
Profile-sensitive adaptation of role-simulation tasks across non-linguistic specializations in English for specific purposes

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ABSTRACT

Adapting role-simulation tasks across professional profiles is an English for Specific Purposes task-design problem because disciplinary relevance must be increased without reducing adaptation to terminology change or shifting the instructional focus toward specialist expertise. This conceptual-comparative study examines profile-sensitive task transformation across engineering, information and communication technologies, economics and management, and architecture and construction. Drawing on English for Specific Purposes, task-based language teaching, simulation-based learning, and genre-oriented pedagogy, the analysis organizes profile transformation through five dimensions: professional communicative event, role responsibility, profile-relevant language functions and resources, genre-based communicative product, and observable profile-relevant language performance. Two boundary conditions, language-learning primacy and cross-variant comparability, are used to assess whether disciplinary variation remains pedagogically appropriate. The analysis distinguishes three outcomes: superficial adaptation, functional profile adaptation, and over-technical adaptation. It also proposes a comparative transformation audit for examining what changes between profile variants, whether those changes are communicatively substantive, and whether linguistic support and performance demands remain comparable. The resulting framework provides a structured procedure for designing and reviewing profile-sensitive role-simulation tasks while keeping communicative language objectives explicit.

1. INTRODUCTION

English for Specific Purposes (ESP) instruction in non-linguistic higher education often serves students whose professional fields differ substantially even when their general language-learning objectives appear similar. Engineering, information and communication technologies (ICT), economics and management, and architecture and construction, for example, may all require learners to explain problems, exchange information, justify decisions, or produce concise professional outcomes. However, these communicative purposes are realized through different participant responsibilities, discourse expectations, audiences, and professional constraints. A role-simulation task may therefore appear professionally relevant because it contains field-specific vocabulary while still requiring essentially the same generic interaction across specializations. At the opposite extreme, attempts to increase professional realism may introduce disciplinary calculations, diagnostic judgments, regulations, or design decisions that shift the instructional focus away from language use and toward specialist expertise.

This tension is fundamentally an ESP/EFL task-design problem. ESP has long been characterized by attention to the specific language features, discourse practices, and communicative skills required by particular academic and professional communities rather than

by reliance on universally transferable generic skills (Hyland, 2002). More recently, Basturkmen (2025a, 2025b) has reaffirmed work- or study-related language needs and specialized English as central organizing concepts of the field. From this perspective, professional relevance in a language task cannot be reduced to the inclusion of technical terminology: it should be reflected in what learners need to accomplish through language in a target or target-like communicative situation.

Task-based and simulation-oriented approaches provide further foundations for such design. TBLT conceptualizes tasks through purposeful language use and through relationships among goals, input, procedures, participant roles, interaction, and outcomes. Research on task complexity additionally shows that apparently similar communication tasks may differ systematically in reasoning demands, familiarity, contextual support, structure, scaffolding, and other characteristics that influence learner performance (Sasayama et al., 2025). Simulation-based learning likewise treats simulations as pedagogically controlled approximations of professional practice rather than as complete reproductions of workplace activity (Bauer et al., 2022). Together, these perspectives indicate that professional plausibility must be balanced with the linguistic and pedagogical conditions under which learners are expected to perform.

Genre-oriented pedagogy adds another important dimension by linking communicative purpose, audience, textual organization, content, and linguistic resources. Yasuda (2017), for example, demonstrates how genre-based tasks can integrate genre, task, content, and language within EFL instruction. For professionally oriented role simulations, this relationship matters because the outcome of an interaction—a support summary, decision memo, maintenance recommendation, or site instruction—can reveal whether the profile has changed the communicative purpose of the task rather than merely its terminology. A profile-sensitive task must therefore be considered not only in terms of its scenario, but also in terms of participant responsibilities, required language functions and resources, communicative product, and observable language performance.

Existing research already provides substantial guidance for several parts of this problem. ESP materials-evaluation frameworks examine the relationship between teaching materials, learner needs, target contexts, discourse characteristics, and pedagogical objectives; Chan (2009), for example, developed a research-informed framework for evaluating Business English materials. Interdisciplinary ESP course design has also demonstrated how professionally oriented situations can be modelled for students from different technical specializations (Kalkayeva et al., 2025). Task-based needs analysis identifies authentic workplace tasks as a basis for ESP course and task design, including recent work in professional communication contexts (Liu & Doss, 2026). These approaches establish important principles for determining what learners need, designing relevant tasks, and evaluating whether materials correspond to professional contexts.

The literature reviewed for the present study, however, offers less explicit guidance for a narrower comparative problem: how to evaluate the transformation itself when a shared role-simulation purpose is adapted across substantially different professional profiles. The issue is not simply whether each resulting task is relevant or authentic in isolation. Teachers working across multiple non-linguistic specializations also need to determine what has changed between profile variants, whether the change affects the communicative work required from learners rather than only the professional topic or terminology, whether disciplinary content has begun to dominate the language-learning objective, and whether the variants remain pedagogically comparable in their language support and performance demands. Existing principles from ESP, TBLT, simulation-based learning, genre pedagogy, materials evaluation, and task-complexity research

address components of this problem, but their application to the comparative analysis of cross-profile role-simulation transformation remains less explicitly operationalized.

The present study addresses this methodological problem through a conceptual-comparative analysis of role-simulation task adaptation across four broad non-linguistic profile domains: engineering, ICT, economics and management, and architecture and construction. It asks: How can the quality of profile-sensitive transformation of role-simulation tasks across non-linguistic specializations be analysed while preserving the primacy of language learning and pedagogical comparability across profile variants?

To answer this question, the study consolidates established principles from ESP/LSP, TBLT, simulation-based learning, and genre-oriented pedagogy into five operational dimensions of profile transformation and applies two cross-cutting boundary conditions concerning language-learning primacy and cross-variant comparability. The analysis uses these dimensions to distinguish three possible adaptation outcomes: superficial adaptation, functional profile adaptation, and over-technical adaptation.

The study makes two related but distinct contributions. Conceptually, it organizes established concerns about specificity, task structure, professional communication, disciplinary content, and language performance around the narrower problem of the quality of cross-profile task transformation. Together, the three outcomes provide an analytic structure for distinguishing the depth and pedagogical direction of cross-profile task transformation. Practically, the study proposes a comparative transformation audit that enables ESP/EFL teachers to examine what changes between profile variants, whether those changes are communicatively substantive, whether successful performance remains primarily language-mediated, and whether the variants retain pedagogically manageable and comparable language demands.

2. METHOD

2.1. Study design and analytic scope

This study employed a conceptual-comparative methodological design to examine the quality of profile-sensitive adaptation in ESP/EFL role-simulation tasks. The unit of analysis was not a professional field as such, but the communicative transformation of a pedagogical task when its scenario, participant responsibilities, language use, expected product, and performance requirements were adjusted for different non-linguistic specializations.

Four broad profile domains—engineering, information and communication technologies, economics and management, and architecture and construction—were used as contrasting analytic cases because they represent different professional communicative environments common in tertiary ESP/EFL instruction. For each domain, an analytic task variant was constructed from the same broad pedagogical purpose: responding to a work-related problem through interaction and producing a brief oral or written outcome. The variants were designed for comparison rather than sampled from an existing textbook or classroom corpus. Holding the broad pedagogical purpose constant made it possible to examine what had to change for a task to become profile-sensitive without requiring identical language, discourse, or professional products across profiles.

2.2. Literature identification and selection

Literature was selected purposively to build the conceptual basis for analysing profile transformation. Source identification focused on four intersecting research traditions: English for

Specific Purposes and Language for Specific Purposes (ESP/LSP), task-based language teaching (TBLT), simulation-based learning, and genre-oriented language pedagogy.

The source-selection process proceeded in two stages. First, foundational and recent publications already relevant to the problem were examined for principles concerning target professional needs, disciplinary specificity, task structure and participant roles, specialized language use, genre and communicative purpose, simulation as an approximation of professional practice, observable performance, and task demands. Second, targeted bibliographic searches were used to strengthen areas in which the conceptual relationship to profile adaptation required more explicit support. Search terms combined concepts such as English for Specific Purposes, professional communication, target situation, task design, task roles, role simulation, simulation-based learning, specialized register, genre-based pedagogy, language performance, and task complexity.

A publication was retained in the core conceptual corpus when it met at least one of three criteria: (a) it provided a foundational account of a construct directly relevant to profile-sensitive task design; (b) it offered recent theoretical or empirical evidence concerning the use, design, or evaluation of professionally oriented language tasks or simulations; or (c) it clarified a boundary relevant to the present analysis, particularly the distinction between language performance and specialist disciplinary performance or the management of task demands and scaffolding.

The final conceptual corpus comprised 15 core publications: five representing ESP/LSP, four TBLT, three simulation-based learning, and three genre-oriented pedagogy. Foundational sources were retained when they established principles directly relevant to target specificity, task structure, participant roles, performance, or communicative purpose, while recent sources were used to reflect current developments in specialized language learning, task complexity, simulation, and genre-oriented pedagogy. Additional publications were used to position the analysis against related ESP materials-evaluation, interdisciplinary course-design, and task-based needs-analysis research, but were not treated as direct sources for deriving the five analytic dimensions.

2.3. Conceptual derivation of the analytic dimensions

The analytic dimensions were developed by identifying recurring design concerns across the four literature strands and consolidating conceptually related concerns according to the specific problem of cross-profile task adaptation. Each dimension operationalized a cluster of recurring principles from the four literature strands for the specific analysis of cross-profile task transformation.

ESP/LSP research provided the basis for relating tasks to target professional situations, specialized communicative practices, and observable context-relevant performance (Basturkmen, 2025a, 2025b; Douglas, 2001; Hyland, 2002, 2022). TBLT contributed principles concerning task goals, participant roles, actions, outcomes, and the management of task demands (Erlam & Tolosa, 2022; Long, 2015; Nunan, 2004; Sasayama et al., 2025). Simulation-based learning informed the treatment of professional scenarios as pedagogically controlled approximations of practice rather than complete reproductions of specialist work (Bauer et al., 2022; Chernikova et al., Duchatelet et al., 2022; Sari et al., 2024). Genre-oriented pedagogy contributed the relationship among communicative purpose, audience, textual organization, and recognizable communicative outcomes (Anderson, 2025; Yasuda, 2017; Zhai & Razali, 2023).

Related principles were then consolidated into five analytic dimensions: professional communicative event, role responsibility, profile-relevant language functions and resources,

genre-based communicative product, and observable profile-relevant language performance. Two additional principles were retained as cross-cutting boundary conditions rather than incorporated into the five dimensions: language-learning primacy, which requires the task to remain assessable primarily through language and interaction rather than advanced specialist knowledge, and cross-variant comparability, which requires differences in input, scaffolding, interactional load, and output complexity to remain pedagogically manageable across profile variants.

Table 1. Conceptual derivation of the analytic dimensions and boundary conditions

Literature-derived concern	Analytic question for profile adaptation	Operational element
Target needs, disciplinary specificity, target situations	Does the variant represent a communicative event that is plausible and consequential within the profile?	Professional communicative event
Task roles, participant relations, professional responsibilities	Do participants have differentiated information, authority, constraints, or obligations that create reasons to interact?	Role responsibility
Specialized register, communicative functions, profile-relevant language use	Does adaptation change the language functions and resources needed to perform the role, rather than only the terminology?	Profile-relevant language functions and resources
Communicative purpose, audience, genre, and textual organization	Does the interaction lead to a concise product whose purpose and organization are meaningful for the profile?	Genre-based communicative product
Target-situation performance and observable task accomplishment	Can successful performance be observed through profile-relevant language use and interaction?	Observable profile-relevant language performance
Language/content relationship; simulation as approximation of practice	Does success remain primarily dependent on communicative language performance rather than advanced specialist expertise?	Boundary condition 1: Language-learning primacy
Task complexity, scaffolding, and task demands	Are input, support, interactional load, and output complexity sufficiently comparable across profile variants?	Boundary condition 2: Cross-variant comparability

2.4. Comparative analytic procedure

The comparative analysis proceeded in four steps. First, a common pedagogical purpose was established across the four profile domains: learners were required to respond to a professional problem through interaction and to produce a concise communicative outcome. This common purpose served as a common reference point for comparing profile variants without requiring identical vocabulary, discourse, or products.

Second, each profile variant was examined through the five analytic dimensions. The analysis asked what changed in the professional communicative event, the distribution of role responsibilities, the language functions and resources required for participation, the purpose and organization of the resulting communicative product, and the language performance through which successful task accomplishment could be observed.

Third, the changes were examined comparatively rather than as isolated characteristics of individual tasks. A modification was treated as superficial when professional labels or terminology changed while the interactional problem, participant responsibilities, required language work, and expected outcome remained substantially transferable to another profile. A modification was treated as functionally profile-sensitive when the profile altered the communicative work required of participants while language learning remained central. A modification was treated as over-technical when successful completion increasingly depended on specialist calculation, diagnosis, design, regulation, or other disciplinary knowledge beyond the intended language-learning objectives.

Fourth, two boundary checks were applied across the profile variants. The first examined language-learning primacy: whether performance could still be judged principally through observable language use and interaction. The second examined cross-variant comparability by considering the amount of relevant input, degree of language support, interactional load, and complexity of the final product. Comparability was defined pedagogically rather than as lexical or discourse identity: profile variants could require different terminology and communicative forms, but one variant should not depend on substantially greater specialist knowledge, markedly lower scaffolding, or disproportionately more complex output than another.

The combination of the five dimensions and the two boundary conditions produced the three analytic outcomes reported in the Results section and provided the basis for the comparative teacher-oriented audit.

3. RESULTS AND DISCUSSION

3.1 Results

3.1.1 Three outcomes of profile-sensitive adaptation

The comparative analysis identified three analytically distinct outcomes of profile-sensitive task adaptation: superficial adaptation, functional profile adaptation, and over-technical adaptation. These outcomes do not represent levels of technical vocabulary. They describe the extent to which adaptation changes the communicative work required by a task while preserving its primary function as an ESP/EFL learning activity.

Superficial adaptation occurs when professional labels, settings, or terminology change but the underlying communicative problem, participant responsibilities, required language work, and expected outcome remain largely transferable across profiles. In such cases, the task acquires a professional appearance without becoming communicatively specific to the target profile.

Functional profile adaptation occurs when profile-related changes become evident across the communicative event, participant responsibilities, required language functions and resources, communicative product, and observable language performance, so that the communicative work of the task becomes meaningfully profile-sensitive while language learning remains central.

Over-technical adaptation occurs when greater professional realism introduces disciplinary requirements that become more decisive for successful completion than the intended language performance. Examples include specialist calculations, technical diagnosis, regulatory decisions, or design judgments that exceed the instructional remit of the language course. In such cases, the distinction between language performance and disciplinary expertise becomes increasingly difficult to maintain.

Table 2. Analytic outcomes of profile-sensitive adaptation

Adaptation outcome	Nature of the transformation	Observable indication	Pedagogical consequence
Superficial adaptation	Professional surface features change, but the communicative logic remains substantially transferable across profiles.	Field-specific nouns, settings, or labels can be replaced without substantially changing roles, communicative functions, or the outcome.	The task appears professionally relevant but provides limited profile-specific communicative work.
Functional profile adaptation	Substantive profile-related changes reshape the communicative work of the task while language learning remains central.	Participants must explain, instruct, justify, coordinate, clarify, or document in ways that are meaningful for the profile.	Professional relevance increases while language-learning objectives remain central.
Over-technical adaptation	Specialist disciplinary requirements become a principal condition for successful completion.	Learners must calculate, diagnose, design, approve, or apply specialist regulations beyond the language-course aims and support.	Observable language performance becomes confounded with disciplinary expertise.

3.1.2 Five dimensions of profile transformation

The comparison showed that profile transformation can be examined through five interrelated analytic dimensions: professional communicative event, role responsibility, profile-relevant language functions and resources, genre-based communicative product, and observable profile-relevant language performance. Together, the five dimensions provide an operational lens for identifying where profile-related change becomes communicatively substantive and where it remains primarily topical or lexical.

No single dimension is sufficient on its own. A task may contain a plausible professional scenario but assign interchangeable roles; it may use specialized terminology without requiring profile-relevant communicative functions; or it may culminate in a recognizable professional product while assessing learners through generic fluency criteria. Functional adaptation therefore depends on the relationship among the dimensions rather than on the presence of isolated professional features.

Table 3. Dimensions of profile transformation and evidence of communicative change

Analytic dimension	Evidence of functional profile change	Failure signal
Professional communicative event	The variant is organized around a communicative problem or decision that is plausible for the profile and shapes what participants need to accomplish.	The same general discussion remains functional after only field-related nouns are replaced.
Role responsibility	Participants receive differentiated information, authority, constraints, or obligations that influence what they can say, request, clarify, justify, or decide.	Roles are labels only and participants can make essentially interchangeable contributions.

Analytic dimension	Evidence of functional profile change	Failure signal
Profile-relevant language functions and resources	Learners need profile-relevant communicative functions and the linguistic resources needed to perform them, such as explaining causality, giving procedures, qualifying risk, comparing options, or allocating responsibility.	Specialized vocabulary is inserted into otherwise generic sentences or treated as isolated terminology.
Genre-based communicative product	The interaction leads to a concise product with a recognizable audience, purpose, and organization appropriate to the communicative event.	The output remains a generic paragraph, dialogue, or presentation that would function similarly across profiles.
Observable profile-relevant language performance	Successful task accomplishment can be evidenced through language and interaction appropriate to the profile-specific communicative purpose.	Success depends primarily on specialist correctness that the language course neither teaches nor validly assesses.

The professional communicative event establishes what participants are trying to accomplish. Role responsibility creates an interactional reason for language use by differentiating information, authority, constraints, or obligations. Profile-relevant language functions and resources connect specialized vocabulary to communicative work rather than treating terminology as an end in itself. The genre-based communicative product provides evidence that the interaction has reached a purposeful professional outcome. Observable profile-relevant language performance specifies what can legitimately be evaluated through language and interaction rather than through advanced specialist mastery.

3.3. Cross-profile comparison of communicative transformation

The four profile variants illustrate how a shared pedagogical purpose can generate different communicative requirements without requiring different overall language-learning aims. Across all four profiles, learners respond to a work-related problem through interaction and produce a concise communicative outcome. What changes is the professional logic through which that purpose is realized: the type of problem that must be resolved, the responsibilities assigned to participants, the communicative product, and the language performance through which successful task accomplishment becomes visible.

Table 4. Cross-profile indicators of functional adaptation and observable ESP/EFL targets

Profile	Profile-specific communicative problem	Role responsibility	Communicative product	Observable ESP/EFL language target
Engineering	Establish a plausible cause and communicate a safe response.	Participants distinguish observation, technical interpretation, supervisory responsibility, and safety-related decision making.	Technical problem note or maintenance recommendation.	Explain cause and effect clearly; distinguish observation from interpretation; qualify uncertainty; formulate safety-related recommendations.

Profile	Profile-specific communicative problem	Role responsibility	Communicative product	Observable ESP/EFL language target
Information and communication technologies	Identify a user problem and make a workable procedure understandable to a non-specialist user.	Participants distinguish user experience, technical interpretation, implementation constraints, and support responsibility.	Support ticket or user-facing troubleshooting summary.	Give sequenced instructions; reformulate technical information for the user; check understanding; clarify conditions and next steps.
Economics and management	Select and justify an option under competing constraints and stakeholder interests.	Participants distinguish analysis, client priorities, managerial authority, and implementation concerns.	Decision memo or concise proposal.	Compare alternatives; justify a recommendation with reasons/evidence; respond to objections; formulate a clear decision.
Architecture and construction	Coordinate a change while preserving spatial, procedural, and safety coherence.	Participants distinguish design intent, feasibility, client requirements, site responsibility, and risk.	Project clarification note or site instruction.	Clarify spatial relations; specify responsibilities; sequence actions; formulate instructions and constraints unambiguously.

The comparison indicates that profile adaptation does not require maximal technical realism. Each variant contains only enough professional structure to create a credible reason for profile-relevant communication. Technical detail is therefore selective: it supports the communicative event and role responsibilities but does not become an independent object of assessment. The profiles differ in the language work required—causal explanation, user-oriented procedural language, evidence-based justification, or spatial and responsibility clarification—while all remain within an ESP/EFL pedagogical frame.

3.4. Two boundary conditions: language-learning primacy and cross-variant comparability

Functional profile adaptation was further constrained by two cross-cutting conditions: language-learning primacy and cross-variant comparability.

Language-learning primacy requires that the principal evidence of successful performance remain observable in learners' language use and interaction. Professional knowledge may be necessary to make the communicative situation plausible, but it should not become the dominant basis for successful completion. A variant therefore moves toward over-technical adaptation when learners cannot perform successfully without specialist calculations, diagnostic judgments, regulatory knowledge, or design decisions that exceed the instructional objectives of the language course.

Cross-variant comparability concerns whether differences among profile variants remain pedagogically manageable. Comparability does not require identical vocabulary, discourse, or genres. It requires reasonable alignment in four areas: the amount and accessibility of input, the

degree of language and genre support, the interactional load placed on participants, and the complexity of the required communicative product.

A comparison becomes problematic when, for example, one group completes a highly scaffolded substitution task while another must synthesize unfamiliar information, negotiate disagreement, and produce a substantially more complex genre with minimal support. In such cases, observed differences in learner performance may reflect unequal task demands rather than meaningful differences in profile-specific communication.

3.5. Comparative transformation audit

The final analytic result is a teacher-oriented comparative transformation audit focused on what changes when a shared pedagogical purpose is realized through different professional profiles. The audit therefore begins with comparison rather than with the presence or absence of professional features. For each dimension, the teacher identifies the communicative change introduced by the profile and then checks whether the change is substantive, language-mediated, and pedagogically manageable. The audit is formative: its purpose is to reveal where a draft variant requires further adaptation before classroom use.

Table 5. Comparative audit of profile transformation

Comparative audit question	Evidence to look for	Failure signal	Revision direction
1. What changes in the communicative event across profile variants?	The profile introduces a different problem, decision, audience need, or communicative purpose.	Only the professional topic or nouns change.	Redesign the communicative problem, not merely its terminology.
2. What changes in participant responsibility?	Information, authority, constraints, obligations, or decision rights differ in ways that create profile-relevant interaction.	Roles have different labels but remain interchangeable.	Give roles differentiated information and responsibility for action.
3. What changes in the required language work?	Different communicative functions or linguistic resources are needed to fulfil the profile-specific responsibilities.	The same generic dialogue works after terminology substitution.	Link profile language to explaining, instructing, justifying, clarifying, coordinating, or documenting.
4. What changes in the communicative product?	Audience, purpose, organization, or genre expectations reflect the profile-specific communicative event.	The output remains the same generic paragraph, dialogue, or presentation.	Introduce a concise product whose communicative purpose belongs to the profile.
5. What changes in observable language performance?	Criteria capture language-mediated accomplishment of the profile-specific communicative purpose.	Assessment rewards specialist correctness more than communicative language performance.	Rewrite performance expectations in observable ESP/EFL terms.
6. Does the variant remain primarily a language-learning task?	Technical information supports communication but does not determine success independently of language performance.	Learners must calculate, diagnose, design, regulate, or approve beyond course aims.	Reduce or scaffold specialist content and retain only what is necessary for credible communication.
7. Are the variants pedagogically comparable?	Input, language support, interactional load, and product complexity	One profile receives substantially greater support or faces	Rebalance input, scaffolding, interactional responsibility, or output requirements.

Comparative audit question	Evidence to look for	Failure signal	Revision direction
	remain reasonably balanced.	substantially greater linguistic/technical load.	
8. Counterfactual transfer test: would the variant remain essentially unchanged if only the professional nouns were replaced?	Some part of the variant would cease to make communicative sense because its responsibilities, language work, audience, or product belong to the target profile.	The task transfers intact after replacing field labels.	Rework at least one functional dimension of the profile transformation.

The counterfactual transfer test functions as a synthesis check rather than as an isolated final item. If a supposedly profile-specific variant remains fully functional after replacing only its professional nouns, the adaptation is likely to be superficial. If the variant changes communicative responsibilities and language work but remains primarily language-mediated and pedagogically comparable, it represents functional profile adaptation. If the transformation makes specialist disciplinary knowledge a principal condition of successful completion, it moves toward over-technical adaptation.

3.2. Discussion

The analysis suggests that profile-sensitive adaptation is best understood not as the addition of disciplinary terminology to a generic language task, but as a controlled transformation of the communicative work that the task requires. This interpretation is consistent with several established traditions in ESP/EFL pedagogy, while bringing them together around the narrower problem of comparing adaptations of a shared role-simulation purpose across different professional profiles. The discussion below considers this relationship in terms of ESP specificity, task and simulation design, genre-oriented pedagogy, materials evaluation, and the management of performance and task demands.

3.2.1 From ESP specificity to profile transformation

The distinction between superficial and functional adaptation is grounded first in the principle of specificity that has long characterized ESP. Hyland (2002) argues that ESP should respond to the particular language features, discourse practices, and communicative skills of specific academic and professional communities rather than rely on assumptions about broadly transferable generic skills. More recently, Basturkmen (2025a, 2025b) likewise identifies work- or study-related language needs and specialized English as central organizing concepts of ESP. These perspectives establish that professional relevance involves more than the presence of field-related vocabulary.

The present analysis operationalizes this principle at the level of task transformation. Across the four profiles, specificity became visible when the profile altered what participants had to accomplish communicatively: engineers needed to explain causality and qualify uncertainty; ICT participants needed to make technical procedures intelligible to users; management participants needed to compare and justify alternatives; and architecture and construction participants needed to clarify spatial relationships, responsibilities, and procedural constraints. In this sense, the profile was not treated as a topic added to an otherwise stable dialogue, but as a source of changes in communicative event, participant responsibility, language functions, product, and observable performance.

This distinction also clarifies the relationship between profile-sensitive adaptation and interdisciplinary ESP course design. Kalkayeva et al. (2025), for example, developed an interdisciplinary Engineering ESP course around professionally oriented situations shared across different engineering specializations. Their work demonstrates the pedagogical value of identifying common workplace situations and modelling situational tasks for heterogeneous technical cohorts. The present framework addresses a different but complementary question: once a pedagogical purpose is shared across profiles, how can the teacher determine whether individual variants have been transformed deeply enough to reflect different communicative responsibilities without losing their common language-learning frame?

Current task-based needs-analysis research reinforces the importance of grounding ESP design in authentic target tasks. Liu and Doss (2026), for instance, use task-based needs analysis to identify workplace-relevant tasks for nurse-patient English course design. Profile transformation therefore begins from established ESP principles of target relevance; its additional pedagogical problem is how that relevance is realized consistently when comparable role-simulation tasks are adapted for markedly different non-linguistic domains.

3.2.2 Task architecture, role responsibility, and simulation as approximation

The five analytic dimensions are also consistent with established task-based accounts of language pedagogy. Nunan (2004) describes tasks in terms of goals, input, procedures, learner and teacher roles, and settings, while drawing on earlier task frameworks in which roles, actions, outcomes, and participant relationships form part of task design. Contemporary TBLT research continues to emphasize meaningful language use and the need to prepare learners for the linguistic demands of tasks rather than treating the task as a context-free activity (Erlam & Tolosa, 2022).

In the present analysis, role differentiation and purposeful outcomes function as diagnostic indicators of cross-profile transformation. A role becomes analytically important when the profile changes the information available to a participant, the authority to act, the constraints under which a decision must be made, or the obligation to request, explain, justify, clarify, or document something. This is why a simple change from “engineer” to “manager,” for example, does not constitute functional adaptation if both participants continue to perform the same generic interaction.

Simulation-based learning provides a second important foundation. Bauer et al. (2022) conceptualize simulations as approximations of practice supported by representation and scaffolding rather than as complete reproductions of professional performance. This perspective supports the distinction made here between professional credibility and maximal technical realism. A role-simulation task requires enough disciplinary structure to generate plausible communication, but greater realism is not automatically pedagogically preferable.

Over-technical adaptation marks the point at which specialist content shifts from supporting communication to determining task success. Professional content ceases to serve the communicative task when successful completion increasingly depends on disciplinary calculations, diagnostic expertise, regulations, or design decisions that fall outside the intended language-learning objectives. Thus, the three adaptation outcomes can be interpreted as a pedagogical continuum of transformation quality rather than as levels of occupational realism: too little functional transformation leaves the task generic, while excessive specialist dependency obscures the language performance that the task is intended to develop.

3.2.3 Language functions, genre, and observable communicative products

The third connection concerns the relationship among language, communicative purpose, and professional products. Genre-oriented pedagogy has already shown that language learning can integrate genre, task, content, and linguistic resources rather than treating these elements independently. Yasuda (2017), for example, demonstrates how genre-based tasks can support simultaneous attention to genre, content, task, and language in EFL learning.

More recent work likewise shows how task design can support the recontextualization of genre knowledge across audiences and communicative contexts, reinforcing the importance of linking task purpose, genre, audience, and language choice (McGrath et al., 2026).

This literature supports two decisions in the present framework. First, specialized terminology is treated as only one component of profile-relevant language use. Functional adaptation requires learners to mobilize linguistic resources for the communicative work created by the profile—for example, explaining causal relationships, sequencing instructions, qualifying risk, comparing options, responding to objections, or allocating responsibility. This is why the revised framework uses the dimension profile-relevant language functions and resources rather than treating vocabulary as the primary marker of specialization.

Second, the communicative product serves as evidence that the interaction has achieved a recognizable purpose. A maintenance recommendation, support summary, decision memo, or site instruction is not important merely because it carries a professional label. Its value lies in the relationship among audience, communicative purpose, information organization, and the preceding interaction. The product therefore helps reveal whether profile adaptation has changed the logic of the task or merely renamed its output.

Within the framework, genre functions as a diagnostic indicator of whether profile adaptation has altered audience, purpose, and communicative organization. This use of genre allows genre-oriented insights to inform role-simulation design while keeping the analytical focus on cross-profile task transformation.

3.2.4 From materials evaluation to a comparative transformation audit

The comparative transformation audit operates at a different analytic level from established approaches to ESP materials evaluation. Research-based checklists already provide important means of examining whether teaching materials reflect learner needs, target contexts, authentic discourse, and appropriate pedagogical objectives. Chan (2009), for example, proposes a holistic framework in which findings from Business English research are channelled into a two-part checklist for evaluating teaching materials, demonstrating how discourse-specific research can reveal weaknesses that traditional materials checklists may overlook.

The audit's primary question is not whether an isolated ESP material is authentic, relevant, or well designed, but what has changed when a shared pedagogical purpose is transformed for another professional profile. The audit therefore compares variants across five dimensions and asks whether differences in professional event, role responsibility, language functions and resources, communicative product, and observable language performance represent substantive communicative transformation.

The counterfactual transfer test makes this distinction especially visible. If a profile variant remains essentially intact after replacing only its professional nouns, then the professional domain has affected the surface topic more than the communicative work of the task. Conversely, if unchanged transfer would disrupt role obligations, required language functions, audience, product, or performance expectations, the profile has altered the task more substantively.

The comparative transformation audit addresses a narrower design problem than general ESP materials evaluation: whether parallel variants are different for communicatively defensible reasons, rather than merely appearing different because of terminology or becoming incomparable because one variant has accumulated excessive specialist demands.

3.2.5 Observable performance and the two boundary conditions

The dimension of observable profile-relevant language performance draws on LSP assessment principles linking performance criteria to target language use situations (Douglas, 2001). In the present framework, this principle functions as a design check: the teacher should be able to specify what learners must accomplish through language and interaction in each profile variant.

This becomes particularly important because authentic professional performance cannot always be separated cleanly from background disciplinary knowledge. The first boundary condition—language-learning primacy—therefore asks whether the professional information provided by the task enables communicative performance or whether specialist knowledge has become the principal determinant of success. The boundary condition keeps disciplinary content in a supporting role while aligning assessment and instructional attention with what the ESP/EFL course can legitimately teach and observe.

The second boundary condition—cross-variant comparability—addresses a different problem. TBLT research has established that communication tasks can differ systematically in cognitive complexity and in factors such as planning, reasoning demands, number of elements, familiarity, contextual support, task structure, and scaffolding (Sasayama et al., 2025). Therefore, differences in learner performance across professional variants cannot automatically be interpreted as consequences of profile specificity if the variants also differ substantially in support or task demand.

For this reason, the framework does not equate comparability with identical language. Profile-specific variants may require different terminology, discourse patterns, or communicative products. What should remain sufficiently balanced is the pedagogical burden created by input, scaffolding, interactional responsibility, and output complexity. Cross-variant comparability thus functions as a control on profile transformation: it permits meaningful disciplinary difference while reducing the risk that one profile becomes linguistically or technically more demanding for reasons unrelated to the intended communicative contrast.

3.2.6 Conceptual and practical contribution

Taken together, the findings organize established ESP, TBLT, simulation, genre, and assessment principles around a specific methodological problem: the quality of cross-profile transformation of role-simulation tasks.

The conceptual contribution is the treatment of profile adaptation as a transformation problem with three analytically distinguishable outcomes. Superficial adaptation represents insufficient transformation of communicative logic; functional profile adaptation represents a change in communicative work that remains language-mediated; and over-technical adaptation represents a shift in which specialist disciplinary requirements begin to dominate successful performance. This classification integrates concerns about specificity, authenticity, task structure, and disciplinary content into a single account of cross-profile task transformation.

The practical contribution is the comparative transformation audit. Rather than evaluating only whether each task contains appropriate professional features, the audit directs teachers to identify what changes between variants, whether those changes are communicatively substantive,

whether language performance remains the principal object of instruction and observation, and whether the variants remain pedagogically comparable. The audit therefore offers a structured procedure for revising profile variants before classroom use and for making the rationale for cross-profile differences explicit.

PEDAGOGICAL IMPLICATIONS AND LIMITATIONS

Pedagogical implications

The proposed framework is intended to support ESP/EFL teachers who design or adapt role-simulation tasks for students from several non-linguistic specializations. Its practical value lies in shifting attention from the presence of professional terminology to the communicative consequences of profile adaptation. Before classroom use, teachers can compare profile variants and ask whether the professional domain has changed the event learners respond to, the responsibilities assigned to participants, the language functions and resources required for interaction, the communicative product, and the language performance through which successful task accomplishment can be observed.

The framework also encourages teachers to separate professional credibility from unnecessary technical complexity. A task does not need to reproduce a complete engineering procedure, software-development workflow, financial analysis, or construction regulation in order to create a plausible ESP context. Technical information should be included only to the extent that it gives learners a credible reason to explain, instruct, justify, clarify, coordinate, negotiate, or document through the target language. When success depends primarily on specialist calculations, regulatory decisions, or disciplinary judgments, the task should be simplified, scaffolded, or redesigned so that language performance remains the principal instructional focus.

A further implication concerns learner proficiency and scaffolding. Profile specificity should not be increased independently of learners' available linguistic resources. Teachers therefore need to align the amount of input, terminology support, functional expressions, genre guidance, preparation time, and interactional responsibility with the proficiency level of the target group. The same professional scenario may require different degrees of support for learners at different levels, even when the underlying communicative purpose remains unchanged.

The comparative perspective is particularly useful when one language course serves several faculties or professional profiles. Rather than requiring identical vocabulary or identical communicative products, comparability can be maintained by balancing the amount and accessibility of input, the degree of linguistic and genre support, the interactional load placed on participants, and the complexity of the expected output. This allows profile variants to remain genuinely different while reducing the risk that one group faces substantially greater linguistic or technical demands than another.

Finally, the audit can support collaboration between language teachers and subject specialists. The subject specialist can help judge whether a professional event, responsibility structure, or communicative product is plausible within the discipline, while the language teacher retains responsibility for the linguistic objectives, scaffolding, interaction design, and observable language-performance criteria. Such collaboration can strengthen professional credibility without transferring responsibility for disciplinary assessment into the language classroom.

Limitations and directions for empirical validation

The framework is conceptual-comparative and has not yet been validated through classroom implementation. The five analytic dimensions and two boundary conditions therefore provide a

structured basis for task analysis and revision, but their usefulness, interpretability, and consistency across teachers require empirical examination.

The four profile domains used in the analysis are also broad disciplinary families. Considerable variation exists within each domain: for example, civil engineering, energy engineering, geology, software development, finance, and architecture involve different communicative practices even when they share broader patterns of explanation, coordination, justification, or documentation. The framework should therefore be applied as an analytic guide rather than as a fixed taxonomy of professional communication.

A further limitation concerns the comparative judgment of task demands. The present analysis identifies input, scaffolding, interactional load, and product complexity as variables that should be monitored across profile variants, but it does not establish quantitative equivalence among them. Empirical studies are needed to determine how teachers perceive and apply these criteria and whether different profile variants produce comparable linguistic demands for learners at similar proficiency levels.

Future research should therefore examine the framework in classroom settings, investigate inter-rater agreement when different teachers apply the comparative audit, compare learner performance across superficial, functional, and over-technical variants, and explore how subject-specialist consultation affects task design. Particular attention should also be given to whether the audit helps teachers make language targets more explicit and maintain appropriate scaffolding while increasing disciplinary relevance.

4. CONCLUSION

This study examined profile-sensitive adaptation of role-simulation tasks as an ESP/EFL task-design problem in non-linguistic higher education. The analysis focused on a specific methodological question: how a shared pedagogical purpose can be transformed for different professional profiles without reducing adaptation to terminology replacement or allowing specialist disciplinary demands to displace the language-learning objective.

Drawing on established principles from ESP/LSP, TBLT, simulation-based learning, and genre-oriented pedagogy, the study organized profile transformation through five operational dimensions: professional communicative event, role responsibility, profile-relevant language functions and resources, genre-based communicative product, and observable profile-relevant language performance. Two cross-cutting boundary conditions—language-learning primacy and cross-variant comparability—were used to determine whether professional relevance remained pedagogically appropriate.

The comparative analysis distinguished three possible outcomes. Superficial adaptation changes professional surface features without substantially changing the communicative work of the task. Functional profile adaptation involves substantive profile-related changes across these dimensions that make the communicative work meaningfully profile-sensitive while keeping language learning central. Over-technical adaptation occurs when disciplinary knowledge or specialist decision making becomes a principal condition for successful completion.

The practical result is a comparative transformation audit that directs teachers to examine not only whether an individual task appears professionally relevant, but what actually changes between profile variants. The audit combines the five dimensions with attention to language-learning primacy, learner proficiency, scaffolding, and cross-variant task demands. Its purpose is to support profile-specific ESP/EFL task design while keeping communicative language objectives and observable language performance explicit.

Future empirical work can examine inter-rater consistency, proficiency-sensitive scaffolding, and the classroom applicability of the audit across professional domains.

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