

REMOTE LEARNING AS RESPONSE TO FUEL CRISIS: STUDENTS' PREFERENCES AND ORGANIZATIONAL CONDITIONS

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Abstract: The article focuses on the organizational flexibility of universities in the field of teaching, understood as the ability to adapt methods and tools during crisis situations. The main aim of the article is to identify students' preferences regarding the use of remote learning as a response to the fuel crisis and to determine the transport-related, technical, and organizational conditions that may influence the feasibility of implementing this form of education. The conclusions are based on an analysis of a survey conducted among extramural students of the Faculty of Management at Czestochowa University of Technology, as well as on the current crisis in the liquid fuel market caused by the war in Iran. The research results indicate a high degree of organizational flexibility among students, while simultaneously revealing a clear division in preferences for implementing e-learning. For nearly half of the respondents, the fuel crisis does not justify introducing remote education.

Keywords: fuel crisis, organizational flexibility, organizational management, remote learning, universities, university efficiency

JEL Classification: I21, I23

Introduction

All kinds of crises are an inherent part of the life of societies. Since the dawn of time, better periods have intertwined with worse ones. Wars, epidemics, and droughts are part of human life, which force the implementation of protective measures: war leads to armament, epidemics to investments in healthcare, and drought to the construction of retention reservoirs. It is no different in modern times.

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We are witnessing wars, epidemics, energy instability, and drastic climate changes, including droughts and El Niño. Just as previous generations did, contemporary societies and organizations implement protective strategies to mitigate the effects of adverse events. These actions are carried out at global, regional, national, and individual-organization levels (Bashir & Lapshun, 2025).

Modern higher education also functions amidst dynamic technological, social, economic, and organizational transformations. The ongoing digitalization of learning and rising student expectations are shifting the traditional model of academic instruction (Bates, 2022). Universities are increasingly expected not only to provide high-quality education but also to respond flexibly to changes in the external environment. This applies in particular to situations in which crisis phenomena directly affect the organization of teaching processes, student mobility, access to educational infrastructure, and the costs of participation in higher education.

The specificity of higher education institutions enables the flexible management not only of human resources and fixed assets, but also of teaching activities. The need for flexibility in managing university operations became particularly evident during the COVID-19 pandemic. At that time, remote learning mechanisms were implemented on a large scale; staff and students were trained, and e-learning platforms became an important element of academic education (Ghansah, 2025). These experiences changed the perception of remote learning. It ceased to be treated only as an emergency substitute for traditional classes and became one of the available organizational tools that may support the continuity of education in crisis conditions.

The relevance of this issue has increased again in the context of the current fuel crisis and instability in the liquid fuel market. Rising fuel prices affect not only enterprises and public institutions, but also individuals who regularly commute to work, school, or university. In the case of higher education, this problem is particularly important for students who travel longer distances to participate in classes. Increased transport costs may become a factor limiting access to education, especially in extramural studies, where students often combine learning with professional and family responsibilities.

In this context, remote learning may be considered one of the possible organizational responses to the fuel crisis. Its use may reduce the need for commuting, lower students' transport costs, and increase the flexibility of participation in classes. However, the implementation of remote learning is not determined solely by the existence of digital tools. It also depends on students' preferences, their transport situation, access to appropriate equipment and the Internet, as well as organizational conditions enabling regular participation in online classes. Therefore, the fuel crisis creates a timely and socially relevant context for discussing the role of remote learning in higher education and the ability of universities to adapt teaching processes to changing external conditions.

The main aim of the article is to identify students' preferences regarding the use of remote learning as a response to the fuel crisis and to determine the transport-related, technical, and organizational conditions that may influence the feasibility of implementing this form of education. The following research questions were formulated for the survey:

1. How does the fuel crisis impact the choice of the educational delivery mode among extramural students?
2. Do all students have the technical capabilities and appropriate conditions for remote learning?

Literature review

Organizational flexibility has always been a key element of organizational management (Sharma et al., 2025). Enterprises, armies, and the Catholic Church have all adapted to the ever-changing legal, economic, or environmental conditions. Currently, one of the primary drivers of the need to shape organizational flexibility is market competition, technological development, and the shift from mass to on-demand production, all of which are focused on customer needs and expectations (Kwaśniewski, 2015; Adiguzel et al., 2026). A current determinant also persists, addressing the uncertainty caused by the COVID-19 pandemic and the need to find one's place in the new economic reality, amid the war in Ukraine and the energy crisis triggered by the military actions in Iran (Sangwa et al., 2026). Despite numerous studies on organizational flexibility, the term lacks a single, universally accepted definition. Flexibility holds different meanings for various managers, and the literature also presents alternative paths to it. This issue has been extensively described in the theoretical sphere (Grześ-Bukłaho, 2022). Flexibility can thus be a process (Qu et al., 2014), a concept (Sushil, 2014), and a skill (Aaker et al., 1984). Generally, flexibility is defined as the ability to adapt to a changing environment without losing the organization's identity, or as the organization's capacity to adapt to environmental conditions (Grześ-Bukłaho, 2022; Singh, 2026). Such a skill constitutes a key element of modern competitive strategies for enterprises in the market, but it can also be applied to organizations in general. It is crucial for all types of enterprises and organizations. Those who cannot adapt lose. Naturally, the capacity to adapt to new conditions varies among different entities. Competitiveness and market advantage are no longer determined solely by the fact of adapting and implementing necessary changes, but also by the timing and scale of that adaptation (Bala et al., 2025).

The above assumptions also apply to higher education institutions, which are organizations with a specific nature. As in the cases mentioned above, the effectiveness of universities should be understood as an assessment of resource utilization aimed at achieving intended outcomes. These outcomes may include: the quality of teaching, the number of completed research projects, or the number of degree programs (Dwórzniak, 2021). The organizational effectiveness of higher education institutions is a multidimensional issue (Peter et al., 2026), defined as the university's ability to achieve its designated educational, scientific, and social goals while making optimal use of available resources (human, financial, material). In today's information society, this effectiveness is increasingly equated with the quality of education, innovation, and adaptability in a knowledge-based economy (Alhyari, 2026). This article concerns the organizational effectiveness of higher education institutions in the context of extramural studies. In this aspect, organizational effectiveness is determined by the university's ability to optimize didactic processes, utilize modern

technologies, and manage time flexibly. Unlike intramural studies, extramural studies involve intensive learning in weekend blocks and require greater student independence. In this respect, the organization of work in extramural studies is more significant than in intramural studies. Among many possibilities, the leading tool in the hands of higher education institutions is remote learning (e-learning). Currently, this term is treated as a form of distance learning (Aparicio et al., 2016; Mohammadi, 2015) using information and communication technologies (OECD, 2020). This solution has its advantages and, certainly, disadvantages. Both can justify the introduction or lack of introduction of remote learning. The most important factors justifying the introduction of remote learning in extramural studies include: flexibility and time, location, costs, accessibility, individualization, modernity, and logistics. This is an open-ended catalog, which means that other factors may also justify the introduction of remote learning to some extent (Al-Qahtani & Higgins, 2013; Skrzypek, 2015).

An open-ended catalog of factors justifying the introduction of remote learning in extramural studies is presented in Table 1.

Table 1. Catalog of factors justifying introduction of remote learning in extramural studies

Factors justifying introduction of remote learning in extramural studies		
Factor	Advantage	Characteristics
Flexibility and time	Learning at any time	Possibility of adapting studies to work schedule
Location	No commuting required	Elimination of commuting costs and unlimited access to the university
Costs	Lower costs of studying	Costs of travel and accommodation
Accessibility	24/7 access to materials	Constant access to teaching materials
Individualization	Self-paced learning	Ability to replay lectures
Modernity	Interactive materials	Use of modern teaching tools (quizzes, presentations)
Logistics	No geographical barriers	Opportunity to study at a distant university or abroad

Source: Own study based on (Al-Qahtani & Higgins, 2013; Skrzypek, 2015)

The disadvantages of remote learning most often include technical problems, limited direct contact with peers and teachers, in addition to the lack of practical classes (Ejdys & Gulc, 2021). These advantages and disadvantages can, of course, be analyzed from both the university's and the students' perspectives. Depending on various factors and circumstances, the importance of specific pros and cons may increase or diminish. In the era of the fuel crisis, the cost of commuting to classes emerges as the most prominent factor among all those mentioned (Abdullah et al., 2025).

Research methodology

The research was based on an analysis of a survey conducted between March 7, 2026, and April 12, 2026, among extramural students of the Faculty of Management at Czestochowa University of Technology. A total of 147 students participated in the study. The survey was carried out following the attack on Iran by the USA and Israel and the resulting turmoil in the oil market. This led to a sudden, significant increase in fuel prices at gas stations in Poland and worldwide, which may have influenced the respondents' answers.

The main aim of the survey was to identify students' preferences regarding the possible use of remote learning as a response to the fuel crisis and to determine selected conditions on the students' side that could affect their participation in this form of education. The following research hypothesis is adopted in this paper: "extramural students prefer remote learning during a fuel crisis".

The following research questions were formulated for the survey:

1. How does the fuel crisis impact the choice of the educational delivery mode among extramural students?
2. Do all students have the technical capabilities and appropriate conditions for remote learning?

The questionnaire covered three areas: transport-related conditions, including the means of commuting, distance from the university, and type of fuel used; students' preferences regarding in-person or remote classes during the fuel crisis; as well as technical and organizational readiness to participate in remote learning.

The survey questionnaire included the following questions:

1. How do you commute to the university?
2. How many kilometers do you have to travel from home to the university?
3. What type of fuel do you use for your own car?
4. Which mode of university classes do you prefer in the era of the fuel crisis?
5. Do you have the technical (equipment, internet access) and organizational (workspace) conditions that allow you to regularly participate in classes in the form of e-learning?

The study was diagnostic and descriptive in nature. The collected data were analyzed using basic descriptive statistics, including the number and percentage distribution of responses. The research did not aim to measure the full organizational readiness of the university to implement remote learning, but rather to identify students' preferences and selected student-side conditions that may support or limit the use of remote learning in the context of a fuel crisis.

Results

The survey consisted of 5 questions. The first question concerned the mode of commuting to university teaching classes. Out of 147 respondents, 94 declared that they commute by their own car, while 53 indicated another means of transport. This means that 63.9% of the respondents use their own car, while 36.1% use another mode of transport. In other words, more than one-third of the respondents do not use

their own car. Therefore, they are not directly affected by the changes in liquid fuel prices caused by the fuel crisis. This may indicate that the fuel crisis factor was not significant for this group of respondents when choosing their learning mode. The results of question 1 are presented in Table 2.

Table 2. Means of transport used by students

Question 1: How do you commute to the university?		
Own car	94	63.9%
Other means of transport (bicycle, train, bus, on foot)	53	36.1%

Source: Own study based on research

The second survey question asked about the distance students traveled from home to the university. It has a significant impact on the responses. The greater the distance, the higher the commuting costs and the longer the travel time, which also increases the inclination toward e-learning classes. Out of 147 respondents, 76 people (51.7%) declared a distance of 0-50 km, 64 people (43.5%) indicated a distance of 51-100 km, and 7 students (4.8%) declared a distance of 101 km or more. The survey indicated that less than 5% of respondents have to travel a distance of over 100 km from home to the university. This means that only this small group of students may be affected by the fuel price increase to the highest degree. More than half of the respondents have a relatively short distance to travel to the university, which also translates into lower commuting costs. The results of the analysis of the responses to question 2 are presented in Table 3.

Table 3. Distance from home to the university

Question 2: How many kilometers do you have to travel from home to the university?		
0-50 km	76	51.7%
51-100 km	64	43.5%
101 and more km	7	4.8%

Source: Own study based on research

The third question concerned the type of fuel used in the students' cars. Only those students who declared commuting by their own car answered this question. As a result of the fuel crisis caused by the war in Iran, diesel prices increased the most, followed by gasoline. On February 28, 2026, the wholesale price of diesel was PLN 4,809/m³, and 95-octane gasoline was PLN 4,466/m³. By March 21, 2026, the wholesale price of diesel had increased by PLN 2,447/m³, while 95-octane gasoline rose by PLN 1,267/m³ (Orlen, 2026). Of the 94 students who commute by their own car, 58 (61.7%) use gasoline, 30 (31.9%) use diesel, and 6 (6.4%) use LPG. None of the respondents declared using an electric or hybrid vehicle. Taking into account the responses to question number 3, it can be concluded that students commuting

to the university by car are 100% vulnerable to adverse changes in liquid fuel prices. None of the respondents has an electric or hybrid vehicle. The responses to question 3 are presented in Table 4.

Table 4. Type of fuel used by respondents in their cars

Question 3: What type of fuel do you use for your own car?		
Diesel	30	31.9%
Gasoline	58	61.7%
LPG	6	6.4%
Electric energy	0	0%
Gasoline/electric energy (hybrid drive)	0	0%

Source: Own study based on research

Question 4 concerned the preferred mode of conducting teaching classes for extramural studies. Of the 147 respondents, 70 students (47.6%) prefer in-person classes, while 77 (52.4%) prefer remote learning. The responses to the above question were divided almost equally. It is worth noting that when answering this question, the respondents considered all the factors and circumstances that could have influenced their decision. The rapidly changing fuel prices caused by the fuel crisis is just one of them. Other reasons that could have influenced the responses include the opportunity for direct contact with the instructor and other students, higher learning efficiency and access to laboratories. The results of the analysis of the responses to question 4 are presented in Table 5.

Table 5. Preferred mode of conducting classes in extramural studies

Question 4: Which mode of university classes do you prefer in the era of the fuel crisis?		
Stationary	70	47.6%
E-learning	77	52.4%

Source: Own study based on research

Question 5 concerned the technical and organizational conditions for students to participate in e-learning classes. A lack of technical or organizational barriers to remote learning was declared by 126 people, representing 85.7% of the respondents. On the other hand, 21 respondents reported being unable to participate in remote learning due to technical or organizational barriers, accounting for 14.3% of the total respondents. This means that for over 14% of the respondents, choosing a remote mode of learning would involve technical and organizational problems. This constitutes a factor in favor of the in-person learning mode. It should be considered a relatively high percentage of students. The results of the analysis of the responses to question 5 are presented in Table 6.

Table 6. Technical and organizational conditions for remote learning

Question 5: Do you have the technical (equipment, internet access) and organizational (workspace) conditions that allow you to regularly participate in classes in the form of e-learning?		
Yes	126	85.7%
No	21	14.3%

Source: Own study based on research

It appears that a significant number of students (14.3% of those surveyed) lack the technical or organizational conditions to regularly participate in remote classes. Therefore, the impact of the fuel crisis analyzed in this article is not the only challenge these individuals face regarding remote learning.

Conclusions

The aim of the article was to determine the preferences of students regarding the introduction of remote learning during a fuel crisis. The following research hypothesis was adopted in this paper: "extramural students prefer remote learning during a fuel crisis".

The following research questions were formulated for the survey:

1. How does the fuel crisis impact the choice of educational delivery mode among extramural students?
2. Do all students have the technical capabilities and appropriate conditions for remote learning?

Hypothesis testing: under fuel crisis conditions, 47.6% of extramural students prefer the stationary learning mode, whereas 52.4% favor remote learning.

The fuel crisis had no impact on the preferences of extramural students at Czestochowa University of Technology concerning the transition to remote learning.

Not all students have the technical capabilities and appropriate conditions for remote learning.

The analysis of the survey results showed a clear division among the respondents into supporters of remote learning and those who prefer in-person learning. The votes were split almost in half. This means that for 47.6% of respondents, the fuel crisis caused by the war in Iran does not constitute a reason to introduce remote learning. It is worth noting that more than half of the respondents (51.7%) indicated a distance of less than 50 km that they must travel to reach the university. This may suggest that even a sudden spike in fuel prices did not affect this group of students enough to make them want to study remotely. Furthermore, the study revealed that 36.1% of the respondents use means of transport other than a car to get to the university. This group is therefore resistant to fluctuations in the fuel market caused by a global crisis. Thus, it should be noted that universities located in district (*poviat*) cities, where the majority of students come from the immediate vicinity, are more resilient to external crises.

Notably, 14.3% of the respondents cite a lack of internet access and organizational capacity as barriers to remote learning. These barriers are independent of the fuel crisis. This indicates that, despite the passage of time, a significant number of extramural students still lack full access to the internet or hardware facilities. In this aspect, one can speak of digital exclusion affecting relatively young people.

The respondents' preferences may also be influenced by other factors not included in the survey, such as the desire to meet peers and the perceived higher value of in-person classes. These factors were not addressed in the conducted survey.

At Czestochowa University of Technology, due to its specific character (a district city, with a large percentage of extramural students from the university's immediate vicinity), 52.4% of students prefer remote learning. Perhaps this percentage would be higher if fuel prices were even higher or if fuel rationing were introduced.

The study has several limitations. It was conducted among students of one faculty at one university, which limits the possibility of generalizing the results. The research included only the students' perspective and did not assess the institutional readiness of the university to implement remote learning. The questionnaire consisted of five questions, which allowed a general diagnosis but did not provide an in-depth explanation of students' motivations. The study was also conducted during a specific crisis situation, hence the respondents' answers may have been influenced by the current fuel prices and temporary uncertainty.

Future research should include students from different universities, cities, and fields of study. It would also be useful to include the perspective of university authorities, academic teachers, and administrative staff in order to assess the organizational readiness of universities more comprehensively. Further studies could examine real commuting costs, students' economic situation, and previous experience with e-learning. Repeating the research at different stages of the fuel crisis would make it possible to determine whether students' preferences are stable or change over time.

References

- Aaker, D., & Mascarenhas, B. (1984). The need for strategic flexibility. *Journal of Business Strategy*, 5(2), 74-82. <https://doi.org/10.1108/eb039060>
- Abdullah, M., Ali, N., Javid, M. A., Al-Ahmadi, H. M., & Shah, S. A. H. (2025). Impacts of rising fuel prices on modal shift among university students: Some policy insights for sustainable transport in developing economies. *Sustainable Futures*, 9, Article 100566. <https://doi.org/10.1016/j.sfsfr.2025.100566>
- Adiguzel, Z., Sonmez Cakir, F., & Özbay, F. (2026). Examination of the effects of artificial intelligence readiness on lean sustainability and value creation in the mediation variable effect of organizational flexibility in technology-focused companies. *Kybernetes*, 55(1), 100-127. <https://doi.org/10.1108/K-01-2024-0046>
- Al-Qahtani, A. A., & Higgins, S. E. (2013). Effects of traditional, blended and e-learning on students' achievement in higher education. *Journal of Computer Assisted Learning*, 29(3), 220-234. <https://doi.org/10.1111/j.1365-2729.2012.00490.x>
- Alhyari, N. (2026). Effectiveness of blended learning in video editing and production: A case study in Jordanian higher education. *Discover Education*, 5, Article 107. <https://doi.org/10.1007/s44217-026-01120-w>

- Aparicio, M., Bacao, F., & Oliveira, T. (2016). An e-learning theoretical framework. *Educational Technology & Society*, 19(1), 292-307.
- Bala, H., Deokar, A., & Barlow, J. B. (2025). The effect of flexibility on the execution and adaptation of organizational processes in a dynamic environment. *IEEE Transactions on Engineering Management*, 72, 2279-2293. <https://doi.org/10.1109/TEM.2025.3572390>
- Bashir, S., & Lapshun, A. (2025). E-learning future trends in higher education in the 2020s and beyond. *Cogent Education*, 12(1), 2445331. <https://doi.org/10.1080/2331186X.2024.2445331>
- Bates, A. W. (2022). *Teaching in a digital age: Guidelines for designing teaching and learning* (3rd ed.). Tony Bates Associates Ltd. <https://pressbooks.bccampus.ca/teachinginadigitalagev3m/>
- Dwórznik, M. (2021). Efektywność i jakość wybranych publicznych uczelni funkcjonujących w Polsce. *Marketing i Rynek*, 28(11), 14-25. <https://doi.org/10.33226/1231-7853.2021.11.2>
- Ejdys, J., & Gulc, A. (2021). Akceptacja e-learningu na poziomie szkoły wyższej: Perspektywa studentów. *Przegląd Organizacji*, 7(978), 27-37. <https://doi.org/10.33141/po.2021.07.04>
- Ghansah, B. (2025). From crisis to opportunity: The digital evolution of higher education in Africa amidst the COVID-19 pandemic. *Discover Education*, 4, 122. <https://doi.org/10.1007/s44217-025-00527-1>
- Grześ-Buklaho, J. (2022). *Elastyczność jako atrybut współczesnej organizacji*. Oficyna Wydawnicza Politechniki Białostockiej. <https://doi.org/10.24427/978-83-67185-45-5>
- Kwaśniewski, T. (2015). *Ocena siły rynkowej przedsiębiorstw w postępowaniach antymonopolowych*. Urząd Ochrony Konkurencji i Konsumentów.
- Mohammadi, H. (2015). Investigating users' perspectives on e-learning: An integration of TAM and IS success model. *Computers in Human Behavior*, 45, 359-374. <https://doi.org/10.1016/j.chb.2014.07.044>
- OECD. (2020). *The potential of online learning for adults: Early lessons from the COVID-19 crisis*. https://www.oecd.org/en/publications/the-potential-of-online-learning-for-adults-early-lessons-from-the-covid-19-crisis_ee040002-en.html
- Orlen. (2026). *Hurtowe ceny paliw*. <https://www.orlen.pl/pl/dla-biznesu/hurtowe-ceny-paliw>
- Qu, W. G., Ding, Y., Shou, Y., Zhou, H., & Du, H. (2014). The impact of enterprise systems on process flexibility and organisational flexibility. *Enterprise Information Systems*, 8(5), 563-581. <https://doi.org/10.1080/17517575.2014.925586>
- Peter, F., Inegbedion, H. E., Laosebican, J., & Sajuyigbe, A. (2026). Learners' motivation as a mediator in the acceptance and effectiveness of online education in Nigerian universities. *Discover Education*, 5, Article 26. <https://doi.org/10.1007/s44217-025-00843-6>
- Sangwa, S., Murungu, E., & Kabanyana, N. (2026). Fuel price transmission, market price pressures, and policy thresholds in Rwanda under the 2026 U.S.-Israel-Iran energy shock. *Open Journal of Stewardship Economics & Ethical Innovation*, 2(1). <https://doi.org/10.65655/OpenChristian-Press.2026.104>
- Sharma, H., Sharma, D., & Singh, T. (2025). Organizational flexibility in the era of artificial intelligence: Leveraging decision-making styles for market segmentation. *Global Journal of Flexible Systems Management*, 26(4), 755-774. <https://doi.org/10.1007/s40171-025-00461-z>
- Singh, R. K. (2026). Leveraging real-time marketing intelligence and technological integration for enhanced supply chain agility: The role of organizational flexibility. *Marketing Intelligence & Planning*, 44(3), 648-665. <https://doi.org/10.1108/MIP-03-2024-0153>
- Skrzypek, E. (2015). Miejsce e-learningu w zarządzaniu wiedzą. *Nierówności Społeczne a Wzrost Gospodarczy*, 44(2), 247-258.
- Sushil. (2014). The concept of a flexible enterprise. In Sushil & E. A. Stohr (Eds.), *The flexible enterprise* (pp. 3-26). Springer. https://doi.org/10.1007/978-81-322-1560-8_1

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ELASTYCZNOŚĆ ORGANIZACYJNA SZKÓŁ WYŻSZYCH W DOBIE KRYZYSU PALIWOWEGO

Streszczenie: W artykule poruszono kwestie elastyczności organizacyjnej szkół wyższych w zakresie dydaktyki rozumianej jako możliwość dostosowania metod i narzędzi w sytuacjach kryzysowych. Celem głównym artykułu jest identyfikacja preferencji studentów dotyczących wykorzystania kształcenia zdalnego jako odpowiedzi na kryzys paliwowy oraz określenie transportowych, technicznych i organizacyjnych uwarunkowań, które mogą wpływać na możliwość wdrożenia tej formy kształcenia. Wnioski oparto na analizie ankiety przeprowadzonej wśród studentów studiów niestacjonarnych Wydziału Zarządzania Politechniki Częstochowskiej oraz aktualnej kryzysowej sytuacji na rynku paliw płynnych spowodowanej wojną w Iranie. Wyniki badania wskazują na wysoki stopień elastyczności organizacyjnej wśród studentów, ale jednocześnie na występujący wyraźny podział preferencji w zakresie wprowadzenia nauki zdalnej wśród studentów. Blisko połowa ankietowanych uważa, że kryzys paliwowy nie uzasadnia wprowadzenia nauki zdalnej.

Słowa kluczowe: kryzys paliwowy, elastyczność organizacyjna, zarządzanie organizacją, nauka zdalna, uniwersytety, efektywność uniwersytetów

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