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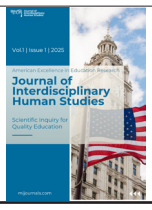

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ETHODOLOGY FOR DEVELOPING STUDENTS' INTEGRATED PROFESSIONAL-COMMUNICATIVE COMPETENCE IN EMI (ENGLISH-MEDIUM INSTRUCTION) SETTINGS IN HIGHER EDUCATION

Abstract. *This study investigates a methodology for developing integrated professional-communicative competence among university students in English-Medium Instruction (EMI) settings. As the global expansion of EMI programs in higher education accelerates, the dual challenge of simultaneously mastering disciplinary content and developing advanced English-language proficiency has become a critical pedagogical concern. Employing a quasi-experimental design, this research involved 80 third-year undergraduate students at a university in Tashkent, Uzbekistan, divided into an experimental group (n = 40) receiving an integrated Content-Language-Professional (CLP) instructional methodology and a control group (n = 40) following conventional EMI instruction. Data were collected through pre- and post-tests measuring disciplinary knowledge, communicative competence, and professional-communicative task performance over one academic semester (16 weeks). Results demonstrated that the CLP methodology produced statistically significant gains across all three dimensions, with the experimental group outperforming the control group on the integrated competence measure ($t(78) = 4.62$, $p < 0.001$, $d = 1.03$). Qualitative interview data revealed that students in the experimental group reported greater confidence in using English for discipline-specific professional communication. These findings suggest that purposefully designed integrative methodologies can effectively address the content-language gap in EMI programs and have implications for curriculum design, teacher training, and EMI policy in expanding-circle contexts.*

Keywords: *English-Medium Instruction, EMI, professional-communicative competence, content-language integration, higher education, CLIL, curriculum design.*

INTRODUCTION

The rapid global expansion of English-Medium Instruction (EMI) in higher education represents one of the most significant developments in international education policy of the twenty-first century. Defined by Macaro (Macaro, 2018:19) as the use of the English language to teach academic subjects other than English itself in countries or jurisdictions where the first language of the majority of the population is not English, EMI has grown exponentially across Europe, Asia, the Middle East, and Central Asia. Dearden (Dearden, 2015:4) documented that EMI programs were operational in over 55 countries by 2015, with the number continuing to rise, driven by forces of internationalization, academic mobility, and the perceived economic value of English-language competence.

However, the implementation of EMI has revealed a persistent pedagogical challenge: the content-language gap. Students enrolled in EMI programs are expected to acquire complex disciplinary knowledge through the medium of a language in which they may possess only intermediate proficiency, while simultaneously developing the advanced communicative skills necessary for professional practice in their fields (Airey, 2012:64). Research has consistently shown that without purposeful pedagogical intervention, neither content mastery nor language development is adequately achieved, resulting in what Dafouz and Smit (Dafouz and Smit, 2020:52) have characterized as a double deficit.

The challenge is particularly acute in expanding-circle countries (Kachru, 1990:12), where English functions as a foreign rather than a second language and where students' pre-university exposure to English may be limited. In Uzbekistan, the government's strategic emphasis on internationalization has led to a rapid increase in EMI programs across higher education institutions, yet systematic methodologies for integrating language and content instruction in these programs remain underdeveloped. This gap between policy ambition and pedagogical practice provides the rationale for the present study.

The study's theoretical foundation rests on three interconnected frameworks. The first is communicative competence, proposed by Hymes (Hymes, 1972:277) and elaborated by Canale and Swain (Canale and Swain, 1980:1) into four components:

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grammatical, sociolinguistic, discourse, and strategic competence. In EMI contexts, this model must extend to discipline-specific professional communication, including specialized terminology, genre conventions, and professional discourse norms (Dudley-Evans & St John, 1998:76). The second framework is CLIL, theorized by Coyle, Hood and Marsh (Marsh, 2010:1) through the 4Cs model (Content, Communication, Cognition, Culture), whose principles of dual-focused instruction provide a foundation for tertiary-level EMI methodology.

The third framework is Byram's (Byram's, 1997:34) model of intercultural communicative competence, which adds intercultural awareness to the communicative model. In EMI settings preparing students for internationalized professional careers, the ability to communicate across cultural boundaries is essential. Integrating this dimension ensures students develop not merely linguistic proficiency but the broader repertoire required for professional practice in globalized contexts.

Research on EMI effectiveness has expanded rapidly. Wächter and Maiworm (Maiworm, 2014:89) found significant variation in pedagogical approaches across European EMI programs, with many offering no systematic language support. Macaro (Macaro, 2018:156) concluded that the assumption that content learning through English automatically leads to language development is unsupported by evidence. Airey (Airey, 2012:64) demonstrated that EMI science students exhibited lower disciplinary discourse competence than L1-medium peers even when content knowledge was equivalent, underscoring the need for explicit communicative instruction.

Dafouz and Smit (Dafouz and Smit, 2020:85) proposed the ROAD-MAPPING framework, identifying six key dimensions of EMI contexts. Despite this growing literature, specific pedagogical methodologies for developing integrated professional-communicative competence in EMI remain scarce, particularly in Central Asian contexts. Richards (Richards, 2006:23) argued that effective instruction in professional contexts requires purpose-designed curricula bridging general communicative skills and domain-specific demands. The present study responds to this gap by designing and evaluating an integrated Content-Language-Professional (CLP) methodology for EMI higher education.

The study addresses three research questions. First, does the CLP methodology produce significantly greater gains in disciplinary content knowledge compared to

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conventional EMI instruction? Second, does the CLP methodology lead to significantly greater improvement in professional-communicative competence? Third, how do students perceive the impact of the CLP methodology on their integrated professional-communicative development? It was hypothesized that the experimental group would demonstrate significantly superior outcomes on both quantitative measures.

METHODS

A mixed-methods quasi-experimental design was employed, combining quantitative pre-post test data with qualitative interview data (Creswell, 2014:172). The independent variable was the instructional methodology (CLP vs. conventional EMI), while the dependent variables were scores on three assessment instruments measuring disciplinary content knowledge, communicative competence, and integrated professional-communicative task performance. The study was conducted over one academic semester (16 weeks) during the 2024–2025 academic year.

Eighty third-year undergraduate students majoring in International Economics at a major university in Tashkent participated in the study. All participants were studying their major subjects through English and had been assessed at B1+ to B2 level on the CEFR using the IELTS Academic test ($M = 5.8$, $SD = 0.6$). Two intact class groups were assigned to experimental ($n = 40$) and control ($n = 40$) conditions. Pre-test results confirmed baseline equivalence across all measures ($p > 0.05$). Participants' ages ranged from 20 to 23 years ($M = 21.1$, $SD = 0.9$), with 46 female and 34 male students. Twelve students from the experimental group were purposively selected for semi-structured interviews.

The Content-Language-Professional (CLP) methodology was designed as a systematic integration of three instructional dimensions. The Content dimension followed the regular disciplinary curriculum (International Trade Theory and Practice) but incorporated explicit scaffolding strategies, including pre-reading vocabulary activation, graphic organizers for complex economic concepts, and bilingual glossaries of key terminology. The Language dimension embedded targeted instruction in discipline-specific communicative skills, including academic writing genres (case analyses, policy briefs, executive summaries), oral presentation conventions, and the discourse patterns of economic argumentation (Dudley-Evans & St John, 1998:76).

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The Professional dimension introduced authentic professional tasks drawn from real-world economic practice, including market analysis reports, trade negotiation simulations, investment briefings, and client presentations. These tasks were designed according to the principles of task-based language teaching (Richards, 2006:23) and required students to integrate disciplinary knowledge with communicative competence in contexts that simulated actual professional demands. Each weekly session (4 hours) allocated approximately equal time to the three dimensions, with deliberate integration points where content, language, and professional elements converged.

The control group followed the conventional EMI approach, in which disciplinary content was delivered through English-medium lectures and seminars with no systematic attention to language development or professional-communicative skill building. Language support was limited to ad hoc vocabulary explanations and occasional correction of errors during class discussion.

Three instruments were employed. The first was a 40-item disciplinary content knowledge test covering International Trade concepts, validated by two subject-matter experts (Cronbach's $\alpha = 0.86$). The second was a communicative competence assessment comprising a written component (case analysis report, 800 words) and an oral component (structured professional presentation, 8 minutes), scored by two trained raters using an adapted rubric based on Canale and Swain's (1980:30) four-component model (inter-rater reliability: Cohen's $\kappa = 0.88$). The third was an integrated professional-communicative task requiring students to analyze a real trade scenario, prepare a written policy brief, and deliver an oral briefing, scored on a composite 100-point scale assessing content accuracy, communicative effectiveness, and professional appropriacy ($\alpha = 0.84$). Semi-structured interviews followed a 10-question protocol exploring students' perceptions of the CLP methodology (Dörnyei, 2007:117).

Quantitative data were analyzed using SPSS 28.0. Independent samples t-tests compared group performance on each post-test measure. Paired samples t-tests examined within-group pre-post changes. Effect sizes were calculated using Cohen's d (Cohen, 1988:25). The significance level was set at $p < 0.05$. Assumptions of normality and homogeneity of variance were verified. Qualitative data from interviews were analyzed using thematic analysis (Braun & Clarke, 2006:77), with two researchers independently coding transcripts (inter-coder agreement: 86.2%).

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RESULTS

Pre-test analysis confirmed baseline equivalence between the groups. No significant differences were found on disciplinary knowledge ($t(78) = 0.38$, $p = 0.71$), communicative competence ($t(78) = 0.51$, $p = 0.61$), or integrated task performance ($t(78) = 0.29$, $p = 0.77$). These results ensure that post-intervention differences can be attributed to the instructional treatment rather than pre-existing group differences.

Table 1. Pre-test and post-test results by group

Measure	EG Pre	EG Post	CG Pre	CG Post	t(78)	Cohen's d
Content	21.4	33.8	21.8	29.6	3.41**	0.76
Communicative	48.2	72.6	47.5	59.3	4.18***	0.94
Integrated	39.1	71.4	38.6	56.8	4.62***	1.03

*Note. EG = Experimental Group; CG = Control Group. **p < 0.01; ***p < 0.001. Post-test t-values shown.*

The experimental group significantly outperformed the control group across all three post-test measures. On the disciplinary content knowledge test, the experimental group achieved $M = 33.8$ ($SD = 5.2$) compared to $M = 29.6$ ($SD = 5.8$) for the control group ($t(78) = 3.41$, $p = 0.001$, $d = 0.76$). On the communicative competence assessment, the experimental group scored $M = 72.6$ ($SD = 12.4$) versus $M = 59.3$ ($SD = 15.1$) for the control group ($t(78) = 4.18$, $p < 0.001$, $d = 0.94$). The largest difference emerged on the integrated professional-communicative task, where the experimental group achieved $M = 71.4$ ($SD = 13.2$) compared to $M = 56.8$ ($SD = 14.8$) for the control group ($t(78) = 4.62$, $p < 0.001$, $d = 1.03$).

Within-group analyses revealed that both groups made significant pre-post gains on all measures (all $p < 0.001$), confirming that both conventional EMI and CLP instruction contributed to student development. However, the experimental group's gains were substantially larger: 57.9% improvement on content knowledge versus 35.8% for the control group, 50.6% versus 24.8% on communicative competence, and 82.6% versus 47.2% on the integrated task.

Thematic analysis of interview data identified three themes. The first, Bridging the Gap, captured students' perception that the CLP methodology addressed a previously unmet need for explicit connection between language and disciplinary study, whereas conventional EMI assumed proficiency without developing it. The second, Professional Identity Formation, reflected how authentic professional tasks helped students envision

the integration of disciplinary knowledge and English skills in future careers. The third, Confidence and Agency, described a shift from passive reception to active engagement, with students reporting significantly greater confidence in using English for professional-academic purposes.

DISCUSSION

The results provide strong evidence that the CLP methodology is more effective than conventional EMI instruction for developing students' integrated professional-communicative competence. The large effect size on the integrated task measure ($d = 1.03$) is particularly significant, as it demonstrates that purposeful integration of content, language, and professional dimensions produces substantially greater gains than the incidental language development assumed in conventional EMI approaches. This finding directly challenges the widespread assumption identified by Macaro (2018:156) that content instruction through English automatically leads to language development.

The significant advantage of the experimental group on the disciplinary content knowledge test ($d = 0.76$) is noteworthy because it demonstrates that the CLP methodology enhanced rather than compromised content learning. This addresses a common concern among EMI stakeholders that explicit attention to language development diverts time and attention from disciplinary content (Airey, 2012:64). The scaffolding strategies embedded in the CLP approach – pre-reading vocabulary activation, graphic organizers, bilingual glossaries – appear to have facilitated rather than impeded conceptual understanding.

Several practical implications emerge. First, EMI programs should move beyond the sink-or-swim approach by integrating systematic language support into disciplinary instruction. Second, the professional dimension addresses a frequently overlooked gap: the connection between academic language and professional communicative demands (Coyle et al., 2010:1). Third, teacher training for EMI must include language scaffolding, task design, and communicative assessment skills (Dearden, 2015:22). Fourth, the qualitative findings on professional identity formation suggest that EMI methodology should attend to affective and identity-related dimensions of learning through a foreign language.

Several limitations should be acknowledged. The use of intact classes precludes true random assignment, introducing potential confounding variables despite

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confirmed baseline equivalence. The single-institution, single-discipline design limits generalizability. The 16-week duration captures short-term gains but does not establish long-term retention or transfer to actual professional practice. Future research should employ multi-site, multi-discipline designs with longer intervention periods and follow-up assessments. The adaptation of the CLP methodology to different disciplinary contexts – engineering, medicine, law – represents a particularly important avenue for investigation, as professional-communicative demands vary significantly across fields (Dudley-Evans & St John, 1998:76).

CONCLUSION

This study demonstrates that the Content-Language-Professional (CLP) methodology produces significantly superior outcomes compared to conventional EMI instruction across all measured dimensions of integrated professional-communicative competence. The findings confirm that purposeful pedagogical design can effectively address the content-language gap that characterizes many EMI programs, particularly in expanding-circle contexts where students' English proficiency may not be sufficient for unscaffolded academic study through English.

The theoretical contribution of this study lies in its operationalization of the construct of integrated professional-communicative competence, which extends traditional models of communicative competence (Canale & Swain, 1980:1) by incorporating the discipline-specific and professional dimensions that are essential in EMI contexts. The practical contribution lies in the CLP methodology itself, which provides a replicable framework for EMI curriculum design that systematically integrates content mastery, communicative development, and professional readiness. As EMI continues to expand across higher education systems worldwide, methodologies that address the complex interplay of content, language, and professional competence will be essential for ensuring that these programs fulfill their promise of producing graduates who are both disciplinary experts and effective communicators in the global professional arena.

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