



BALTIC JOURNAL OF LAW & POLITICS

A Journal of Vytautas Magnus University
VOLUME 15, NUMBER 2 (2022)
ISSN 2029-0454



Cite: *Baltic Journal of Law & Politics* 15:2 (2022): 1503-1515
DOI: 10.2478/bjlp-2022-001098

The effect of an educational _ learning design based on the educational platform of Edmodo in the achievement of the subject of teaching thinking among students of colleges of Education

Inst. Entidhar Jawad Kadhim Al-Hamadani

Email: dr.en.ah84@gmail.com

Prof. Dr. Naz Bader Khan abduh Al-Sindi

Email: naz@ircoedu.uobaghdad.edu.iq

College of Education ibn Rushd for Human Sciences/ University of Baghdad

Received: August 6, 2022; reviews: 2; accepted: October 5, 2022.

Abstract

The aim of the current research is to determine the effect of an educational _ learning design based on the educational platform Edmodo in the achievement of teaching thinking subject among students of colleges of Education. The researchers used the descriptive approach to design the educational design model in addition to the experimental approach to apply the educational and learning design. The researchers also used the experimental design for two groups (experimental and control) with partial control. The research sample included (69) Year-four (seniors) students of the College of Education Ibn Rushd for Humanities, Department of Educational and Psychological Sciences. The number of students of the experimental group reached (37) who studied according to the educational design – learning based on the educational platform Edmodo.

The number of students of the control group reached (32) students who studied in the traditional way. The researchers assigned the two research groups with the following variables (chronological age calculated in months, intelligence, previous knowledge and previous achievement of the subject of cognitive psychology). In order to reach the results of the current research, the researchers built the achievement test, which consists of (50) items, including (40) items of the type of multiple choice questions- quadruples, and (10) items of the type of essay specified answer. The researchers applied the research tool and the data was collected and processed statistically using the T-test for two independent samples and the equation of the effect size to determine the effectiveness of the educational design. The results of the research revealed the following: The superiority of the students of the experimental group in the achievement test who studied using an Edmodo-based educational design Edmodo over

the students of the control group who studied according to the traditional method. The size of the effect of the Educational design model of the achievement test shows a significant effect according to the classification developed by Cohen.

Keywords

Educational design, Edmodo educational platform, achievement of thinking teaching subject.

Research problem:

Most students deal with Information and Communications Technology (henceforth ICT) in several ways and frequently interact with ICT devices and services. It serves as a means of supporting and enhancing learning to create new opportunities to communicate information, through supportive guidance, well-defined goals and precise instructions on how to use technology effectively, and learn new skills as digital learners that may help increase their personal and professional success (Raji, et al, 2022; Murwaningsari, 2021).

As for the use of educational platforms in building the effect of an Edmodo-based educational _ learning design on achievement, which may contribute to solving the problems suffered by most students of the colleges of education in the subject of teaching thinking. This forms the problem of research given a weak interest of students in this subject. To determine the problem of research accurately, the researcher has done the following procedures: making an exploratory questionnaire to teach the subject of teaching thinking for seniors; identifying the difficulties and educational needs; distributing an exploratory questionnaire to former seniors after the end of their application period, and conducting the final achievement test to determine the most important difficulties in that subject. The researchers identified the problem to be addressed in this study, which is the weakness of the use of educational platforms in relation to students and teachers through a personal interview conducted by the researcher with a group of teachers. A percentage of 85% of them confirmed the weakness of employing their educational materials in educational platforms.

The problem can be stated in the following question:

What is the effect of an educational-learning design based on the educational platform Edmodo in the achievement of the subject of teaching thinking among students of the colleges of education?

Research Importance

Education is a continuous and permanent process aimed at preparing individuals in an integrated and balanced preparation from all cognitive, psychological and social aspects to be useful individuals for themselves and their society (Sabri, & Abdullah, 2021; Musa, 2021). Modern education is based on activating the mind rather than instructing it with information, and this is done with

the principle of dialogue and cooperation based on a group in a certain educational situation. This is the objective of education to build a generation based on thinking, criticism and decision making, and can think out of the box as a generation that forms the basis of the learning process (Hussein, 2021, p. 117). Educational design is important, in that it increases the chances of teachers to succeed in teaching the educational subject and the possibility of achieving the educational goals of learners, and differentiates between the main and secondary objectives of the educational process, and facilitates communication and interaction between the participants. (Obeid, 2001, p. 20). The educational platforms are one of the latest models of employing e-learning in the teaching and learning processes given the high quality of the presentation of the school subject. The educational platforms are based on the principles of the communication theory provided by Siemens and Doynes. The theory of communication is compatible with the needs of the twenty-first century emphasizing digital learning across networks and the use of computer and Internet tools in the educational process (Abdel-Mawla, 2014). E-learning is an online education through the use of modern electronic technologies to access everything related to educational materials beyond the traditional classroom (Abbas, 2021, p. 321).

The virtual learning environment is an integrated web-based platform designed to deliver distance learning materials online, where one can manage learning, follow students, assess, and access educational sources to support and enhance the learning experience of learners (Ramadan & Al-Shahrani, 2021, p. 192).

There are many electronic platforms that include e-learning management to create tutorials on the Internet, including the educational platform (Edmodo), which is the platform used in the current study. This platform is an educational environment that provides safety and easiness of use for teachers, students and parents. It also provides a free and easy way of communication among teachers and students around the world (Holzweiss, 2013, pp. 14-16). Study achievement as an educational and psychological phenomenon has been given special attention and has also been the subject of various research and studies (Badawi & Al-Hajouj 2022, p. 242).

Research objective

Measuring the effect of the proposed Educational _ learning design based on the educational platform Edmodo in the achievement of teaching thinking subject.

Research Hypothesis

There is no statistically significant difference at the level of significance of (0.05) between the average students' scores of the experimental group and the control group. The former studied the subject of teaching thinking according to the educational-learning design based on the proposed Edmodo educational platform while the the latter studied the subject of teaching thinking according to the traditional method.

Research Limits:

Year-four (Seniors) students in the College of Education Ibn Rushd/University of Baghdad, and the proposed educational-learning design suggested by the researchers for the aforementioned students chosen for the study.

Defining terminologies of the study

Educational design: (Hamdi & Abdel-Majeed, 2011) defined it as the process of translating the principles of learning and teaching into plans that include a set of activities, strategies and educational subjects. (Hamdi & Abdel-Majeed, 2011, p. 13).

- **Edmodo platform:** Al-Masry and Al-Ashqar (2018) defined it as One of the educational websites (Web 2.0) through which the content of the educational material can be made available in multiple forms as well as available activities, opinions, photos, charts, videos, adding blogs, communicating with peers and teachers, and creating groups within the platform (Al-Masry and Al-Ashqar, 2018, p. 6).

Theoretical framework

First: Educational design: It is a hypothetical science that aims primarily to postulate a model for an optimal teaching method. Educational design refers to a series of systematic and insightful processes that translate the principles of learning and teaching into practical plans for the development of educational subjects, activities, information sources, and assessment. The educational designer is similar to the engineer, both of whom plan their work based on a set of principles that have been proven to be successful. They both come up with a set of procedures to solve the problems they face, which they use to guide the decision-making process related to their designs. (Smith & Regan, 2005, p. 35).

Educational Design Objectives:

Educational design helps achieve a set of objectives:

- 1- Precise and clear formulation of general and specific behavioral objectives.
- 2- Choosing appropriate strategies for the target group.
- 3- Bridging the relationship between learning theories and applications in the educational situation.
- 4- Relying on the learner's own effort in the educational process and making it the center of the educational process. (Al-Salami, 2021, p. 271).

Theoretical foundations of educational design.

The theory of communication and communication: communication.
Communication is a word taken from the Latin word 'communicatio', which

means the exchange of information and ideas. Communication is a behavioral process between one individual and another, or between a group of individuals, that includes the exchange of information and ideas, and uses several methods in order to achieve desired goals. (Abdel-Baqi, 2002, p. 257).

This theory is consistent with the needs of the twenty-first century, which takes into account recent trends in learning, the use of technology for networks, and social and technological structures to build a strong theory of learning in the digital age (Abu Khatwa, 2018, p. 23). Any use of modern technical and technological means in any field must be accompanied by high digital capacity and efficiency to keep pace with developments (Khalaf & Ibrahim, 2022, p. 113).

Second: Edmodo educational platform:

Educational platforms are an integrated set of interactive online services that provide educators, learners, parents and others involved in education with information, tools, and resources to support and enhance the delivery and management of education. It is a comprehensive system that enables a secure e-learning solution (Kiryakova ,et al ,2017,p. 137).

Electronic platforms are virtual environments that aim to simulate learning environments using information technology and interaction through devices that allow communication either synchronously or asynchronously. This allows for the creation of various strategies to encourage dialogue and effective participation of learners. These web-based systems enable teachers and learners to participate in the preparation and teaching of study subject and to present and return tasks and communicate online and at the same time it is a system used for planning, implementation and evaluation of the learning process. (Almrashdeh,et al, 2011, p. 20).

As for the theoretical basis of the Edmodo platform, it is based on Vygotsky's social and cultural development theory (1978), as the social development theory assumed that social interactions play a vital role in the cognitive development of learners. Vygotsky suggested that learning is a social process and that learners build their own knowledge through social interactions. According to Vygotsky's sociocultural theory, children's cultural values, beliefs, and methods for addressing problems are acquired through cooperative conversations with more experienced members of society. This process is mediated by social interaction (Vygotsky, 1978, p. 56).

Previous studies

Study of (Al-Ghamdi 2021): *The effectiveness of internal and incidental electronic support patterns in developing some educational design skills among students at the College of Education at the University of Bisha.*

The results revealed that there are statistically significant differences at the

level of significance of (0.05.). $\alpha \leq$) between the average scores of the students of the control and experimental groups (1) in the post application of the achievement test and the product observation card in favor of the experimental group (1).

1. **Study of (Rashid, 2021): *The reality of e-learning platforms (Edmodo platform as a model) from the perspective of students of the Iraqi University College of Education.*** Results of this study showed the state-of-affairs of the application of e-learning platforms, the Edmodo platform, in the College of Education, Iraqia University. The extent to which the Edmodo platform was used came with a high degree in the first area. This means that the students were able to use the platform and learn about its components and how to get to the scientific subject. The second area concerned the positives of the Edmodo platform and the third field dealt with the negatives of Edmodo platform where the status of its application came with a medium degree. The fourth area, the obstacles of the Edmodo platform came with a high degree, which means that the students faced many difficulties, including the poor availability of Internet networks throughout the country in general and rural and countryside areas in particular.

Research Methodology and Procedures:

First: (Descriptive Approach) Stages of Building the educational Design Model.

Second: Experimental Approach Experimental Application of the Educational Design Model.

Research Procedures: First: Instructional Design: Stages of Instructional Design:

- 1- Analysis: A- Needs Analysis: The researcher drafted a sealed questionnaire containing (15) items presented to a group of arbitrators, in order to identify the educational needs.
- B- Audience Analysis (Target Group): Year-Four (seniors) students of the Department of Educational and Psychological Sciences at the College of Education Ibn Rushd for the Humanities for the academic year have been identified.

Determining the entering behavior of students: Accordingly, the researchers assigned the following variables to be assessed on the students: chronological age calculated in months, intelligence, previous knowledge and degrees of cognitive psychology.

- Analysis of the educational environment: After obtaining official approvals from the Department of Educational and Psychological Sciences at the College of Education Ibn Rushd for Humanities, as well as the fact that one of researchers of the current study is one a student at the same department (the place of application of the research experiment), it has been easy for the researchers to analyze the educational environment in which the educational design will be applied, in terms of the number of classrooms, the nature of the seats (single/parallel), and the number of classes for teaching the subject two times a week.

- **Student demographic analysis:**

- All students participating in the research experience ranged in age from (20-22), males and females.

C- Analyzing the tasks: The subject of teaching thinking, which is scheduled to be taught for Year-Four students of the colleges of education, and the study subject was distributed to (54) lessons at a rate of two lessons per week.

2-Design: Formulating behavioral goals, dividing the study subject, applying teaching strategies, preparing teaching plans, choosing educational activities and aids, building the study subject using online applications, and building a research tool and achievement test.

A-Learning theories: The researchers adopted learning theories in the stage of designing objectives and content to fit the research sample, as follows: Constructivist and cognitive behavioral social theory.

B - design goals: The researchers has prepared (457) behavioral objectives: (knowledge, understanding, application, analysis, synthesis, and evaluation).

C-Design content: The researchers adopted the vocabulary of the sectoral committee for educational sciences for the subject of teaching thinking.

D- Educational Design Models: The ADDIE model, the Khan model (2005), the Yahya model (2012).

E- Preparing an integrated set of teaching strategies and models within the teaching guide.

- **Teaching strategies across the platform:** Teaching strategies were identified through the Edmodo educational platform in teaching thinking to students of the research sample, which are: electronic strategies (lecture and brainstorming, problem solving, cooperative learning, discussion, role-playing mind maps, web investigation, and semantic map).

- **Preparing teaching plans:** The researchers prepared (30) electronic teaching plans.
- **Choosing educational activities:** Concept maps, illustrations, storyboards, puzzles and educational videos.

Development: Applying motivation theories (motivation, reward and punishment), communication theory (sending SMS, making sounds, etc.), and instant feedback.

Application in the educational platform: Developing an action plan and procedures for the training of learners and teachers, the delivery of subjects and their distribution to students after delivery and the effectiveness of the educational subjects.

Input: The final version of the e-learning design.

Work steps: - Creating metadata-style data file description according to the desired pattern such as SCORM via the Edmodo platform, downloading the teaching of thinking subject as a complete e-learning system via the Edmodo

platform, creating a display block with a link to Google Meet to conduct video conferencing with students, downloading assessment questions and exams in the Edmodo educational platform system. The outcomes is an electronic scientific course ready for use in technical environments and its different types, and linking the educational platform Edmodo to the researchers 's blog to support teaching.

A - Individual application in the educational platform: The designer implements a thinking course and tests each step of the network with a small group of learners, then takes what they learned from the tests and do the design and further development to correct any problems.

Display technologies: Using the Edmodo platform and its related applications that support learning, as the researchers linked with the blog, Google Drive, Google Meet and YouTube.

Class management: Teaching in the virtual classroom via the Edmodo platform can only be successful with the active and effective participation of learners. This is because it creates a positive learning environment and helps learners to achieve the expected results, during the virtual lecture.

- Time management: The date for entering the lesson and the date for closing the class after the end of the lecture time and registration of attendance is set on the Edmodo platform. Participation is also checked every (3-5) minutes. This can be achieved through a variety of activities such as brainstorming, small group discussion, collaborative and individual tasks, and sessions Questions and answers, work experience, etc.

- Collaborative Application on the Platform: Teachers create video lectures and self-directed activities, which learners perform at their own pace in the classroom via the Edmodo platform. Active participation, collaborative work and communication are encouraged.
- Evaluation: The researcher used two types of evaluation: first, a component of the model, which aims to determine whether the students have met the goals of the model, and then evaluation here is a component of the model. Second, the model evaluation is the degree of fitness of the model and its suitability for the students, and its ability to achieve educational goals.
 - a. Formative Evaluation: The researcher prepared formative tests for the topics of thinking education.
 - b. Final evaluation. The researchers developed the evaluation tool (building the achievement test) in the light of the model, which is compatible with educational goals.

II. Application of the model: The researchers followed the experimental method.

-Experimental design: The researchers used the partial-tuning experimental design (the two experimental and control groups with post-testing).

-Research community: The current research community consists of seniors (morning classes) of Colleges of Education who study the subject of teaching thinking in the province of Baghdad for the academic year (2021/2022).

Sample selection: The researchers intentionally chose the Department of

Educational and Psychological Sciences from among the departments of the College of Education for Human Sciences Ibn Rushd Al-(Morning Classes), University of Baghdad. This is represented by Year-Four (seniors) students as a field to conduct the experiment of the current study. The number of members of the experimental group was (37) and the number of the control group was (32) male and female students.

The equivalence of the two search groups: Chronological age, intelligence, prior knowledge, cognitive psychology subject scores and all T-values were not statistically significant, which means that the two groups are equal.

Research Requirements:

Selecting the educational subject: Thinking subject.

Behavioral purposes: The researchers formulated a total of (457) behavioral objectives, from the levels of the cognitive domain (remembering, understanding, applying, analyzing, evaluating, and creating).

-Preparing teaching plans: The researchers prepared (30) lesson plans.

Research tool: achievement test

Determining the purpose of the test: To find out what year-four (seniors) students achieved in the Department of Educational and Psychological Sciences - Ibn Rushd College of Education / University of Baghdad.

Determining test items: The researchers limited the number of test items to (50) test items.

Preparing the specification table (test map) according to the levels Bloom (Bloom) which is (remembering, understanding, applying, analyzing, evaluating, and creating).

Formulating the achievement test items: Objective questions are of the type (multiple-choice) with four alternatives, as this test consists of (40) items and one mark is allocated for each correct answer, and (zero) for each wrong answer or unanswered question. The essay questions consisted of (10) essay items designated (3) Scores for each item.

e. The validity of the test:Virtual validity: The researchers presented the test to a group of arbitrators to determine the validity of the test items, and by using the value of (chi-square). The calculated value appeared to be greater than the tabular one ($K_{\alpha 2}$), which amounted to (3.84) with a significance of (0.05) and a degree of freedom (1).

- **Content validity:** The test items were formulated in light of the opinions of arbitrators, as it was agreed on the integrity and validity of all items, and thus the apparent validity and content validity of the test items were verified.

Test correction: The first question: one mark for the correct answer, and zero for the wrong answers and unanswered questions. The second question: (3) marks for each item, ranging between (1-3), and zero for the wrong answers and

unanswered questions. On this basis, the highest score for the test was (70) and the lowest score (zero).

The exploratory application of the achievement test: the exploratory sample: consisting of (30) male and female students, to determine the clarity of the test instructions and its items and the time it takes to answer the test items. The calculation was as follows: an arithmetic average of (50) minutes.

Statistical analysis sample

The researchers chose (Department of Educational and Psychological Sciences) in the College of Education, Al-Mustansiriya University as a sample for statistical analysis. This sample consisted of (100) male and female students.

- **Item difficulty level:** The difficulty of the items ranged between (0.48-0.61) for the objective items, and (0.41-0.46) for the article items.

The discrimination power of the items:

Item discrimination power is the rate of change in the correct probability of responding to an item with respect to the ability level (Alwan, & Jasim, 2022, p.11). The discrimination of the research items ranged between (0.41-0.85) for the substantive items and (0.48-0.69) for the article items.

The effectiveness of the wrong alternatives: The alternatives attracted more students from the lower group than from the upper group.

The stability of the achievement test: the test-retest method: the grades of a sample of students drawn from the sample of statistical analysis were (50) students. Pearson has a stability coefficient of (0.88), which is a very good stability coefficient. As for the internal consistency: the internal consistency coefficient (0.90) for the article items by Cronbach was (0.83).

Presentation and interpretation of the results:

After applying the achievement test and obtaining the grades of the students of the two research groups and in order to verify the validity of the first null hypothesis, and to test the validity of the hypothesis, statistical methods and data processing were used.

Group	T value tabular	Calculated T-value	degree of freedom	standard deviation	Arithmetic mean	number of students	Statistical Significance
Experimental	2	13.966	67	3.42750	62.5946	37	Significant
Control				9.70445	38.7813	32	

By using the t-test for two independent samples, it was found that the calculated t-value (13.966) is greater than the tabulated t-value (2) at the significance level (0.05) and the degree of freedom (67). This indicates the effect on increasing the achievement of the experimental group, thus rejecting the null hypothesis. The researchers attribute this superiority to a set of factors interacting with each other that helped increase students' achievement as demonstrated by

the results of this research. The use of the educational-learning design model designed by the researchers makes the lectures organized at all stages on the educational platform Edmodo and distances the teaching process from improvisation. This is in addition to the ideal exploitation of time as a result of determining the time of each stage that is applied on the educational platform Edmodo. It is also due to creating an educational environment rich with information that enriches students with texts, videos, sounds, images, links, and kinetic, audio-visual interaction.

Recommendations:

Emphasis need to be placed on teachers in colleges using the educational-learning design according to the educational platform Edmodo in teaching thinking and other subjects. This is because of the importance of this approach in raising the level of academic achievement and the level of performance of students.

- Suggestions:

Conducting a research similar to the current study using the same design discussed here in this study according to the Edmodo educational platform in other stages of study or in other study subjects. By doing so, it will be possible to compare the Educational design based on the Edmodo educational platform with other teaching strategies in the same variables.

References:

- Abbas, A. (2021). The Extent to Which E-Learning is Employed by the Professors of the College of Education at The University of Anbar in Light of the Corona Pandemic. *Alustath Journal for Human and Social Sciences*, 60(4), 290-319
- Abu Khatwa, A. M. (2018). Principles of e-course design derived from learning theories and their educational applications. *The Arab Foundation for Scientific Research and Human Development* (1), 11-58.
- Abdel-Baqi, S. M. (2002). *Effective Behavior in Organizations*. Alexandria: New University Publishing House.
- Abdel-Mawla, E. (2014). Open electronic courses are widely spread: Mooc and the Globalization of Education. *E-Learning Journal*, 14, (1).
- Al-Ghamdi M. S. (2021). The effectiveness of internal and incidental electronic support patterns in developing some educational design skills among students of the College of Education at the University of Bisha. *Journal of the College of Education (Assiut)*, 37(5), 176-195.
- Al-Masry, H. A. & Al-Ashqar, R. A. (2018). Effectiveness of the Edmodo educational platform Edmodo in developing science achievement and the trend towards it among tenth grade students in Palestine. *The International Journal of Internet Educatrend*.
- Almrashdeh, I. A. , Sahari, N., Zin, N. & Alsmadi, M. (2011). Distance learning

- management system requirements from student's perspective. *Journal of Theoretical and Applied Information Technology*, 24(1), 17-27.
- Al-Salami, F. M. (2021). Educational design and its effect on increasing student motivation to learn. *The Virtual International Conference on Education in the Arab World: Problems and Solutions, Enriching Knowledge for Conferences and Research*, 270-285.
- Alwan, A. M. & Jasim, K. (2022). The Effect of the difference in the Distribution of the Level of Ability that is Skewed Positive for the Parameters of the Items of the Mental Ability Test according to the Item Response Theory. *International Journal of Early Childhood Special Education (INT -JECSE)*, 14(1), 1150-1160.
- Badawi, Z. A. & Al-Hajouj, A. M. (2022). The structural model of the relationships between academic achievement and constructivist evaluation from the point of view of teachers and the motivational attitudes of tenth grade female students in Gaza. *Alustath Journal for Human and Social Sciences*, 61(1), 241-278.
- Hamdi, A. A. & Abdel-Majeed, F. (2011). *Designing educational situations in traditional and electronic classroom situations*. (1st Ed.) Amman: Dar Al-Fikr.
- Holzweiss, K. (2013). Edmodo: A Great Tool for School Librarians. *School Library Monthly*, 29(5), 14-16.
- Hussein, N. A. (2021). The Effectiveness of the Strategy of Numbered Heads both in the Achievement and Development of Motivation among University Students. *Alustath Journal for Human and Social Sciences*, 60(1), 117-144.
- Khalaf, A. A. & Ibrahim, M. M. (2022). (Assessing the quality of teacher and student in e-learning from the point of view of its teachers. *Alustath Journal for Human and Social Sciences*, 60,(4).
- Kiryakova-Dineva, T., Levunlieva, M., & Kyurova, V. (2017). Iphras as an E Learning Platform for Idiomatic Competence. *Electronic Journal of E-learning*, 15(2), 137-143.
- Obeid, M. A. (2001). *Basics of Teaching Design* (1st Edition). Amman: Dar Safaa for Publishing and Printing.
- Raji, Z. H, Abdullah, Y. M, & Yellsin, W. (2022). The E-Learning from The Point Of View of The Teachers' Staff And Students in Baghdad University. *Iraqi Academic Scientific Journals – IASJ. Nasaq*, 33(3).
- Ramadan M. K. & Al-Shahrani. H. A. (2021). The use of virtual classrooms in graduate programs from the viewpoint of college members at the College of Education at King Khalid University. *Alustath Journal for Human and Social Sciences*, 60(3), 181-216.
- Rashid, M. M. (2021). The reality of e-learning platforms (Edmodo platform as a model) from the perspective of students at the Iraqi University College of Education. *Journal of Human Sciences*, 28(4).
- Sabri, D. A. & Abdullah, A. (2021). The Effect of aneducational- the theory of triple

- intelligence on the achievement of the subject of physiological psychology. *Psychology and Education Journal*. 58(1), 1901-1908.
- Smith, P. & Regan, T. (2005). *Educational design* (2nd). New york : John Wily & son, Inc.
- Vygotsky, L.S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Boston: Harvard university press.
- Murwaningsari, E. (2021). Factors Affecting Book-Tax Differences in Indonesian Manufacturing Industries. *Journal of Accounting, Business and Finance Research*, 11(1), 21-28. <https://doi.org/10.20448/2002.111.21.28>
- Musa, N. (2021). Impact of exchange rate volatility on inflation in Nigeria. *Journal of Contemporary Research in Business, Economics and Finance*, 3(1), 26-38. <https://doi.org/10.33094/26410265.2021.31.26.38>