

# Motivational Aspect of Student's Language Learning Style in Differentiated Instruction of English for Specific Purposes

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**Abstract:** This study aims to research the opportunity of applying the motivational aspect of the language learning style in differentiated instruction of English for specific purposes (ESP) to information technology students (IT) through defining their intrinsic and extrinsic motivation; to determine the students' levels of motivation; to compare motivation of the third- and fourth-year students, their desire to master the IT profession and study ESP; to define the factors which balance students' motivation. A mixed research design was employed. The participants were 234 third-year students and 231 fourth-year students, mostly males, aged from 20 to 22 years who studied at technical university during 2017–2019 academic years and volunteered to take part in the study. To collect the data, the questionnaires by Rean and Iakunin "Studying the motives of students' learning", Ilina "Learning motivation at the university" and Dubovitskaya "Methodology for diagnosing the learning motivation orientation" were used. Although we revealed that students' intrinsic motivation to study ESP and master the IT profession was stronger than extrinsic motivation, we also found that the dominance of intrinsic or extrinsic motives in students may depend on the situation and particular ESP activity. The support of students' high level of motivation and development of students' medium and low levels of motivation should rely on the factors which help to balance students' motivation.

**Keywords:** *Differentiated ESP Instruction; Motivational Aspect; Language Learning style; IT Students.*

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## 1. Introduction

Global development of information and communication technologies requires rethinking of approaches to teaching information technology (IT) students who need to be competent both in the IT profession and in English professional communication. In this context, at university level differentiated instruction of English for specific purposes (ESP) can be used to improve students' professional English language competence. Differentiation of students can be based on a variety of their learning styles and English language proficiency levels.

Language learning style is a complex phenomenon which reflects different dimensions of an individual who needs variations in the ways teaching and learning take place. Despite the priority of the cognitive dimension with an emphasis on the perception (Dörnyei, 2005, p. 124; Dörnyei & Ryan, 2015, p. 112; Özerem & Akkoyunlu, 2015; Derkach, 2018; Synekop, 2018), processing of information (Dörnyei, 2005, p. 124; Dörnyei & Ryan, 2015, p. 112; Saienko, 2017; Synekop, 2018), and field dependence / field independence (İnce & Akdemir, 2013), the motivational aspect of the learning style is critically important for developing learners' skills in ESP. According to Guild and Garger (1998), "differences in motivation, judgments, values, and emotional responses also characterize individual style" (p. 58) and "an awareness of stylistic differences can help teachers recognize that every person does not seek the same affective response" (p. 58).

Studies show the appropriateness of considering motivational styles both in the learning process and in the professional field. Based on the reversal theory, Apter (2001) suggested the Motivational Style Profile for everyday life that involves eight contrasting meta-motivational styles: telic – paratelic, conformist – negativistic, mastery – sympathy, autic – alloic. This implies that "the members of each pair are mutually exclusive and exhaustive, and switches can occur backward and forward between them" (Apter, 2001, p. 7). He also argues that motivation "enters into and provides a continuing internal context for all of our perceptions, thoughts, and actions" (Apter, 2001, p. 5). Within the general social-cognitive model of motivation in learning, Pintrich, Smith, Garcia, and McKeachie (1993) outlined the motivation scales that involve value (intrinsic and extrinsic goal orientation, task value), expectancy (control of learning beliefs, self-efficacy), and affect (test anxiety). On the basis of learning factors such as "the challenge of mastering something, getting inside a subject and trying to understand it in all its complexity", Bain (2004) defined the following

motivational styles: “deep learners”, “strategic learners”, “surface learners” (p. 40). In all mentioned studies, the diverse motivational styles reflect the multidimensional behavior of an individual, show a wide range of particular motives, “that have been assimilated into the whole structure of experience” and underlie a set of particular needs and goals (Apter, 2001, p.12). With this in mind, the motivational aspect of students' language learning styles should be taken into account in ESP instruction in order to achieve educational goals more efficiently.

Motivation as a key concept of motivational styles is the internal engine of stimulating behavior for satisfying the needs and achieving the aims in the process of learning ESP. It is linked with the learner's “choice of a particular action”, “persistence with it”, and “effort expended on it” (Dörnyei & Ushioda, 2011, p. 4). In this respect, motivation is responsible for a dynamic process of motive formation (Ilin, 2011, p. 67). Within the professional training, the educators show the interconnection of motivation components such as motivational, cognitive, operational and technological ones (Chagovets et al., 2020, p. 22). They argue that motivation influences both the professional communication and efficacy of the whole educational process (Chagovets et al., 2020, p. 22). Additionally, it is proved that the way an individual thinks about the future self may influence his understanding of the college context (Oyserman, Destin, & Novin, 2015, p. 185). Similarly, the positive thinking about the future can be used to foster situational academic motivation and academic commitment in learners (Altıntasa et al., 2020). Also scholars focus on the development of a motivation / demotivation model in foreign language learning (Zeynali et al., 2019) and find that motivating demotivation construct is the most important variable influencing learners' performances at the academic level and leads to the development of students' perceptions of their abilities to act in new, difficult or undesirable situations (Zeynali et al., 2019). In general, all these studies complement each other and make a significant contribution into the research of motivation in the context of differentiated ESP instruction.

Motivation is commonly classified as intrinsic and extrinsic. Intrinsic motivation implies using the inner trigger to achieve a particular aim. The examples of this type of intrinsic motivation can be an interest in a discipline, a wish to master professional skills or a desire to get intellectual pleasure. Conversely, extrinsic motivation relies on external factors such as getting good grades or exceling in a particular activity. For a while, there were discussions about the priority of intrinsic over extrinsic motivation of students. With time a consensus has been reached that they are equally important and “both play a motivational role in the academic setting”

(Girmus, 2011, p. 3). Thus, as an integral aspect of learning style, motivation, its dominant type and level, influences the efficiency of language acquisition by students and the identification of its nature will help both the teacher and the student to optimize the learning process.

## 2 Objectives

The aim of the study is:

- to research the opportunity of considering the motivational aspect of the language learning style in differentiated ESP instruction of IT students through defining their prevailing motivation type;
- to determine the students' levels of motivation;
- to compare the motivation of the third- and fourth-year students, their desire to master the IT profession and learn ESP;
- to define the factors which balance students' motivation.

## 3. Materials and Methods

### 3.1. Research Design

The descriptive quantitative research method permitted identifying the students' intrinsic and extrinsic motives to master the IT profession at university level. For that aim the questionnaire "Studying the motives of students' learning" suggested by Rean and Iakunin (2011) was used. To compare the motives of mastering a profession in the IT field we applied the questionnaire "Learning motivation at the university" by Iliina (2011). The questionnaire "Methodology for diagnosing the learning motivational orientation" by Dubovitskaia (2002) for identification of the motives to study ESP and then comparing them with motives to master the IT profession was utilised. This questionnaire was also used to define the levels of intrinsic motivation. The qualitative research method was implied to analyze and interpret collected data.

### 3.2. Research Participants

The participants were 234 third-year students and 231 fourth-year students, mostly males, aged from 20 to 22 years who studied at the Institute of Physics and Technology, Faculty of Informatics and Computer Science of National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" during 2017–2019 academic years and volunteered to take part in the study. The total number of IT students was 465. The English language proficiency levels varied from B1 to B2 according to the Common European Framework of Reference for Languages.

### ***3.3. Research Instruments and Procedures***

When preparing for the study, we analyzed 8 different questionnaires for defining students' extrinsic and intrinsic motivation and determining the levels of their motivation. The main criteria were outlined for the selection of the questionnaires. They included: authenticity and validity; open access; a range of necessary motives that corresponded to learners' needs and the aims of the study; adequate number of questions / statements; simplicity of processing the collected information. The preference was given to the questionnaires "Studying the motives of students' learning" by Rean and Iakunin (2011), "Learning motivation at the university" by Ilina (2011) and "Methodology for diagnosing the learning motivational orientation" by Dubovitskaia (2002). On the one hand, these questionnaires matched the outlined criteria, on the other hand, they were understandable to the respondents and could provide more precise and valid results due to the fact that their authors were of the same cultural background as the respondents so that no consideration of cultural specifics was needed.

Also, it should be mentioned that the questionnaires are presented in the printed book "Motivaciya i motivy" by Ilin (2011) (the references are given in the article) and in the article "Metodika Diagnostiki Napravlenosti Uchebnoi Motivatsii" by Dubovitskaia (2002) with an open access. As stated by Ilin (2011), these psychodiagnostic questionnaires can be successfully used in educators' practice.

In this study there were two stages. At the first stage the students answered the questions of three questionnaires. The first questionnaire "Studying the motives of students' learning" by Rean and Iakunin (2011) listed 16 motives, of which each student had to choose five most important for themselves. The second questionnaire "Learning motivation at the university" by Ilina (2011) consisted of 50 statements, which had to be marked as "acceptable" ("+") or "not acceptable" ("-"). The third questionnaire "Methodology for diagnosing the learning motivation orientation" by Dubovitskaia (2002) was used for defining the students' motivation to learn ESP. It included 20 statements. At the second stage the data were processed and interpreted.

### ***3.4. Data Analysis***

The mixed data analysis was conducted in two stages. The ESP teachers processed data.

At the first stage the quantitative processing of data was conducted in three steps:

1. According to the first questionnaire “Studying the motives of students’ learning” by Rean and Iakunin (2011) with 16 motives, the students chose five important ones for them. Then the forms with answers were taken by the ESP teachers and the answers were analyzed. The chosen motive under the certain number was identified. Then, students who selected that number (motive) were counted. The biggest number of students who chose a certain motive indicated that it was a dominant motive. The other dominant intrinsic or extrinsic motives were found in the same way.

2. The answers to the second questionnaire “Learning motivation at the university” by Iliina (2011) consisting of 50 statements which could be defined as “acceptable” (“+”) or “not acceptable” (“-”) were processed with the use of three scales:

The scale “acquiring knowledge” in which for the agreement (“+”) with the fourth statement the students got 3.6 points; with the seventeenth statement – 3.6 points; with the twenty-sixth statement – 2.4 points; for disagreement (“-”) with the twenty-eighth statement – 1.2 points; with the forty-second statement – 1.8 points. The maximum was 12.6 points.

The scale “mastering the profession” in which for the agreement (“+”) with the ninth statement the students got 1 point; with the thirty-first statement – 2 points; with the thirty-third statement – 2 points; with the forty-third statement – 3 points; with the forty-eighth statement – 1 point; with the forty-ninth statement – 1 point. The maximum was 10 points.

The scale “getting a diploma” in which for the disagreement (“-”) with the eleventh statement the students got 3.5 points; for agreement (“+”) with the twenty-fourth statement – 2.5 points; with the thirty-fifth statement – 1.5 points; with the thirty-eighth statement – 1.5 points; with the forty-fourth statement – 1 point. The maximum was 10 points.

Questions / statements 5, 13, 30, 39 were neutral in relation to the purposes of the study and were not included in the processing of data. The prevalence of motives on scales “acquiring knowledge” and “mastering the profession” indicated intrinsic motives.

3. According to the third questionnaire “Methodology for diagnosing the learning motivation orientation” by Dubovitskaia (2002), each of its 20 statements could be defined as “right” (“+ +”), “perhaps right” (“+”), “perhaps false” (“- -”), “false” (“-”). The question numbers 1, 2, 5, 6, 8, 11, 12, 14 meant “yes” – positive answers (“right”, “perhaps right”). The question numbers 3, 4, 7, 9, 10, 13, 15, 16 meant “no” – negative answers (“perhaps false”, “false”). The answer scores from 0 to 10 showed that the

students had extrinsic motivation, those from 11 to 20 indicated students' intrinsic motivation.

Then the levels of intrinsic motivation were also defined. The answer scores 0-5 indicated a low level of intrinsic motivation; the answer scores 6-14 – a medium level of intrinsic motivation; the answer scores 15-20 – a high level of intrinsic motivation.

Thus, at the first stage, based on the answers to three questionnaires, the dominant motives of the third- and fourth-year students were defined and ranged according to two types – intrinsic and extrinsic ones. The intrinsic motives included the desire to study the profession, to acquire deep professional and foreign language knowledge, to ensure the success of the future professional activity, to get intellectual pleasure. The extrinsic motives involved the wish to obtain a diploma with a minimal effort, to get approval from parents and other people. The levels of intrinsic motivation were also determined.

Then, at the second stage of the study the qualitative data analysis was performed to interpret and compare the obtained results.

#### **4. Results**

The questionnaire (Table 1) by Rean and Iakunin (2011) showed that among 16 motives, the dominant intrinsic ones were mastering the profession (mentioned by 18.79% of the third-year students and 19.25% of the fourth-year students), acquiring deep professional knowledge and ensuring the success in the future professional activity (mentioned by 18.7% of the third-year students and 17.95% of the fourth-year students), and getting intellectual pleasure (mentioned by 19.39% of the third-year students and 18.12% of the fourth-year students). Therefore, the total ratio of the mentioned dominant intrinsic motives in the third-year students (75.58%) was slightly higher than that in the fourth-year students (73.27%). Among the extrinsic motives, getting a diploma was a significant motive of the third- (9.65%) and fourth-year (10.23%) students. As can be seen, these ratios were approximately equal in two groups.

**Table 1.** Comparative data of IT students' motives in questionnaire by Rean and Iakunin (2011)

Intrinsic and Extrinsic Motives	Third-year students' motives (%)	Fourth-year students' motives (%)
<i>Intrinsic motives:</i>	18.79	19.25
studying the profession		
acquiring deep professional knowledge	18.7	17.95
ensuring the success of future professional activity	18.7	17.95
getting intellectual pleasure	19.39	18.12
<i>Extrinsic motives:</i>	9.65	10.23
getting a diploma		
getting approval from parents and other people	4.53	4.5

To confirm these results (Table 2), Ilina's (2011) questionnaire which included 50 statements was used. The results showed that the dominant motives were knowledge acquisition (mentioned by 41.83% of the third-year students and 41.73% of the fourth-year students) and mastering the profession (mentioned by 33.31% of the third-year students and 34.33% of the fourth-year students). Therefore, the intrinsic motivation is sufficiently high in the third- (75.14%) and fourth-year students (76.06%). However, the motive of getting a diploma (mentioned by 24.86% of the third-year students and 23.44% of the fourth-year students) was not present in most of the IT students unlike the mentioned intrinsic motives.

**Table 2.** Comparative data of IT students' motives in questionnaire by Ilina (2011)

Intrinsic and Extrinsic Motives	Third-year students' motives (%)	Fourth-year students' motives (%)
<i>Intrinsic motives:</i>	33.31	34.33
mastering the profession		
acquiring knowledge	41.83	41.73
<i>Extrinsic motive:</i>	24.86	23.93
getting a diploma		



As we can see, both questionnaires used for determining IT students' dominant motives to learn at university have shown similar results. Therefore, it can be assumed that the influence of intrinsic motives, such as mastering the profession and knowledge acquisition, will have a positive effect on the success of mastering the IT profession.

The results of the survey (Table 3) based on Dubovitskaia's questionnaire showed that the intrinsic motivation was the dominant one in the third- (93.58%) and fourth-year (91.34%) students. However, the extrinsic motivation (mentioned by 6.41% of the third-year students and 8.66% of the fourth-year students) is also present. Moreover, as evidenced by the results of our study, some IT students were not sufficiently motivated to learn ESP and did not see the necessity to do it.

**Table 3.** Comparative data of IT students' motives in questionnaire by Dubovitskaia (2002)

Intrinsic and Extrinsic Motives	Third-year students' motives (%)	Fourth-year students' motives (%)
<i>Intrinsic motives</i>	93.58	91.34
<i>Extrinsic motives</i>	6.41	8.66

Identification of the motivation levels of ESP learners demonstrated the predominance of a high level of intrinsic motivation (54.7% of the third-year students and 64.94% of the fourth-year students). A medium level of intrinsic motivation was also quite common (44.87% of the third-year students and 34.63% of the fourth-year students). However, a low level of intrinsic motivation was present only in 0.43% of both third- and fourth-year students. Thus, the balance of the motivation levels of the future IT professionals should be achieved.

## 5. Discussion

The results of this study indicate that the majority of IT students have developed intrinsic motivation to master the IT profession and learn ESP. During the study some questions arose:

- How are intrinsic and extrinsic motivation linked?
- Why is intrinsic motivation to master the IT profession and learn ESP higher than extrinsic motivation in the third- and fourth-year students

while in some students the intrinsic motivation to learn ESP was completely absent?

The students' dominant intrinsic motives of acquiring knowledge and mastering the profession could be explained by their awareness of the need to apply the knowledge and skills in the fast developing IT sphere, where they seek to gain as much practical experience as possible. On the other hand, the students' extrinsic motivation may be accounted for by their desire to be more competitive and have more opportunities to get a good job. In this situation both types of motivation are interconnected.

Since the work in IT profession implies using technical documentation, development of software, reading professional literature, communication with colleagues and clients from different parts of the world, ESP is absolutely necessary for each IT specialist. Therefore, the students with intrinsic motivation have intense interest in ESP, apply considerable efforts and a wide range of strategies when performing learning tasks. However, extrinsic motivation (to get good grades or a diploma) is also important. The students with extrinsic motivation are focused on learning the minimum required for the successful completion of an ESP course, which implies surface interest, limited efforts and strategies when working on tasks of a low level of complexity to obtain a minimum grade. In sum, IT students with a high English language proficiency level have the intrinsic motivation while those with a low proficiency level – the extrinsic one. The effective use of grades and defining proper learning aims can lead to developing intrinsic motivation.

According to Apter's (1998) reversal theory, motivation can be changed in various situations. In line with it Dörnyei and Ushioda (2011) state that motivation is inconstant and dynamic. "It is not stable but changes dynamically over time as a result of personal progress as well as multi-level interactions with environmental factors and other individual difference variables" (Dörnyei & Ushioda, 2011, p. 198). In the learning process IT students are motivated in different ways in various ESP activities (for example, the students with dominant visual modality will be more motivated to perform tasks with visual scaffolding). Thus, this process should be well-balanced through the use of appropriate strategies to motivate students.

The results of our study related to defining students' levels of motivation and factors which can help to balance the motivation show that learners with a high level of motivation are able to achieve a maximum result in learning ESP, define their learning aims, perform complicated tasks (without scaffolding), are deeply engaged in different activities. The students with a medium level of motivation can get a sufficient result in learning ESP,

they are not so deeply engaged in the tasks, need some help of the teacher in defining their aims. The learners with a low level of motivation are able to achieve a minimum result in learning, prefer simple tasks, try to avoid any efforts, need help of the teacher in defining the learning aims. Therefore, the students' high level of motivation needs to be supported, the students' medium and low levels of motivation have to be improved.

Our study was also focused on balancing the students' motivation and for that purpose we singled out a number of factors which can provide such possibilities. The first factor is setting the goals and pursuing them (Dörnyei, 2001; Dörnyei & Ushioda, 2011) in the "zone of proximal development" (Vygotskiy, 1935) with the consideration of students' English language proficiency level and professional competence level. It implies that relevant aims correspond to the learners' abilities. The second factor is creating learning content of ESP that maximally satisfies the needs of IT students. It is important to choose relevant and interesting topics for developing English communicative competences (in listening, speaking, reading, writing). Students themselves and IT professionals should take part in selecting the topics and learning materials. The third factor is variation of the complexity of tasks according to students' English language proficiency levels and their dominant or preferred learning styles (Synekop, 2019). The fourth factor is combining individual, pair and group work, which allows students to satisfy both the wish to work with language material individually and to interact with other communicators in the group in solving common problems. The fifth factor is the development of the students' interests, expectations, and needs related to ESP, which can be achieved, for example, by teaching them to communicate effectively using different communicative strategies. The sixth factor is promoting students' motivation to self-development and self-improvement. The seventh factor is the use of different types of assessment (self-assessment, peer assessment, teacher hetero assessment).

In our study we focused on the opportunity of using the motivational aspect of language learning style in differentiated ESP instruction through defining students' intrinsic and extrinsic motivation. However, our research had certain limitations which may affect the generalizability of its results. Firstly, the participants of our study were only the students of IT specialty, which means that the findings may be generalized with caution. Secondly, the study was limited only to Ukrainian ESP learners. Hence, similar researches can be conducted in other ESP contexts.

## 6. Conclusion

Unlike many other studies, our research implies not only the identification of IT students' intrinsic and extrinsic motivation, the differentiation of the learners' levels of motivation in the context of the language learning style, the comparison of ESP and professional motivation but also the definition of the factors of balance between these levels. This may help to improve the differentiated ESP instruction internationally. Also similar researches can be conducted at technical universities in other countries with the aim to compare the results and probably to add some factors which balance students' motivation.

To sum up, the motivational aspect of the language learning style in differentiated instruction reflects the multidimensional behavior of learners and influences the development of their skills in ESP. Although we revealed that students' intrinsic motivation to study ESP and master the IT profession was stronger than extrinsic motivation, we also found that the dominance of intrinsic or extrinsic motives in students may depend on the situation and particular ESP activity.

The support of students' high level of motivation and development of students' medium and low levels of motivation should rely on the following factors: setting the goals and pursuing them (Dörnyei, 2001; Dörnyei & Ushioda, 2011) in the "zone of proximal development" (Vygotskiy, 1935) with the consideration of students' English language proficiency level and professional competence level; creating relevant learning content of ESP; variation of complexity of tasks according to students' English language proficiency levels and their dominant or preferred learning styles; combining individual, pair and group work; development of the students' interests and needs related to ESP; promoting students' motivation to self-development and self-improvement; using different types of assessment.

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