TEACHING FOREIGN LANGUAGES TO NON-PHILOLOGICAL STUDENTS: A MIXED-METHODS APPROACH TO DIFFERENTIATED INSTRUCTION

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ANNOTATION:

Students in non-philological degree programmes are often expected to reach a workable level of foreign language competence in far less classroom time than philology students receive, and with far more varied starting points. Some arrive with strong reading skills but little speaking practice; others struggle with grammar but pick up technical vocabulary quickly because it overlaps with their major. This article describes the methodology behind a study that looks at how differentiated instruction can be designed for this specific group. We combined a controlled classroom experiment, involving 171 students split into experimental and control groups, with interviews, lesson observations, and document review. The aim was not just to measure whether differentiation works, but to understand why it works differently depending on a student's field of study, motivation, and prior exposure to the language. We outline the reasoning behind this combined design, how key terms were defined for the purposes of the study, and the steps taken to keep the data trustworthy.

Anyone who has taught a foreign language course to engineering or economics students knows the room rarely feels uniform. A handful of students might have spent a year abroad or taken extra lessons as teenagers; others may not have touched the language seriously since secondary school. Add to this the fact that these courses usually get a fraction of the hours given to language majors, and the practical problem becomes clear: how do you move a genuinely mixed group toward a useful level of competence when time is short and starting points differ so widely?

Differentiated instruction is not a new idea in language pedagogy, but most of the research behind it comes from general English-language classrooms or from philology

departments, where the language itself is the main subject. Far less has been written about how differentiation should look when the language is a secondary, supporting subject — squeezed in alongside engineering drawings, lab reports, or case studies. This gap is what the present study tries to address, starting with the question of what kind of research design could actually capture both the measurable gains and the messier, more human side of how differentiation plays out in real classrooms. What follows is a description of how the study was put together: the thinking behind combining quantitative and qualitative methods, the hypotheses we set out to test, the specific tools used to collect data, and the steps taken to make sure the results hold up to scrutiny.

The study sits within a constructivist view of learning — the idea that students build understanding actively, in ways shaped by their own background and context, rather than simply absorbing material delivered to them. Four threads run through the design. One is systemic: language teaching here is treated as one part of a larger, interconnected set of factors — curriculum, materials, assessment, and the students themselves — rather than as an isolated skill to be taught in a vacuum. The second draws on activity-based learning theory, following Vygotsky and later Leontiev and Galperin, where the focus is less on delivering content and more on managing what students actually do with the language. The third is competence-based: success is defined in terms of concrete things students can do with the language professionally, not abstract grammar knowledge. The fourth keeps the individual learner at the centre — their proficiency level, how they prefer to learn, what motivates them, and what their major actually requires of them linguistically. In a non-philology setting, these four threads interact in a particular way. Tying the language course to subject content brings the systemic side to the front; students' professional motivation (wanting to read papers in their field, for instance) brings out the activity-based side; and the fact that the end goal is functional, job-relevant language use keeps competence at the centre of everything. The central hypothesis guiding the study was fairly direct: if foreign language instruction for non-philology students is built around differentiated technologies that respond to their professional needs, learning styles, and starting proficiency, then their communicative competence improves more than it would under a standard, one-size-fits-all programme. Three more specific assumptions followed from this. Differentiated tasks built around students' own professional field should help them handle the kind of language used in that field. Grouping students by proficiency and major, rather than just by class roster, should make the instruction feel more relevant and less generic. And differentiated, ongoing assessment — rather than one big final exam — should help students get better at judging and adjusting their own progress. The object of the study was the process of foreign language teaching within non-philological higher education programmes; the subject was the specific conditions, mechanisms, and effectiveness of differentiated technologies within that process. To test this, the study used a mixed-methods design, following the general logic laid out by Creswell and Plano Clark: collect both numbers and narratives, analyse

them separately, then bring the two together to see where they agree and where they don't. A parallel design was used, meaning the quantitative and qualitative data were gathered around the same time rather than one after the other. This matters practically — it meant test scores could be checked against what students and teachers were actually saying and doing in the classroom, rather than relying on numbers alone, which tend to flatten out exactly the kind of contextual detail this study was trying to capture.

On the quantitative side, the core of the study was a classroom experiment using a standard pretest-posttest design with a control group. Eighty-seven students were taught using differentiated materials and grouping; eighty-four followed the regular programme. Before the experiment began, both groups were checked against each other on initial test scores and basic background factors, to make sure any later difference in results couldn't simply be put down to one group starting out ahead. Language proficiency was measured using tests aligned with the CEFR scale, and the instrument's reliability was checked statistically (Cronbach's alpha came out at 0.87, which is comfortably high).

The qualitative side was less about measuring and more about understanding how people experienced the process. Semi-structured interviews were carried out separately with twelve instructors and twenty-four students, recorded and transcribed. Forty-eight lessons were observed directly, using a simple observation protocol, and what was seen in class was cross-checked against the official curriculum and lesson plans — partly to see how closely paper and practice actually matched. Curriculum documents, lesson plans, and samples of student work were reviewed as well. The interview and observation material was worked through using thematic analysis, following Braun and Clarke's six-step process: getting familiar with the material, coding it, grouping codes into candidate themes, reviewing and refining those themes, naming them clearly, and finally writing it all up. A few terms are used throughout the study in a fairly specific sense, so it's worth defining them here. Differentiated educational technologies refers to the set of methods, task formats, and tools used to shape instruction around a student's proficiency, cognitive style, motivation, and professional direction — rather than teaching to an assumed average student. The non-philological context refers to degree programmes — engineering, economics, the sciences, law, and similar fields — where the foreign language is not the main subject but supports the broader professional training. Communicative competence is used in the sense developed by Hymes, and later Canale and Swain, covering not just grammar but also the social, discourse-level, and strategic sides of actually using a language. Professional discourse refers to the particular vocabulary, text types, and communication habits typical of a given professional field.

None of this methodology is unusual on its own — pretest-posttest experiments, interviews, thematic coding are all familiar tools. What's specific to this study is putting them together around a population that the differentiated-instruction literature has mostly overlooked: students for whom the foreign language is a secondary subject, squeezed

between engineering coursework or lab work, taught for a few hours a week to a room full of people who arrived at very different starting points. The combination of hard numbers and classroom-level detail is meant to give a fuller picture of not just whether differentiation helps, but what it actually looks like when it does. The model built on this methodological base is described in a separate paper.

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