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INTEGRATING DIGITAL ECONOMY MATERIALS INTO ENGLISH FOR SPECIFIC PURPOSES (ESP) INSTRUCTION: A STUDY OF ECONOMICS STUDENTS AT ITB AAS INDONESIA

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Abstract: The rapid expansion of the digital economy has significantly reshaped the competencies required of economics graduates, particularly in understanding global business terminology, fintech systems, e-commerce practices, and digital financial communication. Despite this transformation, English for Specific Purposes (ESP) courses in higher education frequently remain centered on conventional business topics and do not systematically incorporate digital economy content. This study aims to investigate how digital economy materials are integrated into ESP instruction and how this integration supports the development of digital economic literacy among economics students at ITB AAS Indonesia. Employing a qualitative case study design, the research collected data through classroom observations, in-depth interviews with lecturers and students, and analysis of syllabi and instructional materials. The data were analyzed using thematic analysis to identify emerging patterns in instructional strategies, content adaptation, and student perceptions. The findings reveal that the inclusion of digital economy topics—such as fintech terminology, digital marketing discourse, online transaction communication, and startup pitching—enhances students' understanding of contemporary economic concepts and strengthens their confidence in using English in digital business contexts. The study underscores the importance of contextualized ESP instruction that aligns with ongoing economic transformation and provides implications for curriculum development in higher education.

Keywords: *English for Specific Purposes (ESP); Digital Economy; Digital Economic Literacy; Economics Students; Higher Education; Qualitative Case Study*

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1. Introduction

The rapid evolution of the global digital economy has reshaped not only economic activities but also the competencies required of future graduates. In a world where digital platforms, financial technologies (fintech), e-commerce systems, and data-driven decision making dominate business environments, the ability to communicate effectively in English within digital economic contexts has become essential. Higher education institutions are expected to produce graduates who can not only understand economic theory but also apply this understanding in dynamic digital environments while communicating confidently in English. This expectation highlights a growing gap in traditional English for Specific Purposes (ESP)

curricula, which often remain rooted in conventional business topics and are less responsive to digital economy contexts. Prior research indicates that ESP instruction must adapt by integrating digital literacy, authentic digital materials, and technology-enhanced pedagogies to remain relevant for contemporary economic discourse and workplace demands. Digital literacy—defined as the ability to access, analyze, evaluate, and create information using digital technologies—is increasingly recognised as a fundamental skill in modern education. In the context of ESP, digital literacy complements language competence by enabling learners to interact with authentic digital content, digital communication platforms, and field-specific online resources (e.g., digital financial reports, fintech interfaces, and e-commerce sites). A recent systematic review emphasizes the importance of digital literacy as an integrative element in ESP curricula to enhance learners' communication skills and professional competencies in specialised fields.

In the specific case of economics students, digital economic literacy combines domain-specific economic knowledge with the ability to interpret and produce meaning in digital economic discourse—such as analyzing digital marketing strategies, interpreting online financial analytics, and understanding terminology related to digital platforms and fintech. Despite its importance, evidence suggests that integration of digital economy materials in ESP instruction remains unevenly implemented. Studies focusing on digitalization in ESP learning have reported benefits such as increased engagement, flexibility, accessibility to learning content, and improvement of 21st-century skills when appropriate digital tools and instructional strategies are used. However, these benefits are contingent on deliberate curricular design, educator digital competencies, and alignment between digital materials and learners' professional needs. Recent literature also highlights challenges such as technological barriers, student digital literacy gaps, and limited readiness among teachers to integrate digital content effectively.

In the context of economics education in Indonesia, including settings like ITB AAS Indonesia, there is increasing recognition of the necessity to realign ESP content with students' future work environments, which are increasingly digitalized. Economic activities—from digital banking and online entrepreneurship to global trade platforms—are mediated by digital technologies, and employers increasingly require graduates who can navigate these environments both linguistically and conceptually. Therefore, ESP instruction for economics students must evolve beyond generic business English towards incorporating specific digital economy content that prepares students for real-world communication tasks. In addition, it is critical to examine how such integration affects students' digital economic literacy, language confidence, and their readiness for professional contexts that demand both linguistic and technological competencies. Existing research on the intersection of ESP instruction and digital tools supports the pedagogical potential of integrating digital technologies. For example, studies on the use of digital platforms, such as learning management systems and interactive multimedia, demonstrate positive impacts on language learning engagement and understanding of subject content, especially when digital tools are contextualized to specific professional domains. Nonetheless, while these studies provide valuable insights into digital integration in ESP broadly, there is a need for deeper exploration into how digital economic materials specifically influence the learning processes and outcomes of economics students.

Given this backdrop, this study aims to investigate how digital economy materials are integrated into ESP instruction and how such integration supports the development of digital economic literacy among economics students at ITB AAS Indonesia. This research addresses several knowledge gaps: (1) the specific strategies and teaching materials used to embed digital

economy content within ESP courses; (2) how students perceive the relevance and effectiveness of these materials in supporting their understanding of digital economic concepts and communication tasks; and (3) the extent to which integration of digital economy materials enhances students' confidence and ability to use English in digital business and economic contexts. Addressing these questions is significant for several reasons. First, the outcomes have implications for curriculum design in ESP programs tailored to economics students, ensuring that language instruction aligns with evolving professional requirements. Second, understanding student perceptions offers insights into pedagogical practices that can enhance learner engagement, motivation, and perceptions of relevance in ESP contexts. Third, findings from this research contribute to broader discussions on higher education reform, where integrating digital competencies with domain-specific language learning is increasingly imperative in the digital age.

In Indonesia's higher education landscape, where global competitiveness and workforce readiness are key national priorities, English proficiency intertwined with digital economy competencies represents a strategic advantage for graduates. As educational policies and institutional practices shift towards more integrated digital learning environments, research that systematically examines the intersection of language instruction and digital economic content contributes to both academic knowledge and practical implementation. Subsequently, this study contributes to pedagogical frameworks that inform ESP curriculum development focused on preparing graduates for the digital economy's linguistic and technological demands. To investigate these dynamics, the present study adopts a qualitative case study approach, which enables an in-depth examination of instructional practices, course materials, student experiences, and perceptions. The findings are expected to yield rich, contextualized insights that inform ESP teaching practices and curriculum innovations within economics education in Indonesian higher education contexts.

2. Literature Review

2.1 English for Specific Purposes (ESP): Conceptual Foundations and Contemporary Directions

English for Specific Purposes (ESP) has long been recognized as an approach to language teaching that prioritizes learners' specific academic or professional needs. Early foundational work by Tom Hutchinson and Alan Waters conceptualized ESP not as a product but as an approach grounded in needs analysis and learner-centered pedagogy. They emphasized that language instruction should be shaped by why learners need English, rather than by pre-determined linguistic content. This perspective positioned ESP as inherently contextual and dynamic.

Later developments by Tony Dudley-Evans refined the definition of ESP by distinguishing between absolute and variable characteristics. Absolute characteristics include meeting specific learner needs and focusing on the language appropriate to specific disciplines, activities, and genres. Variable characteristics, meanwhile, acknowledge that ESP may adopt different methodologies and may be designed for adult or tertiary-level learners. This flexibility is crucial in responding to rapid socio-economic transformations, including the rise of the digital economy. Recent scholarship (2022–2024) emphasizes the shift from traditional Business English toward domain-integrated ESP that incorporates digital communication practices, multimodal texts, and data-driven literacy.

Studies in higher education contexts show that ESP courses increasingly integrate authentic digital materials—such as online financial reports, e-commerce interfaces, and digital

marketing analytics—to bridge classroom instruction with real-world professional communication. This evolution reflects broader transformations in global labor markets, where linguistic competence must be intertwined with digital and professional literacies.For economics students, ESP can no longer focus solely on conventional business correspondence or trade terminology. Instead, it must encompass emerging discourses such as fintech communication, cryptocurrency reports, digital platform negotiations, and startup pitching. Therefore, ESP theory provides the pedagogical foundation for integrating digital economy materials, ensuring that language instruction aligns with disciplinary and professional realities.

2.2 Needs Analysis in ESP and Professional Alignment

Needs analysis remains central to ESP curriculum development. The pioneering communicative needs processor developed by John Munby highlighted the importance of identifying learners' target communication situations. Later refinements by I.S.P. Nation expanded needs analysis into multiple dimensions, including target situation analysis (TSA), present situation analysis (PSA), and learning situation analysis (LSA).

In contemporary contexts, needs analysis has expanded to incorporate digital professional environments. Recent empirical studies indicate that employers in economic and financial sectors expect graduates to demonstrate not only general English proficiency but also the ability to interpret digital dashboards, compose persuasive online marketing content, analyze digital financial reports, and communicate across digital platforms. This aligns with findings from 2023–2024 workforce studies indicating that digital communication competence is among the top employability skills in ASEAN labor markets.

For economics students at institutions such as ITB AAS Indonesia, needs analysis must therefore consider evolving digital business ecosystems. Digital marketplaces, online payment systems, and cross-border e-commerce require communicative strategies distinct from traditional business correspondence. Integrating digital economy materials into ESP instruction becomes a direct response to updated target situation demands. In this sense, needs analysis theory justifies curriculum transformation toward digitally contextualized ESP.

2.3 Digital Literacy Theory and Multiliteracies

The concept of digital literacy was initially popularized by Paul Gilster, who defined it as the ability to understand and use information from digital sources. Subsequent expansions by Yoram Eshet-Alkalai proposed multidimensional models, including cognitive, socio-emotional, and technical components of digital literacy. Contemporary literature reframes digital literacy within the broader paradigm of multiliteracies, where learners engage with multimodal texts combining linguistic, visual, and data-based elements. In economics education, digital literacy includes interpreting fintech applications, reading algorithm-driven analytics, evaluating online investment information, and producing digital marketing content in English.

Recent studies (2022–2024) in higher education highlight that digital literacy is not merely technical skill but also critical literacy—the ability to evaluate credibility, interpret economic data ethically, and communicate responsibly in digital environments. These findings reinforce the importance of embedding digital economic contexts into ESP instruction. When students analyze real fintech case studies or simulate digital startup presentations, they simultaneously develop linguistic competence and digital economic literacy. Thus, digital literacy theory provides a conceptual bridge between language learning and economic digitalization.

Integrating digital economy materials into ESP courses fosters multilayered competencies essential for 21st-century economics graduates.

2.4 Digital Economy Frameworks and Educational Implications

Global institutions such as the Organisation for Economic Co-operation and Development and the World Bank describe the digital economy as economic activities enabled by digital technologies, including platform-based transactions, digital finance, and data-driven innovation. Their recent reports (2022–2024) emphasize digital transformation as a driver of productivity, entrepreneurship, and inclusive growth. Within Southeast Asia, digital economy expansion has accelerated significantly, with Indonesia emerging as a leading digital market. E-commerce growth, digital banking services, and startup ecosystems require professionals capable of navigating global digital communication channels. Consequently, economics education must respond by preparing students for participation in digitally mediated markets.

Educational research increasingly underscores the need for interdisciplinary integration, where language education intersects with economic digitalization. By incorporating materials such as digital financial statements, startup pitch decks, fintech terminology, and e-commerce negotiation scripts, ESP courses can reflect contemporary economic realities. Such integration aligns higher education curricula with macroeconomic transformations described by global development institutions.

2.5 Communicative Competence in Digital Business Contexts

The theory of communicative competence introduced by Dell Hymes shifted language teaching from structural accuracy to functional appropriateness. Later refinements by Michael Canale and Merrill Swain identified grammatical, sociolinguistic, discourse, and strategic competencies as key components of communicative ability. In digital economic contexts, communicative competence expands further. Students must construct persuasive startup pitches, negotiate pricing through online platforms, compose digital marketing messages, and respond strategically in virtual meetings. Research published in 2023–2024 indicates that digital business communication often involves multimodal discourse—combining spoken presentation, slide visuals, data visualization, and online chat interactions.

Therefore, integrating digital economy materials into ESP not only enhances vocabulary acquisition but also strengthens discourse competence and strategic competence in digital settings. When students simulate fintech investor presentations or analyze e-commerce product descriptions, they practice language functions aligned with real digital economic interactions.

2.6 Constructivist and Experiential Learning Perspectives

Constructivist learning theory, influenced by Lev Vygotsky and Jerome Bruner, emphasizes active knowledge construction through social interaction and scaffolding. In ESP contexts, constructivism supports task-based learning, project-based assignments, and authentic material engagement. Recent pedagogical research (2022–2024) demonstrates that experiential learning approaches—such as digital simulations, case-based fintech analysis, and collaborative startup pitching—significantly enhance engagement and conceptual understanding. Students learn language more effectively when tasks mirror authentic professional scenarios.

In economics-focused ESP classes, integrating digital economy materials aligns with constructivist principles. Students actively analyze digital business cases, interpret online financial data, and collaboratively design marketing strategies in English. Such activities

situate language within meaningful economic practice, fostering deeper cognitive processing and stronger professional identity formation.

3. Research Method

This study employed a qualitative case study design to investigate the integration of digital economy materials into English for Specific Purposes (ESP) instruction and its contribution to the development of digital economic literacy among economics students at ITB AAS Indonesia. A qualitative approach was selected because the study aimed to explore instructional practices, classroom dynamics, and participants' perceptions in depth within their natural educational setting. The case study design enabled a contextualized understanding of how ESP instruction is implemented and adapted to respond to digital economic developments within a specific institutional environment.

The research was conducted in the Economics Study Program at ITB AAS Indonesia during one academic semester. Participants were selected through purposive sampling to ensure their direct involvement in the ESP learning process. The participants consisted of one ESP lecturer responsible for designing and delivering the course and twenty economics students enrolled in the ESP class. The selection of these participants was based on their active engagement in learning activities that incorporated digital economy content, such as fintech terminology, digital marketing communication, e-commerce discourse, and startup pitching simulations. Data were collected using three primary techniques to ensure methodological triangulation and enhance the credibility of the findings. First, non-participant classroom observations were conducted throughout several ESP sessions. The observations focused on teaching strategies, types of digital economy materials used, patterns of interaction between lecturer and students, and students' engagement during communicative activities. Field notes were systematically documented to capture both instructional processes and student responses to digital economy-based tasks. Second, semi-structured in-depth interviews were carried out with the ESP lecturer and selected students.

The interviews explored perceptions of the relevance of digital economy materials, instructional challenges, perceived improvements in language competence, and the extent to which the course supported their understanding of digital economic concepts. Each interview lasted approximately 30 to 45 minutes and was audio-recorded with participants' consent to ensure data accuracy. Third, document analysis was conducted on course syllabi, lesson plans, instructional materials, and samples of student assignments. This analysis aimed to identify how digital economy topics were embedded in the curriculum and how learning objectives aligned with both language skills and economic content.

The collected data were analyzed using thematic analysis to identify recurring patterns and meaningful themes. The analysis began with data familiarization, where interview transcripts, observation notes, and documents were read repeatedly to gain comprehensive understanding. Initial codes were then generated to represent significant statements related to instructional adaptation, digital terminology acquisition, communicative competence development, and perceived learning relevance. These codes were subsequently grouped into broader themes that reflected how digital economy materials were integrated into ESP instruction and how such integration influenced students' digital economic literacy. The final stage involved interpreting these themes in relation to relevant theoretical frameworks, including ESP theory, digital literacy, communicative competence, and constructivist learning perspectives.

To ensure trustworthiness, the study applied several validation strategies. Triangulation was achieved by comparing data from observations, interviews, and documents to confirm

consistency of findings. Member checking was conducted by sharing interview summaries with participants to verify the accuracy of interpretations. Additionally, peer debriefing was undertaken to discuss coding procedures and thematic categorization, thereby minimizing researcher bias. Through these procedures, the study-maintained credibility, dependability, and confirmability in its qualitative inquiry.

4. Result and Discussion

4.1 Result

The findings of this study are derived from classroom observations, in-depth interviews, and document analysis conducted in the ESP course at ITB AAS Indonesia. The data reveal four central findings regarding the integration of digital economy materials into ESP instruction. First, digital economy content was explicitly embedded in classroom activities and instructional materials. Document analysis of the syllabus and lesson plans shows that topics such as fintech terminology, digital payment systems, e-commerce product descriptions, digital marketing strategies, and startup pitching were included as core learning materials rather than supplementary content. Classroom observations confirmed that these materials were delivered through communicative tasks, including role-play simulations of online negotiations, analysis of digital marketplace interfaces, and group presentations simulating startup investment pitches.

Second, students demonstrated increased familiarity with digital economic terminology and concepts. Interview responses indicated that prior to the course, many students were unfamiliar with specific English terms related to digital banking, financial technology platforms, and online transaction systems. After participating in the ESP sessions, students reported improved understanding of key vocabulary and greater ability to interpret digital economic texts, such as online financial articles and e-commerce product analytics. Observation notes further indicated that students began using digital economy terminology more accurately during classroom discussions and presentations.

Third, the integration of digital economy materials contributed to improved communicative performance in simulated digital business contexts. During startup pitching simulations and digital marketing presentations, students displayed greater fluency, more structured argumentation, and more confident delivery compared to initial sessions observed at the beginning of the semester. Several students were able to respond strategically to peer questions using appropriate financial and marketing terminology. The lecturer also noted observable improvement in students' ability to explain economic concepts in English.

Fourth, challenges were identified in the implementation process. Some students experienced difficulty understanding complex fintech vocabulary and interpreting digital financial data in English. Additionally, limitations in digital infrastructure occasionally restricted the use of advanced simulation tools. However, collaborative group work and lecturer scaffolding strategies were observed to reduce these difficulties over time.

Overall, the findings indicate that digital economy materials were successfully integrated into ESP instruction and had observable impacts on students' vocabulary development, conceptual understanding, and communicative confidence, despite certain implementation challenges.

4.2 Discussion

The findings can be interpreted through several theoretical perspectives that frame ESP, digital literacy, communicative competence, and constructivist learning. The explicit

integration of digital economy content supports the foundational principles of English for Specific Purposes as articulated by Hutchinson and Waters, which emphasize that ESP instruction must be based on learners' specific needs and professional contexts. By embedding fintech communication, digital marketing discourse, and startup pitching into classroom tasks, the course design aligns language instruction with the evolving economic environment. This reflects the notion that ESP is not merely a simplified version of general English but a targeted approach shaped by disciplinary relevance.

The improvement in students' familiarity with digital economic terminology can be explained through digital literacy theory. Gilster's conceptualization of digital literacy emphasizes the ability to access and interpret information from digital sources, while Eshet-Alkalai highlights cognitive and socio-emotional dimensions of digital competence. In this study, students did not only memorize vocabulary; they engaged in interpreting online financial texts and producing digital marketing messages. This indicates development of both linguistic and cognitive digital competencies, reinforcing the multidimensional nature of digital literacy.

The enhancement of communicative performance during startup simulations reflects communicative competence theory as proposed by Hymes and further developed by Canale and Swain. Students demonstrated not only grammatical competence but also discourse competence and strategic competence. Their ability to structure arguments logically, respond to questions strategically, and use persuasive language in pitching scenarios suggests that authentic digital economy tasks promote functional language use beyond structural accuracy. This supports recent educational research emphasizing that professional simulations enhance applied communicative skills in higher education contexts.

The challenges identified—such as difficulty with technical vocabulary and limited digital infrastructure—can be interpreted through constructivist learning theory. Vygotsky's concept of scaffolding explains how guided support from the lecturer and peer collaboration helped students gradually master complex terminology and concepts. The use of collaborative group work allowed students to operate within their zone of proximal development, facilitating progressive improvement in both language and digital economic understanding. Furthermore, the integration of digital economy materials reflects broader digital economy frameworks promoted by international institutions such as the OECD and the World Bank, which highlight the importance of digital competencies for workforce readiness. By aligning ESP instruction with contemporary digital economic practices, the course contributes to bridging higher education outcomes with labor market demands.

In summary, the findings demonstrate that integrating digital economy materials operationalizes ESP theory in a modern economic context. The discussion confirms that such integration enhances digital economic literacy, strengthens communicative competence, and supports experiential learning processes. These results suggest that ESP curriculum development in economics programs should systematically incorporate evolving digital economic content to remain responsive to global transformation and graduate employability needs.

5. Conclusion

This study investigated the integration of digital economy materials into English for Specific Purposes (ESP) instruction and its contribution to the development of digital economic literacy among economics students at ITB AAS Indonesia. The findings demonstrate that digital economy content—such as fintech terminology, digital marketing discourse, online transaction communication, and startup pitching simulations—was meaningfully embedded into

classroom activities and instructional design. The integration was not limited to vocabulary enrichment but extended to communicative tasks that mirrored authentic digital business practices.

The results indicate that students experienced measurable development in three main areas: increased familiarity with digital economic terminology, improved ability to interpret digital economic texts, and enhanced communicative confidence in simulated digital business contexts. Through interactive and contextualized activities, students demonstrated greater fluency, more structured discourse, and improved strategic language use. These improvements suggest that integrating domain-relevant digital materials strengthens both linguistic competence and professional conceptual understanding. Although challenges were identified—particularly related to technical vocabulary complexity and digital infrastructure limitations—the implementation remained effective due to lecturer scaffolding and collaborative learning strategies. Overall, the study confirms that integrating digital economy materials transforms ESP instruction into a more contextually responsive and professionally aligned learning experience.

The findings reinforce the view that ESP courses for economics students must evolve beyond traditional business English content and systematically incorporate emerging digital economic discourse. Such transformation supports the preparation of graduates who are not only proficient in English but also capable of engaging competently in digitally mediated economic environments.

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