitivity to MLs' backgrounds. This inclination, however, was not perceived to be related to the teacher's monolingual or transliterate framework. This suggests that content-area teachers, whether in elementary or secondary schools, need explicit training for their critical awareness toward the transliteracies approach (Stornaiuolo et al., 2017; Smith et al., 2018). Regarding LICT, we also found that having a larger percentage of MLs in the classroom is more impactful to change attitudes of teachers whose role is specialized content instruction, which is not surprising given that LICT is an inevitable approach to meet the emergent needs of the contemporary content classroom with the growing number of MLs.

Qualitative data analysis for the third research question provided a range of unsaid rationales and contexts of teachers in the quantitative phase, regarding whether they would support the English-only monolingual, separatist pedagogy or the transliterate, integrative pedagogy for MLs. Our analysis demonstrated that teachers shared the same goals and similar challenges in the classroom with MLs.

However, due to the oppositional attitudes towards MLs' linguistic backgrounds and learning potential, they ended up with polarized views on inclusion and instruction of MLs. Although the 24 teachers were highly motivated to receive professional development about the ML-supportive content-language integrated instruction by participating in the project, the pre-participation data indicated that they lacked sufficient knowledge, relevant frameworks, and adequate training in supporting MLs at the time of this research. While teachers' aspiration to better support MLs would be a strong predictor for their success in the upcoming PD, it did not equate with the teachers' asset-based view and/or knowledge of research-based best practices for MLs. For instance, teachers' advocacy for ML integration in the content classroom through the rationale of "good teaching benefits everyone" suggests that the field has not been updated with why and how to address the unique needs of MLs beyond the general good teaching strategies (de Jong and Naranjo, 2019). Instead, teachers' rationales, especially for the monolingual, separatist pedagogy, were mainly based on their lived experiences in the classroom, reinforced by the institutional constraints, and framed by the hegemonic monolingual language ideologies in education. Confirming the findings from prior research, teachers' ideologies were not merely individual beliefs but mirrored the hegemonic language ideologies of the larger education system (Wiley, 2014; Baner et al., 2016; Fitzsimmons-Doolan et al., 2017; Bacon, 2020).

5 Conclusion

We acknowledge that the sample size of our quantitative inquiry is rather small for CFA for a lengthy survey (35 items). In particular, the sample sizes of teachers who self-identified themselves as self-contained and push-in or pull-out were smaller than the specialized content teachers, which may cause weaker power in detecting statistical significance. By recruiting more teacher participants, future work can establish a greater statistical power to conduct multivariate analyses to examine differences among teachers with more fine-grained characteristics (e.g., subject of teaching). We also recognize that the teachers in the qualitative phase do not represent perspectives of all teachers in our quantitative sample especially because they were the teachers enrolled in our NPD cohort program with a greater motivation to better serve MLs. With these limitations, this mixed-methods study falls short of providing a complete analysis of all the factors that affect the formation of teachers' beliefs and attitudes.

However, the results offer insights into the relations among the identified constructs of teachers' ideologies, the predictors of their beliefs, and contextualized accounts of teachers' rationales. Particularly, this study affirms the critical importance of engaging teachers in reflective examination of their language ideologies, as such ideologies serve as the foundation of their classroom practice with MLs (Razfar and Rumenapp, 2012). The study is aligned with existing research that emphasizes the central role of language in MLs' content learning (Lucas et al., 2008; Pettit, 2011; Bunch, 2013) and the critical need for teacher education programs to provide teachers with knowledge on the features of MLs' language acquisition and pedagogical language skills. The result that teachers' prior training in ML education was a strong predictor for their greater inclination toward the integrative, transliteracies frameworks confirms the need for teacher development programs to infuse content and language instruction in ways that leverage and promote MLs' transliterate

capabilities (de Jong and Naranjo, 2019). Finally, the study adds to the perspective that teachers' language ideologies are complex, nuanced, and shifting across contexts (McGroarty, 2010; Fitzsimmons-Doolan et al., 2017) possibly because (1) such ideologies are under-explored throughout their career, (2) their ideologies are not just personal beliefs but are intertwined with the more hegemonic societal norms and power hierarchies, and thus (3) teachers' beliefs are responsive to the contextual affordances of bilingual resources as well as constraints such as policy mandates and lack of systemic support (Wiley, 2014; Banes et al., 2016; Fitzsimmons-Doolan et al., 2017). The complexity of shifting ideologies points to the pressing need for integrating ML-specific attention into teacher education and ongoing professional development programs. If left unexamined, the dominant ideologies supporting monolingual, separatist approaches will persist and continue to inform classroom teachers' instructional practices.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by George Mason University Institutional Review Board. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

SK: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration,

Supervision, Validation, Writing – original draft. JP: Data curation, Formal analysis, Investigation, Methodology, Software, Validation, Visualization, Writing – original draft. MZ: Data curation, Formal analysis, Methodology, Visualization, Writing – original draft.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/feduc.2024.1282936/full#supplementary-material>

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