

## CHALLENGES AND OPPORTUNITIES FOR THE DEVELOPMENT OF THE GRAPHIC AND DIGITAL MEDIA STUDIES IN LITHUANIA

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### Abstract

The graphic and digital media industry plays an important role in Lithuania and abroad, yet it inevitably faces a lack of specialists in this field. The shortage of professionals in the sector leads to the slower growth of businesses and industry, the lower value of GDP, and, in many cases, unskilled work, poor quality and inadequate presentation of information through different media. These challenges can be attributed to shortcomings of the Lithuanian higher education system. According to the Lithuanian Qualifications Framework, levels 5 (short cycle), 6 (bachelor's), 7 (master's), and 8 (doctoral) are classified as tertiary studies. In Lithuania, short-cycle studies in the media industry sector are still not available as the main focus is on the training of bachelor's and master's degree specialists.

The article analyses and presents the peculiarities of the Lithuanian education system, competencies, and acquired qualifications in different levels of studies. During the research, Lithuanian higher education institutions were compared, such as universities and colleges – higher education institutions (kolegijos in Lithuanian), which provide study programmes in different field related to the media industry. In addition, the role and potential of vocational schools in training media technology specialists is presented.

The results of the research show that the role of the Lithuanian education system is vital for the media industry. However, the potential is underexploited due to poor students' career guidance, lack of specific practical skills, or the worsening demographic situation in the country. The significant shortage of specialists can be related to the global pandemic, which had a negative impact on the learning process and, at the same time, forced the search for new teaching methods and tools. The analysis of the education sector's capacities to ensure smooth, rapid, and efficient training of specialists suggests that more emphasis should be placed on the training of media specialists in the narrow field within a relatively short period time. Such a study concept can be implemented in short-cycle studies when a specialist in specific media is trained through the synergy of a

higher education institution and an industrial enterprise within a year and half or two years.

**Keywords:** *education, media industry, competence structures.*

## **Introduction**

Over the last decade, from 2010 to 2019, the rapid growth of 61.5 percent Gross Domestic Product (GDP) in Lithuania is directly related to the successful development of the business, industry, and service sectors (EUROSTAT, 2022). Thus, one of the key factors for a prosperous and high-added value business and industrial sector is qualified professionals. Despite the positive shift in GDP, the demographic situation in Lithuania changed negatively in the past decade, from 2010 to 2021, the number of inhabitants in Lithuania decreased from 3.29 to 2.81 million (Statistics of Lithuania, 2022). These factors led to a negative dependence between the number of specialists and graduates needed in the labour market: as the demand for qualified specialists increased, the population and the number of pupils, students, and graduates declined, accordingly (Želvys et al., 2021).

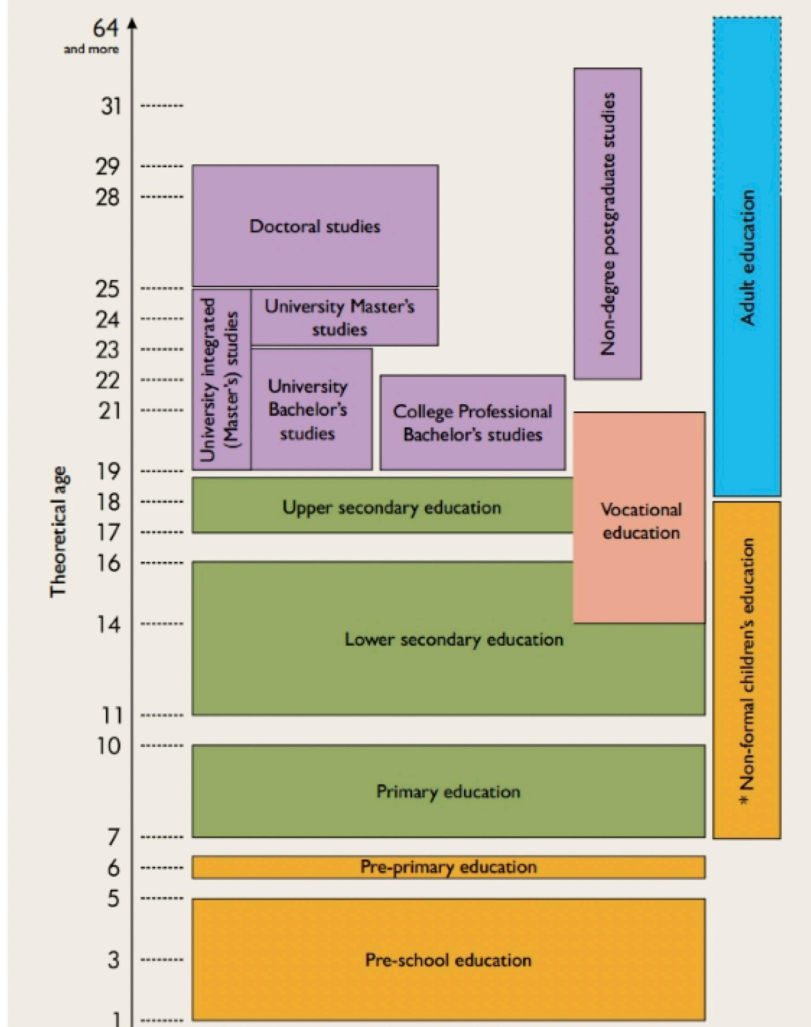
To meet the needs of the country's labour market, the Lithuanian education system is based on 8 different levels of education (Fig. 1.). Evaluating the training of qualified specialists, vocational training is well developed in the country and the duration of studies ranges from one to three years. Such training is classified as level 4 and the training is provided in vocational schools.

In analysing higher education, a binary system is applied, where bachelor's (level 6) studies are delivered by HEI colleges and universities, and the studies usually take three (180 ECTS) and four (240 ECTS) years, respectively. Meanwhile, master's (level 7) and doctoral (level 8) studies are offered by universities. Since 2022, short-cycle (level 5) studies have been launched in the country. Such studies will be carried out by colleges separately or in cooperation with vocational schools. The expected duration of studies is from one and a half to two years, or from 90 to 120 ECTS, respectively.

During the research, change in the number of pupils and students over the past 20 years, as well as the country's economic situation, was analysed. The article presents the offer of graphic and digital media study programmes in the country's formal education sector and the choice of the study programmes at the Kauno Kolegija HEI, as well as challenges and opportunities.

## Structure of the Lithuanian Educational System

(from "Education in Lithuania" by the Ministry of Education and Science of the Republic of Lithuania, 2004, 2006, 2010)



\* Education can be conducted under pre-school and pre-primary education programme, but is not systemic

Fig. 1. Structure of the Lithuanian Educational System  
(<https://educationpolicytalk.com>)

## Methodology and material

The analysis of indicators is based on the data from official websites e.g. Eurostat, Lithuanian Statistics, AIKOS (Open Information, Counselling and Guidance Systems of the Centre of Information Technologies of Education), individual research, and studies carried out by other researchers. The data analysis covers the period 2000–2021 as follows:

- Number of graduates;
- Number of students;
- Number of vocational school students;
- Study programmes in progress;
- Number of the country's population;
- Other parameters.

## Results and discussion

### Education in Lithuania

The significantly declining number of schoolchildren and students was largely determined by the change in the demographic situation observed in the last decade, as the population in Lithuania decreased by almost 500 thousand. Meanwhile, over the past 20 years, the population has declined even further from 3.5 to 2.8 million. As a result, the number of pupils in general education schools decreased from 416 to 330 thousand (Fig. 2).

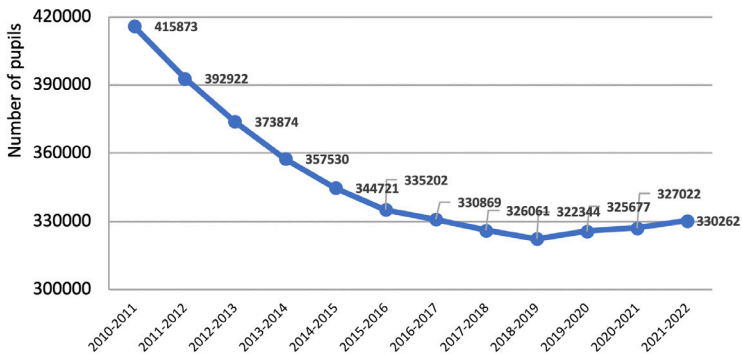


Fig. 2. Number of pupils in secondary schools (Statistics Lithuania, 2022)

The decreasing number of students was determined by different factors, such as the low birth rate of the population, emigration, and economic factors. However, in terms of the improvement of the country's economic situation and the return of migrants to the country, the number of students has slightly increased since 2018.

Negative trends in the number of students in Lithuania inevitably affected the number of high school graduates. Figure 3 shows the number of individuals studying at different levels after secondary school. Vocational training has witnessed a decline from 13,700 to 9,000 students, or 34 percent, over the past decade. Meanwhile, the number of undergraduate students (level 6) decreased from 150 to 74 thousand or 51 percent in the corresponding period. The number of individuals pursuing master’s and doctoral degrees decreased, but not so drastically, from 21 and 11 percent, respectively. Taking into account these figures, it can be concluded that the largest number of students – more than half – decreased in bachelor’s study programmes. The main reasons for this could be not only the above-mentioned factors but also a wider range of study programmes in foreign higher education institutions, volunteering, and better-paid jobs after graduation (Bankauskiene et al., 2019). The smaller decrease observed in the total number of students in master’s and doctoral studies is explained by the fact that these studies are chosen by more motivated and high-achieving school graduates, the percentage of which remains relatively similar. In addition, the stability of the number of doctoral students could be affected by additional funding like scholarships.

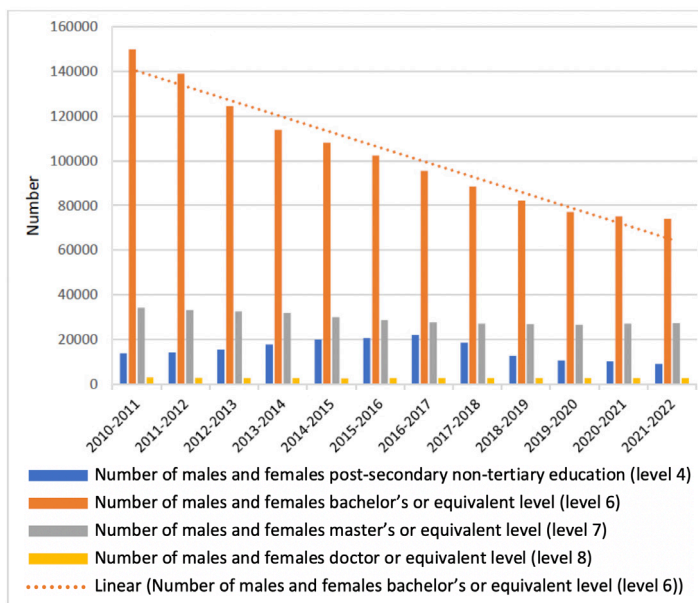


Fig. 3. Number of pupils and students by levels of education in Lithuania 2010–2022 (Statistics Lithuania, 2022)

Figure 4 presents students who completed different programmes in vocational schools. The programmes are divided into vocational training programmes for lower and upper and secondary education. The total number of vocational school graduates declined by more than 35 percent in the last twenty years. However, despite the overall decrease in the number of graduates, there was a noticeable positive change in the period 2010–2018.

This change is associated with graduates who acquired vocational education after high school in the last twenty years, when the number of students who obtained a secondary education and chose vocational training increased by 52 percent, whereas in the period 2010–2018, by 55 percent. This is directly related to the need for lower-level specialists and additional economic incentives in vocational schools. Comparing the number of students who graduated from vocational schools according to educational programmes with those without basic education, and the number of the students who completed educational programs with basic education decreased six times and in the last twenty years more than twice, accordingly. The considerable decrease in the number of students who graduated from vocational schools without a basic education is associated with the improved monitoring of the education system, quality assurance, and the need for higher competencies. The same can be said about students who graduated from vocational schools with a basic education when the significant negative change in graduates is associated not only with the decreasing number of students but also with the need for higher-level competencies (Bankauskiene et al., 2020; Zelvys et al., 2020).

The number of students studying in higher education institutions (universities and HEI colleges) is directly related to the number of students who have graduated from secondary school. In the period 2001–2021, the number of students who obtained secondary education decreased by 35 percent, and in the period 2011–2021 by even 48 percent. In comparison, the number of graduates in universities of applied sciences decreased by 43 percent and in four-year universities by 58 percent (Figure 5).

The significant decrease in the number of students who have obtained secondary education can be directly linked to the country's decreasing population, studies abroad, or emigration. The negative change in the number of graduates of higher education is associated with the number of students who have obtained secondary education. However, in the last decade, fewer and fewer school leavers have tended to choose to study at universities, and the number of students at HEI colleges has decreased, but not as significantly as at universities. As a result, a similar number of students graduated from HEI colleges and universities in 2021. This can be explained by the fact that

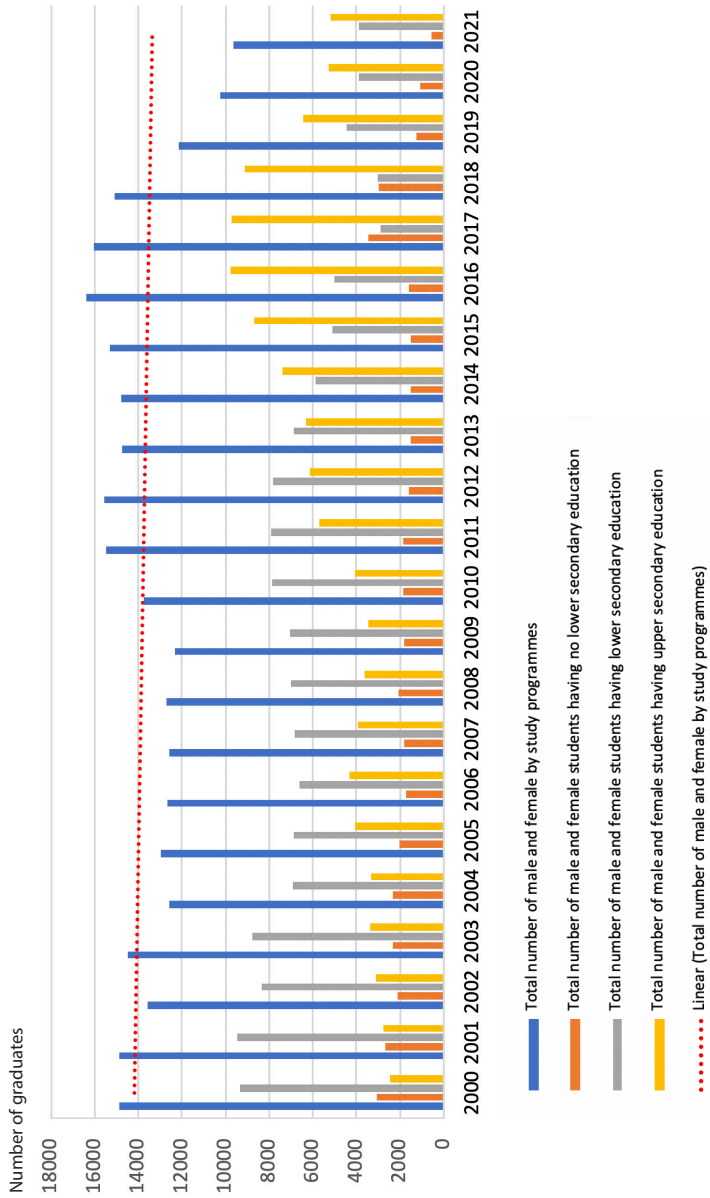


Fig. 4. Graduates of vocational training institutions in Lithuania 2000–2021 (Statistics Lithuania, 2022)

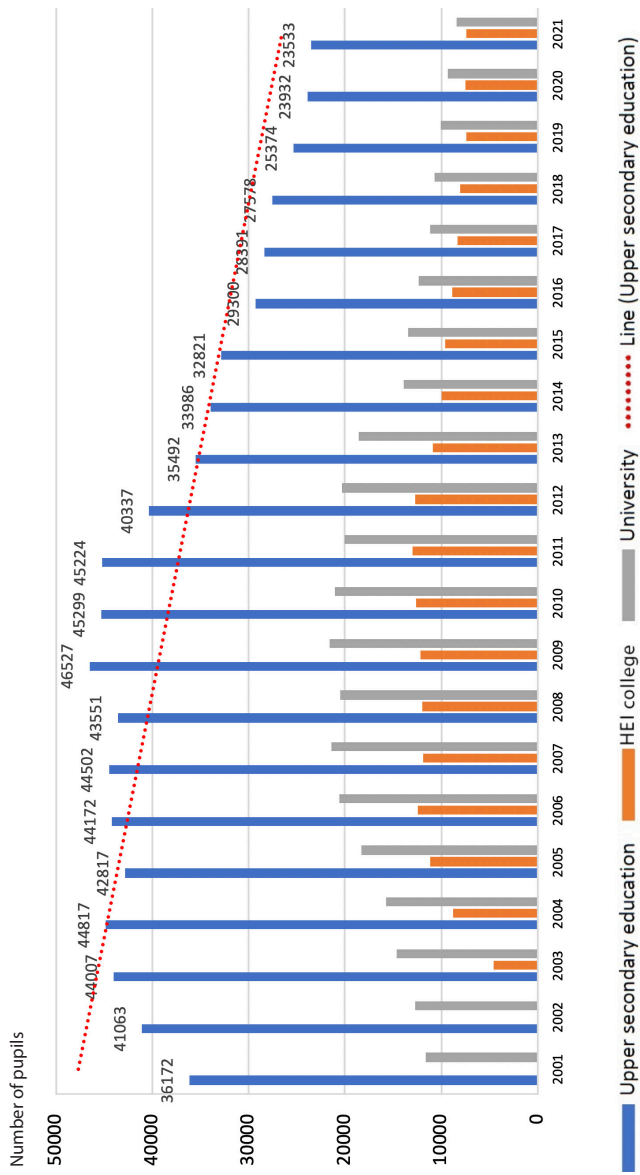


Fig. 5. Number of pupils and students who acquired education in 2001–2021  
(Statistics Lithuania, 2022)



studies at HEI colleges are more appealing due to the shorter study period and practical activities.

### Studies of graphic and digital media

The branch of graphic and digital media can be described as a broad and diverse sector covering technology, communication, design, journalism, etc. As a result, study programs related to graphic and digital media in Lithuania belong to different study fields: materials technologies, informatics, informatics engineering, programme systems, communication and media arts (Table 1).

Table 1. Study programmes related to the graphic and digital media sector in Lithuania (<https://www.aikos.smm.lt/en>)

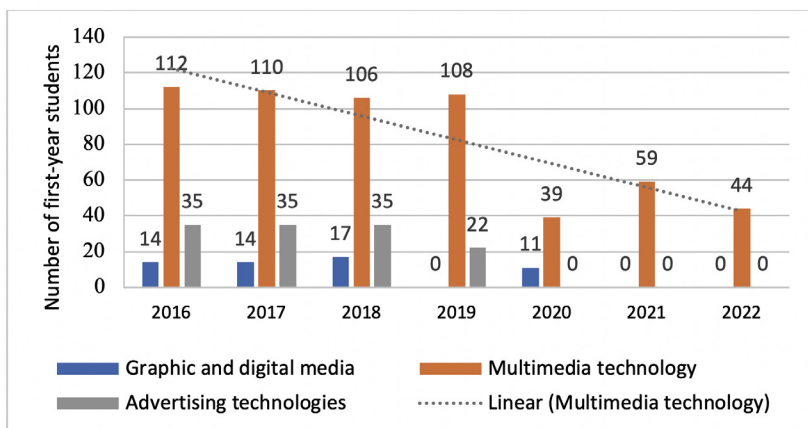
No	Title	Study field	Degree	Duration	Mode	Institution
1	Multimedia and Internet Technologies	Informatics	Bachelor	4	Full-time	Vytautas Magnus University
2	Multimedia design	Informatics engineering	Bachelor	4	Full-time	Vilnius Gediminas Technical University (VILNIUS TECH)
3	Multimedia design	Informatics engineering	Bachelor	6	Part-time	Vilnius Gediminas Technical University (VILNIUS TECH)
4	Multimedia Technology	Informatics engineering	Professional bachelor	3	Full-time	Kauno kolegija HEI
5	Multimedia Technologies	Informatics engineering	Bachelor	4	Full-time	Kaunas University of Technology
6	Multimedia Technologies	Informatics engineering	Professional bachelor	3	Full-time	Siauliu kolegija HEI
7	Programming and Multimedia	Programme systems	Professional bachelor	3	Full-time	Kolegija of Social Sciences HEI
8	Programming and Multimedia	Programme systems	Professional bachelor	4	Part-time	Kolegija of Social Sciences HEI
9	Multimedia Design	Media art	Professional bachelor	3	Full-time	Vilnius kolegija of Technologies and Design HEI

No	Title	Study field	Degree	Duration	Mode	Institution
10	Video Production and Media	Media art	Professional bachelor	3	Full-time	<i>Kolegija</i> of Social Sciences HEI
11	Communication and creative technologies	Communication	Master	2	Part-time	Mykolas Romeris University
12	Creative Industries	Communication	Bachelor	4	Full-time	Vytautas
13	Creative Industries	Communication	Bachelor	4	Full-time	Vilnius Gediminas Technical University (VILNIUS TECH)
14	Creative Industries	Communication	Bachelor	5,5	Part-time	Vilnius Gediminas Technical University (VILNIUS TECH)
15	Creative Industries	Communication	Master	2	Full-time	Vytautas Magnus University
16	Creative and Entertainment Industries	Communication	Bachelor	3	Full-time	<i>Kolegija</i> of Social Sciences HEI
17	Creative and Entertainment Industries	Communication	Bachelor	4	Part-time	<i>Kolegija</i> of Social Sciences HEI
18	Creative communication	Communication	Bachelor	4	Full-time	Vilnius University
19	Communication of Creative Society	Communication	Master	2	Full-time	Vilnius Gediminas Technical University (VILNIUS TECH)
20	Creative Industries Technologies	Material technologies	Professional bachelor	3	Full-time	<i>Kauno kolegija</i> HEI

20 study programmes, either bachelor or master's study programmes, related to graphic and digital media are implemented in the Lithuanian higher education institutions. Most of them are carried out in level 6 – professional bachelor and bachelor studies. Meanwhile, in level 7 there are 3 study programmes (master's studies). Level 6 full-time studies last from 3 to 4 years,

extended studies from 4 to 6 years, which in turn, make the studies unattractive to students and the labour market. Master's degree studies last for 2 years. Although a significant number of study programmes is implemented in the country's higher education institutions, many of them are focused on informatics or communication sciences (Sajek, 2019). Meanwhile, the number of study programmes implemented in the field of materials technology studies is minimal.

The graphic media study programmes implemented at the Kauno kolegija HEI are presented in Figure 6: Graphic and digital media, Advertising Technologies (from 2022 – Creative Industries Technologies), and Multimedia Technology. All programmes are carried out in the 1st cycle of higher education (professional bachelor's) studies.



*Fig. 6. Distribution of first-year students by different study programmes at Kauno kolegija HEI*

Analysing the number of first-year students in the study programmes from 2016 to 2022, it is evident that the number of students decreased sharply. The number of first-year students in study programmes like Graphic and digital media fell from 14 to 11, Advertising technologies from 35 to 22, and Multimedia technology from 112 to 44. The negative change in the number of students is associated with the decreasing number of students who obtained secondary education, the large offer of study programs in Lithuania and abroad, and the popularity and trends of study programmes.

## Discussion

Over the past twenty years, there have been noticeable signs of a change in the demographic situation, when the population in Lithuania has decreased significantly. This is directly linked to the reduction in the number of pupils who completed primary and secondary education, and, in turn, graduates from vocational and higher education. There is a clear trend that in the last decade, more and more students have chosen to study in vocational schools after obtaining secondary education (Zemaitaityte, 2016). Meanwhile, fewer and fewer students chose higher education studies, which led to a significantly lower number of graduates. This change was mostly observed in universities, which faced almost a twofold reduction in the number of graduates. It was also noticed that the number of school graduates applying to three-year HEI colleges is similar to the number of applicants to four-year universities, which means that future students will choose shorter and more practice-oriented studies. Given the economic indicators in Lithuania, there has been noticed a significant change since 2000, when the gross domestic product doubled and even outpaced the average of the European Union (Eurostat, 2021). This shows that the part of the industry generating high-added value has grown considerably, which inevitably affects the demand for highly-skilled professionals in the labour market. In the case of a negative ration between the graduate supply and the demand for specialists in the country, short-cycle higher education studies, non-formal education, and other ways are proposed to address the existing challenges (Zuzeviciute et al., 2017; Zelvys et al., 2020).

## Conclusions

Negative demographic changes in the population in Lithuania over the past decade have had a direct impact on the number of students in the country. The biggest fluctuation in the education system is observed in the training of qualified specialists, at level 6, bachelor's studies. Meanwhile, the change was not so significant in the number of students studying at levels 4, 7, and 8 – vocational training, master and doctoral studies. These negative changes are associated with a wide choice of study programmes in Lithuanian and foreign higher education institutions, emigration and demographic factors, and the ongoing reforms in the higher education system.

Over the last decade, the training of specialists in vocational schools was mainly focused on the acquisition of specialty after obtaining secondary education. There was also a noticeable decrease in the number of students choosing vocational training after obtaining lower secondary education. The increased popularity of post-secondary vocational training is associated with economic incentives, meeting the need for industry and business.

Twenty bachelor and master's degree study programmes related to the graphic and digital media sector are implemented in the country's higher education institutions. However, the majority of study programmes are delivered in the study fields of communication and computer sciences. For these reasons, there is a shortage of graphic technology specialists in the country.

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