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Article

Methods of Addressing Threats to Educational Efficiency According to the Learning Path (Government - Private) from the Perspective of University Teachers

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Abstract

This research deals with studying methods of addressing challenges that affect educational efficiency in the learning path in both government and private education. The researchers used the descriptive analytical approach to collect data from university teachers in various specializations and academic levels, where a questionnaire was designed containing a set of questions. The study found that the necessity of finds, infrastructure, teacher training and cooperation with private sector has a significant influence on educational efficiency. The research concludes by presenting recommendations that enhance cooperation between the two sectors and calls for strengthening rehabilitation and training programs and developing curricula that are compatible with the needs of the era and the aspirations of students, with the aim of achieving sustainable educational efficiency in all educational institutions.

Keywords

Educational Efficiency, Higher Education, Threats to Education, Public Universities, Private Universities.

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Higher education is facing increasing challenges related to educational efficiency and the ability to provide high-quality education that is compatible with the requirements of the era and the labour market (Lacka, Wong, & Haddoud, 2021). Universities, whether governmental or private, are the main pillar in preparing qualified cadres and contributing to achieving comprehensive development (Alshubiri, 2021). However, these institutions face many challenges that affect their efficiency and ability to achieve their educational goals. These challenges differ between governmental and private educational institutions, as governmental universities face threats that may be different from those faced by private universities (Audretsch et al., 2022), due to the difference in organizational and administrative structure, nature of funding, and adopted education policies (Müller & Mildenberger, 2021). The research problem concerns the development of effective strategies to mitigate the preservation of educational efficiency in public and private universities (Mintz, 2021). Universities both public and private institutions, are confronted by a couple of challenges that militate against their efforts in providing high-quality education (Chan & Hu, 2023). It lowers the level of educational efficiency and effectiveness as well as it includes administrative challenges in terms of internal organization and planning and the management of resources, financial constraints that do not allow for the provision of an ideal educational setting and curricular as well as teaching-related challenges that may be inappropriate with student needs and knowledge developments (Dynarski, Page, & Scott-Clayton, 2023).

Moreover, they are supposed to face professional problems concerning qualified and developed teaching staff to meet quality standards (Pavel & Isak, 2022). These threats are reflected in the quality of higher education, which calls for searching for new and innovative methods capable of addressing these challenges effectively (Brauckmann-Sajkiewicz & Pashiardis, 2022). This research aims to analyse the methods currently used, identify their shortcomings, and propose developmental solutions in line with the requirements of public and private education in Iraq, with the aim of improving educational efficiency and ensuring the achievement of the academic and developmental goals of these institutions. In this context, the importance of the current research emerges, which seeks to explore and analyse methods for addressing the threats that affect educational efficiency in both governmental and private universities from the point of view of instructors. The perspectives of instructors are an essential factor in understanding the nature of these challenges and proposing possible solutions. Highlighting the differences between governmental and private education can provide valuable insights into how to improve the quality of education and raise its efficiency, by identifying the strengths and weaknesses of each educational system (Kuleto et al., 2021). The research has the objective to present a united front regarding ways of enhancing educational efficiency within public and private educational systems by unveiling common and specific threats to every kind of education and suggesting feasible remedies anchored around the experiences and views of lecturers. The research is based on an analytical-descriptive approach wherein questionnaires shall be employed to gather and analyse data as a way of grasping the nature of challenges and how best to solve them. Therefore, the research findings recommend ways that are geared toward increasing the quality of higher education as well as recommending effective strategies that enhance educational efficiency in correspondence with the changes that are continually forthcoming in an environment full of challenges for education. Based on the results of the analysis, the research seeks to provide proposals for innovative and effective treatment methods that can contribute to improving educational efficiency in higher education. These proposals aim to provide practical solutions that help address administrative, financial, educational, and professional challenges, and enhance the quality of higher education, enabling universities to provide advanced educational outcomes that are compatible with labour market requirements.

Review of Literature

Educational efficiency refers to the ability of academic institutions, whether governmental or private, to achieve their educational goals efficiently and effectively, and it is one of the vital indicators by which the quality of the educational system is measured in general (Nie et al., 2020). Educational efficiency is an integrative concept that includes a number of components concerning the quality of teaching, efficiency of teaching staff, availability of educational resources, use of technology, and adequacy in fulfilling student needs as well as labour market requirements (Inayat & Jahanzeb Khan, 2021). Furthermore, the content of educational programs should be relevant, and this is the third tendency in educational development anywhere in the world (Toropova, Myrberg, & Johansson, 2021). They should be designed at entering the new millennium and beyond and must bear a clear

orientation developing knowledge, skills, and attitudes suited to the requirements of an emerging society and market (Selvanathan, Hussin, & Azazi, 2023). Teaching personnel refer to the qualifications and experience of teachers and professors within the university (Ribeiro et al., 2021). Therefore, continuous training and professional development are deemed to be one of the necessities that enhance teacher efficiency and thereby increase the level of educational effectiveness of the institution as a whole (Qiu et al., 2023). Educational efficiency also involves arming the educational process with necessary infrastructure like laboratories, libraries, and technology amenities amongst others (Maqsood et al., 2021).

Hence, these basic provisioning services are known as weaponries contributing to the attainment of an efficient educational environment where students may end up accruing the required knowledge and skills from Stoller (2021). Responding to the needs of the labor market, and henceforth, the ability of educational institutions to prepare students in line with these requirements is perceived as one of the important elements of educational efficiency (Williamson & Eynon, 2020). It includes imparting such skills to a student like critical thinking technical skills problem-solving among others that not only enhance their job opportunities but also support the national economy as well (Fernández et al., 2024). Educational efficiency leads to improving student performance and raising the level of academic achievement, which enhances the university's ability to achieve its academic goals (Xie & Derakhshan, 2021). Furthermore, educational efficiency contributes to providing the labor market with graduates who possess skills that meet the needs of institutions and companies, which supports economic development and reduces unemployment (Haleem et al., 2022). Improving educational efficiency raises the ranking of universities and increases their attractiveness to local and international students alike. According to Fernández-Batanero et al. (2022), investing in improving educational efficiency ensures the continuity of providing high-quality education to students in the future, and creates a sustainable environment for teaching and learning. Educational efficiency requires that curricula be compatible with market requirements and constantly updated (Müller & Mildenberger, 2021). Gümüş and Bellibaş (2020) indicates that the quality of content directly affects students' abilities, which enhances their opportunities in the labour market. It depends largely on the skills of faculty members (Alshubiri, 2021).

Furthermore, the importance of continuous training is to raise the level of performance of teachers and develop their skills. The educational environment, such as libraries and laboratories, contributes to enhancing educational efficiency. Murad, Othman and Kamarudin (2024b) showed that adequate infrastructure supports the educational process and contributes to achieving learning objectives. Public education differs from private education in organizational and funding aspects, as public education is funded by the state and subject to government policies, while private education relies on private funding and enjoys administrative flexibility (Tang et al., 2023). Public education is characterized by being primarily funded by the state, which provides it with a fixed budget and stable financial support and enables it to provide educational services at low or even free costs to students (Abu Talib, Bettayeb, & Omer, 2021). Public universities often adhere to state policies and regulations, which makes them follow strict regulatory systems that include aspects such as admission, curriculum development, and employment. In addition, these regulations can sometimes limit the level of flexibility and ability to innovate, as any organizational changes take a long time and require approval from multiple government agencies (Huda, 2023). However, public education enjoys great stability in resources, which enables it to provide a strong infrastructure of libraries and laboratories, in addition to providing qualified educational cadres. Although public education often aims to meet the needs of society in general, it provides education to students from different economic groups, which supports educational justice and makes education accessible to all (Dynarski et al., 2023).

On the other hand, private education relies on private funding, which makes it more flexible administratively and organizationally, as private universities can make decisions quickly and more independently (Szymkowiak et al., 2021). These universities rely mainly on student fees, which makes them always seek to provide educational services that meet the expectations of students and their families to encourage enrolment and maintain stable financial returns (Selvanathan et al., 2023). Private funding allows private universities the ability to innovate and renew, as they can update curricula faster and adopt modern educational methods that are in line with market requirements. In addition, these universities are distinguished by their ability to offer specialized programs and partnerships with the private sector, which enables them to respond to rapid changes in the labor market (Chan & Hu, 2023). However, university based facilities are important for improving learning of students (Murad, Othman, & Kamarudin, 2024a). Based on this discussion, the following hypotheses are purposed.

H1: There is a relationship between the necessity of funds and educational efficiency.
H2: There is a relationship between the infrastructure and educational efficiency.
H3: There is a relationship between teacher training and educational efficiency.
H4: There is a relationship between cooperation with private sector and educational efficiency.

Methodology

The research mainly applied a descriptive analytical approach since that would be the most appropriate type in such studies that aim at describing and looking into details regarding threats affecting educational efficacy and providing solutions. Descriptive analysis is any method that involves the study of a phenomenon whereby data respective to it are collected, grouped, and analysed to give valid inferences. In the study, the population included all lecturers in public and private universities in the area of study. The researcher wanted to establish the degree of the impact of threats on educational effectiveness in both kinds of universities so the population was restricted to lectures with over three years of experience. The sample is stratified random and it comprises 100 lecturers who were selected from the academic fraternity so as to balance representation of the targeted specializations in public and private universities. This kind of sample is believed to be more representative and increase accuracy in finding and generalizing the results to the general research community. A special questionnaire for measuring educational efficiency threats was developed for measuring the impact of threats over different aspects like, for instance, funding, infrastructure, and instructor efficiency. Another questionnaire was developed to gauge educational efficiency threats treatments, and this questionnaire goes into general strategies that can be adopted to combat these problems. The data have been examined through various statistical methods using the Statistical Package for the Social Sciences (SPSS) aimed at obtaining correct results by giving an accurate presentation of the findings. Some of the most commonly used statistical methods are used. Mean, and standard deviation has been calculated for describing and summarizing the data on threats to educational efficiency and their treatments (see Table 1).

Table 1: *Mean and Standard Deviation.*

	NF	IS	TT	CPS	EE
Valid	100	100	100	100	100
Missing	0	0	0	0	0
Mean	3.642	3.681	3.630	3.580	3.627
Std. Deviation	0.863	0.835	0.868	0.932	0.845

NF = Necessity of Funds, IS = Infrastructure, TT = Teachers' Training, CPS = Cooperation with Private Sector and EE = Educational Efficiency

The questionnaires were given to a set of higher education specialists to go through the questions and their applicability to the research topic as a way of ascertaining the appropriateness of the tools. Cronbach's alpha coefficient was used for the purpose of measuring reliability, and its value equalled 0.85 for the Competence Threats Scale and 0.88 for the Threat Treatments Scale, which represents a high level of consistency in the research instruments. The researcher explained the objectives of the study to the participants, and their informed consent was sought after assuring them that the information they would give would be kept confidential and used for research purposes only. It was made clear that no member of the sample had been forced to participate. They were informed they had a right to voluntary withdrawal at any time they wished.

Findings and Results

The results of descriptive analysis were conducted to investigate the normality in responses distribution. According to Table 2, the skewness and kurtosis findings were investigated. The skewness and kurtosis is accepted as significant when the value are between -2 and +2 and – 7 and +7 respectively. The results shown in Table 2 confirmed that the recommended thresholds were achieved. Therefore, the normality of data distribution was confirmed and it was also found that the study has left or right skewed data.

Table 2: *Descriptive Statistics.*

NF		IS	TT	CPS	EE
Skewness	-0.329	-0.062	-0.141	-0.235	-0.070
Std. Error of Skewness	0.121	0.121	0.121	0.121	0.121
Kurtosis	0.474	-0.129	-0.214	0.160	-0.017
Std. Error of Kurtosis	0.242	0.242	0.242	0.242	0.242

NF = Necessity of Funds, IS = Infrastructure, TT = Teachers' Training, CPS = Cooperation with Private Sector and EE = Educational Efficiency

The second analysis was based on Pearson's correlations which was investigated to measure the correlations between the variables of this study. The findings of Pearson's correlations are shown in Table 3. The findings were investigated to determine the nature of relationships between variables and the direction of relationships. The results show that all variables were significantly correlated with one another. Therefore, the correlation between all variables were accepted based on the findings shown in Table 3.

Table 3: *Pearson's Correlations.*

Variable		NF	IS	TT	CPS	EE
1. NF	Pearson's r	—				
	p-value	—				
2. IS	Pearson's r	0.713 ***	—			
	p-value	< .001	—			
3. TT	Pearson's r	0.681 ***	0.701 ***	—		
	p-value	< .001	< .001	—		
4. CPS	Pearson's r	0.665 ***	0.610 ***	0.667 ***	—	
	p-value	< .001	< .001	< .001	—	
5. EE	Pearson's r	0.678 ***	0.753 ***	0.685 ***	0.634 ***	—
	p-value	< .001	< .001	< .001	< .001	—

* p < .05, ** p < .01, *** p < .001
NF = Necessity of Funds, IS = Infrastructure, TT = Teachers' Training, CPS = Cooperation with Private Sector and EE = Educational Efficiency

The regression analysis was performed and findings are reported in Table 4. The results were investigated with threshold $t > 1.96$ and $p < 0.05$. This regression analysis was conducted to investigate the relationships between variables of this study. H1 found significant as the study revealed there is a significant relationship between the necessity of funds and educational efficiency. According to findings of H2, there is a significant relationship between the infrastructure and educational efficiency. The findings of H3 also confirmed that there is a significant relationship between teacher training and educational efficiency. The results of H4 confirmed that there is a significant relationship between cooperation with the private sector and educational efficiency.

Table 4: *Regression.*

Model		Unstandardized	Standard Error	Standardized	t	p
M_0	(Intercept)	5.627	0.042		133.962	< .001
M_1	(Intercept)	0.581	0.190		3.058	0.002
	NF	0.144	0.047	0.147	3.057	0.002
	IS	0.431	0.048	0.426	9.029	< .001
	TT	0.180	0.046	0.184	3.888	< .001
	CPS	0.139	0.040	0.153	3.498	< .001

NF = Necessity of Funds, IS = Infrastructure, TT = Teachers' Training, CPS = Cooperation with Private Sector and EE = Educational Efficiency

The findings of multigroup analysis were conducted to determine the findings between the relationships of different variable from the perspective of different group sample, one collected from teachers from public sector universities and another from private sector universities. The findings of multigroup analysis were bested on mean difference investigated with p value 0.05. The results shown in Table 5 indicated that all relationships H1, H2, H3 and H4 had a significant mean difference with respect to the sample from different group. Hence, the study found a significant difference between the observation from both groups.

Table 5: *Multigroup Analysis.*

Multigroup Analysis	Path Coefficients-diff (Public Sector-Private Sector)	t-Value (|Public Sector-Private Sector |)	p-Value (Public Sector-Private Sector)
NF -> EE	0.441	4.832	0.000
IS -> EE	0.283	6.393	0.000
TT -> EE	0.432	4.091	0.000
CPS -> EE	0.517	5.391	0.000

NF = Necessity of Funds, IS = Infrastructure, TT = Teachers' Training, CPS = Cooperation with Private Sector and EE = Educational Efficiency

Discussion

The robust findings of this study provides a significant contribution to literature. H1 found significant as the study revealed there is a significant relationship between the necessity of funds and educational efficiency. The findings of H1 are consistent with the previous studies. There is an important role of funds in educational institutes to improve the quality of education (Mintz, 2021). The funds help the educational institute to work on research and different projects that can improve the productivity of educational institutes. The role of funds is also important because research grant and other spending of the educational institutes is necessary for ranking the quality of education (Brauckmann-Sajkiewicz & Pashiardis, 2022). If the educational institutes have very limited funds, it becomes difficult for them to participate in educational efficiency. It becomes a challenge for the educational institute when the appropriate funds are not available (Pavel & Isak, 2022). It is important for the government to provide necessary funds to the educational institutes that can improve their productivity and overall performance. In the presence of educational funds programme, it becomes important for the management of educational institutes to develop the facilities that are important for the students (Stoller, 2021).

The learning of students can be improved with the help of educational efficiency that is based on the funds available to the educational institutes. In addition, these funds are appropriate to develop a good infrastructure to compete with the author institutions in the market (Qiu et al., 2023). The educational institutes funds are also necessary to have the significant equipment that can help the teachers to provide training to the students (Audretsch et al., 2022). Consequently, the role of educational funds become important in education. According to findings of H2, there is a significant relationship between the infrastructure and educational efficiency. The findings of H2 are consistent with the previous studies. Infrastructure is a significant factor to improve the productivity of students in their learning (Fernández et al., 2024). A good level of protection helps the students to improve their productivity because when the teachers are equipped with significant resources to provide them education, they can support better to the students for their learning (Ribeiro et al., 2021). The infrastructure includes the classroom material, the instruments used in the laboratory and the overall environment of the educational institutes. It helps the students to improve their productivity in better way that they are supported by a good infrastructure that is necessary for their learning (Lacka et al., 2021).

It is important for the government to provide good funds to the educational institute and support for the infrastructure development. The infrastructure development has an influence on the learning capability of the students because they study well in the good environment (Huda, 2023). Similarly, the rule of good infrastructure is important to improve the educational efficiency for the students that can help to improve their productivity. A significant level of working for educational deficiency is helpful for the students to improve their learning (Nie et al., 2020). Moreover, the teachers are also happy to teach the students in good infrastructural environment in which they can teach in a better way having all the necessary equipment (Williamson & Eynon, 2020). Therefore, the role of infrastructure is considered significant in educational efficiency. The findings of H3 also confirmed

that there is a significant relationship between teacher training and educational efficiency. The findings of H3 are consistent with the previous studies. The responsibility of teachers is important to improve the lending behaviour of the students in classroom (Haleem et al., 2022). When the teachers are properly trained and they have significant knowledge about the subject, it becomes important for them to bring the students in a better way. The training of teachers is necessary to provide them information for using the new equipment that can help them to improve their productivity (Szymkowiak et al., 2021).

When the teachers are highly motivated, it is necessary to provide them effective training that can improve their educational efficiency. It is necessary for the teachers to improve their productivity with the help of training (Gümüş & Bellibaş, 2020). The management of educational institutes is required to provide effective training to the teachers according to the model use of technology and educational equipment (Toropova et al., 2021). This way of smart working can improve the productivity of the teachers to better provide educational material to the students. It is helpful to improve the overall performance of the students which is based on the training of teachers and their efficiency and productivity (Fernández-Batanero et al., 2022). The teachers should learn better strategies and improve their training that can help them to produce good quality of knowledge in the students (Xie & Derakhshan, 2021). It is imperative for the teachers to evolve with the modern education system that can help them to understand the nature of students in modern educational environment and improve their productivity in a better way. The results of H4 confirmed that there is a significant relationship between cooperation with the private sector and educational efficiency. The findings of H4 are consistent with the previous studies.

The government is responsible to educate the public with the better educational environment (Abu Talib et al., 2021). In this way, the role of government is important to provide the factory facilities to private sector educational institutes. The role of private sector educational institutes is considered significant to teach the students (Inayat & Jahanzeb Khan, 2021). Therefore, many students are enrolled in the private sector educational institutes where all the necessary facilities are required to help them for better lending. There is a need of framework by the government to provide necessary facilities and infrastructure to the private factor education with regulatory policies (Maqsood et al., 2021). The working of government and cooperation can improve the productivity of the educational institutes that is necessary for balancing the education in public and private sector education. The public sector educational institutes are better to provide efficiency to the students that can help to improve their productivity (Kuleto et al., 2021). The educational institutes are required to be appropriately trained, and the government is also recommended to focus on private sector institutes. The same infrastructure development in private sector institutes can improve the productivity and performance of the students who are learning in private sector (Tang et al., 2023). Consequently, the educational efficiency is improved with working of private sector in cooperation with the public sector government (Selvanathan et al., 2023). Therefore, it is considered that the cooperation of government with the private sector can become a significant factor to improve the educational efficiency.

Conclusions

Based on the findings above, some general conclusions can be derived from the study. Firstly, it is expressly put that financial support is among the key determinants of educational productivity since without ample funds it's possible to witness a deterioration in infrastructure, as well as the absence of programs. Secondly, building infrastructure is, therefore, an acute need to make available the highest levels of efficiency for teachers and students. Thirdly, teacher training has to be continuous, playing a major role in increasing educational efficiency. Fourthly, there should be institutional support to develop the skill of teachers. Fifthly, higher education institutions would greatly benefit from such collaboration with entities outside the organization, as it represents a capacity to deal with the imminent threats through financial injections.

Implications

Theoretically, this research contributes to enriching scientific literature related to methods for addressing threats to educational efficiency, by providing an analytical study of current methods and identifying their shortcomings. It also helps raise awareness of the importance of developing these methods to keep pace with

educational developments and is an academic reference that researchers and interested parties can rely on to develop future studies concerned with improving the quality of higher education. The study added to the knowledge that there is a significant relationship between the necessity of funds and educational efficiency. The study also improved the literature by reporting that there is a significant relationship between the infrastructure and educational efficiency. The study added to literature that there is a significant relationship between teacher training and educational efficiency. The study found that there is a significant relationship between cooperation with the private sector and educational efficiency. These findings are supported by previous studies. Practically, the research provides practical, applicable solutions that decision-makers in higher education institutions can benefit from to improve the quality of education. The research seeks to provide clear recommendations that help address the various challenges that affect educational efficiency, which supports the development of an appropriate educational environment that meets the requirements of students and the labour market and contributes to enhancing the role of universities in preparing qualified cadres capable of adapting to modern needs. The study further recommends that the relevant authorities should ensure that sufficient funding is availed for universities. This can be done by strengthening the budget of the government, or there can be public-private partnerships for the same. The study emphasizes that by building basic infrastructural facilities like libraries, laboratories, and provision of modern technologies in supporting education, universities can boost their infrastructure. The study pointed out that there should be the establishment of regular training programs for teachers to upgrade their academic skills and enhance their pedagogic performance. Finally, universities can work in collaboration with private institutions in the sector for funding, sharing of expertise, and support to bring into operation eLearning.

Limitations and Future Directions

The limits of this research include several aspects related to the sample, methodology, time and geographic scope, and the measurement tools used, and can be explained as follows. The research is limited to a sample of lecturers at public and private universities, where a specific number of universities and specializations represented by the lecturers participating in the study were selected. Therefore, the results may be limited by the opinions and evaluations of this sample and may not necessarily represent all universities and specializations at the national level. Secondly, the research relied on the descriptive analytical approach, which means that the analysis depends on questionnaires and opinions of lecturers only and may not fully reflect the actual field reality of education in public and private institutions. Descriptive analysis may also limit the ability to generalize the results on a wider scale. Thirdly, the research was limited to a specific number of universities in a given geographic area, therefore, this may limit the generalization of the findings to all public and private universities in the country. Challenges and approaches may vary from one region to another, hence, leading to variation in the findings.

Although the study was conducted at one specific point in time only, which makes its results contingent on any future changes that may occur in educational policies, university infrastructure as well as funding, the foregoing results therefore reflect the prevailing situation and may not hold over the long run. Finally, the research used a questionnaire as the main tool for collecting data, which may limit the accuracy of the information if the respondents are not sufficiently aware of all the challenges facing education or if they do not provide their opinions objectively. These limitations highlight the need to be cautious when interpreting and generalizing the results and reinforce the need to conduct additional complementary studies that rely on various tools and methodologies to provide a more comprehensive picture of the topic of educational efficiency in government and private education. To enrich the field of research and increase the effectiveness of the proposed procedures, several proposals can be presented for future studies. Firstly, this study recommends conducting applied studies on the impact of continuous training programs for teachers on improving student performance. Secondly, this research recommends working on developing research on alternative financing mechanisms that can be adopted by public and private universities to ensure the sustainability of educational quality. Thirdly, this study recommends researchers for proposing a study on the extent of the impact of infrastructure on educational efficiency across different specializations. Finally, this study recommends the researchers to compare challenges and solutions in public and private universities within different regions to analyse the environmental and administrative differences that affect educational efficiency.

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