The Need to Implement New Trends in Educational Processes in Data Processing and Accounting

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Abstract

Modern trends and technological advancements require a new form of student education. In practice, there are numerous innovations in robotics, digitization, and artificial intelligence, which significantly impact data processing and accounting in accounting entities.

Keywords

Digitization, Robotization, Education, Accounting, Automated Processes

Introduction

The current trend in document processing and accounting in Slovakia, as well as globally, demonstrates an elevated level of use of robotics, automation, and partially artificial intelligence. Many accounting entities have adopted these technologies for several reasons, such as increasing wage expenses, enhancing work efficiency, and minimizing errors in accounting processes.

However, there is a noticeable lack of these trends in teaching processes within schools. The implementation of changes in educational methods lags behind the rapid developments in these areas.

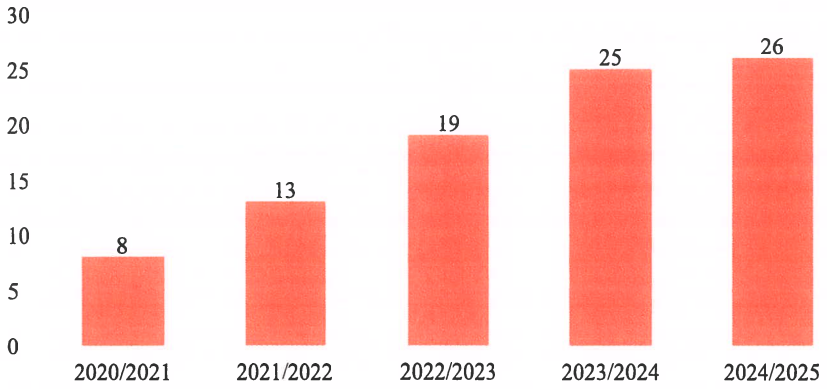
Dual education

In 2015, significant legislative changes were introduced in the field of education for secondary vocational school students, particularly in practical teaching. The term "dual education," as defined by Act No. 61/2015 Coll., refers to vocational education and training where knowledge, skills, and abilities necessary for the performance of a profession, group of professions, or professional activities are acquired. This education is divided into theoretical and practical components.

A key player in the system of secondary school student education is the National Union of Employers, which certifies workplaces for employers. Certification also includes assessing the chief instructor and authorized personnel responsible for leading students.

Graph 1 illustrates the growing interest of students at the Secondary School of Economics (Business Academy Michalovce) in dual education. These students engage in practical activities related to full-scale bookkeeping and providing economic services to clients throughout their four-year secondary education. The graph clearly shows an increasing trend of student participation in practical dual education with employers.

From experience, we observe that students graduating from vocational schools are not only able to apply themselves immediately in practice but also show greater willingness to pursue further studies in economically focused universities.



Graph 1: Development of the number of students with an employer (2020-2024)

Source: Own processing, 2024

A significant factor in the increasing interest in dual education is the quality of practical education and the employer's capacity. This system enables students to gain hands-on experience, develop decent work habits, and understand the field comprehensively, with the added benefit of personal consultations with experienced employees.

Processing of accounting at the employer

Employers that are offering dual education are often engaged in modern bookkeeping practices, using advanced technologies such as digitization, robotization, and artificial intelligence.

Digitization of Accounting

The amendment to the Accounting Act, effective from January 1, 2022, responds to the increasing digitalization of accounting practices. The legislation clarifies the conditions for processing accounting records, focusing on the credibility, integrity, and legibility of documents. It also emphasizes the importance of transitioning documents from paper to digital form—just once.

Process Automation

Automation is used for recurring tasks within accounting departments. This includes communication with institutions like the Social Insurance Agency, Health Insurance Companies, and the Tax Office, along with the submission of monthly, quarterly, and annual reports. These automated processes help reduce errors compared to manual data entry.

Automatic processes also include issuing invoices via a "robot," which allows for electronic invoice delivery and digital storage. Invoices are automatically recorded in the accounting system with appropriate entries.

Digital depositories are also used to store a variety of documents, such as incoming invoices, bank statements, internal documents, and cash receipts.

Document Data Recovery

A crucial part of processing cash receipts is data recovery and automatic accounting, achieved through reading QR codes. This process allows for digital data entry, significantly reducing the chance of errors.

Banks offer digital data processing through APIs or .xml files according to the SEPA standard, which further reduces errors and increases work efficiency by directly posting transactions to the appropriate accounts.

Analysis of Data Processing, Documents, and Actions

Accounting processes involve various documents and procedures. Chart 2 presents the structure of necessary work, expressed as a percentage, according to document types and accounting activities.

These are the procedures students encounter during dual education. They participate in all practical actions as they gradually familiarize themselves with the accounting processes.

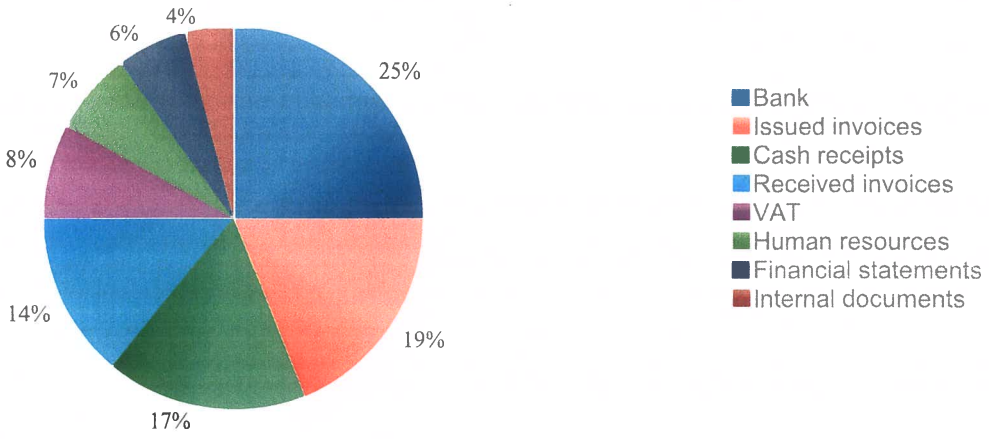


Chart 2: Types of documents and actions in accounting in the monitored accounting unit (in %)

Source: Own processing, 2024

Modern technologies are indispensable in accounting, and IT expertise is required to implement changes promptly. Chart 3 displays the ratio of manual to automated accounting processes. It shows that invoices and bank statements are 100% automated, while cash receipts are 79% automated and 21% manual. Overall, 54% of processes in this accounting department are automated, and 46% are manual. This ratio may vary depending on the type of business and employee skill levels, making continuous education critical.

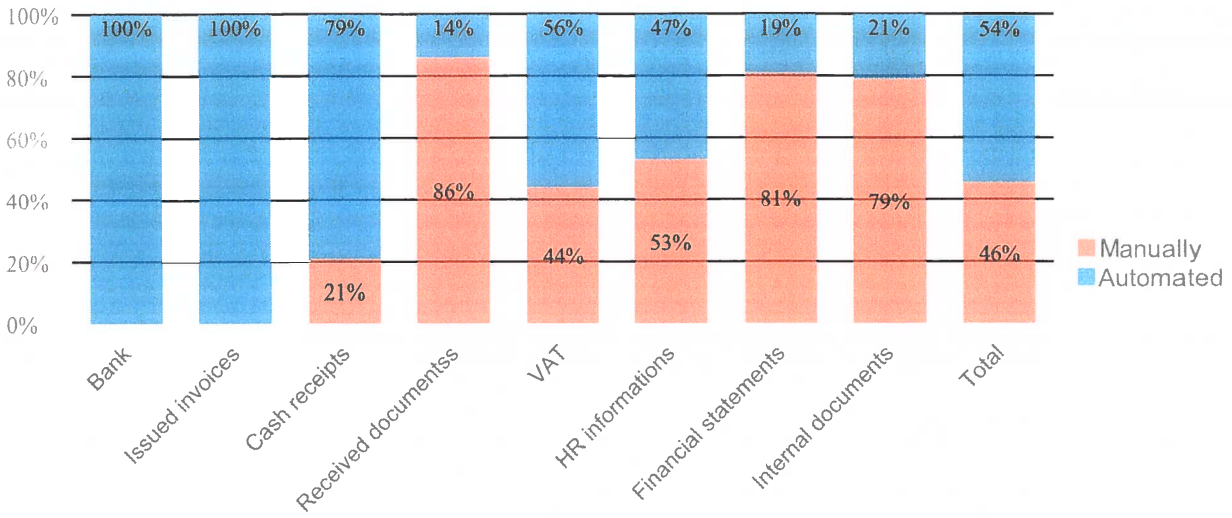


Chart 3: Ratio of manual and automated accounting processes by document type in monitored accounting unit. (in %)

Source: Own processing, 2024

Conclusion

In conclusion, it is essential to integrate theoretical education with practical experience. Slovak legislation provides secondary students with the opportunity to engage in dual education, and interest in this practical approach is growing.

We highlighted the advancement of modern technologies and their application in accounting. Automation in data and document processing is crucial. In the monitored accounting department, the ratio of automation is 54%, while manual processing stands at 46%. Currently, repetitive tasks do not fully utilize artificial intelligence, although AI has learning capabilities.

This trend of automation must be integrated into student education. We recommend that these practical advancements be reflected in college and university curricula. Universities need to prepare students for the labor market by equipping them with knowledge of automation and IT technologies. It is imperative to adapt to the changing demands of practice, which requires educational reforms at the university level.

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