Journal of Theoretical and Empirical Studies in Education
Vol. 11 Issue 1; February, 2026; ISSN: 2360-7172

EFFECTS OF CREATIVITY ENGAGEMENT AND GLASER TEACHING METHODS ON STUDENTS' ACHIEVEMENT IN ECONOMICS IN PUBLIC SENIOR SECONDARY SCHOOLS IN ANAMBRA STATE

OKONKWO, EUCHARIA CHINENYE (Ph.D.)
Department of Educational Management and Policy, Faculty of Education,
Nnamdi Azikiwe University, Awka
07038299271, ec.okonkwo@unizik.edu.ng

Obasi Hope Onyinyechi (Ph.D.)
(Business) Economic Department, School of Secondary Education
Federal College of Education Technical Asaba delta state,
08035462997, ohope411@gmail.com

Abstract

This study investigated effects of creativity engagement and Glaser teaching methods on students' achievement in Economics in public senior secondary schools in Anambra State. Two research questions were asked and two corresponding hypotheses guided the study. The design of the study was the quasi-experimental research design which adopted pre-test, treatment and post-test of non-equivalent group procedures. The population is 76,542 SS 1 – 3 students in all the 263 public secondary schools in Anambra State. The sample consisted of 80 senior secondary two (SS II) Economics students using purposive and cluster sampling techniques were used. The instrument used for the collection of data for this study was a researcher developed achievement test titled, Economics Achievement Test (EAT) which contained 30 items of multiple choice questions. The instrument was validated by three research specialists. Reliability coefficient of 0.88 was obtained using Kudder-Richardson 20 statistic (KR-20). The experiments and administration of pretest and posttest lasted for 6 weeks with the aid of four research assistants who were the regular Economics teachers in the selected schools. Afterwards, the researcher marked and scored the scripts and the computed scores were used for data analysis. Research questions were answered using mean and standard deviation. Analysis of Covariance (ANCOVA) was used to test the hypotheses at a 0.05 level of significance. The result revealed that creativity engagement method is effective and significant in students' achievement in Economics more than the Glaser teaching method. It was also revealed that teaching Economics to students using creativity engagement teaching method slightly improved the male students more than the female students but their mean scores were not significant in public senior secondary schools in Anambra State. Based on the findings of the study, it was recommended among others that Anambra State Ministry of Education should prioritize training and capacity-building programs for Economics teachers, focusing on the creativity engagement method, to equip them with innovative

methods that can help improve students' academic achievement in Economics in schools.

Keywords: Creativity engagement, Economics, Glaser method, Students' achievement and Teaching Method.

Introduction

The knowledge of Economics is crucial towards making citizens functional in the society. Economics is one of the elective subjects studied at senior secondary school level as prescribed by the National Policy of Education. It is one of the core social science subjects that students are required to pass at credit level in order to qualify for admission into tertiary institution to pursue social science courses. The study of Economics according to Onye and Ajuzie (2018) enables citizens to study, identify and proffer solutions to the basic problems of the society such as scarcity, inflation, unemployment, devaluation among others. The understanding of Economics helps individual to make wise selection among several alternatives and prepares recipients for good citizenship. According to National Educational Research Development Council in Ochejele (2017), the objectives of secondary school Economics curriculum include to: understand basic economics principles and concepts as well as the tools for sound economic analysis, contribute intelligently to discourse on economic reforms and development as they affect or would affect the generality of Nigeria, understand the structure and functioning of economic institutions, appreciate the role of public policies on national economy, develop the skills and also appreciate the basis for rational economic decisions, and understand the status of Nigeria and other African countries in international economic relationships. The achievement of these laudable objectives of Economics has not been fully met as evident in students' performance in the subject, hence the need for improving students' achievement.

Students' achievement is largely identified by a range of statistical indicators. Ogundola, Agboola and Ogunmilade (2020) opine that such indicators

can be the level of attainment of a student in an examination that is, how a student is able to demonstrate his or her abilities in an examination and in real practical life situations or work environment. It is however so saddening that the academic achievement of students in Economics has been consistently poor especially in external examinations. This must have informed the Chief Examiners' Report of West African Examination Council, WAEC (2024) to state that the poor achievement of students in Economics can be attributed to lack of qualified teachers to handle the subject, poor teaching strategies or methods in presenting the content of the curriculum to the students. Poor students' achievement has been experienced due to inadequate or insufficient demonstration of Economics knowledge, skills, and understanding of Economics concepts. Alaka and Obadara (2023) observe that there has been decline in the performance of secondary students in Economics especially in their external examination. Continuing, Alaka *et al*., (2023) further state that the major factor contributing to students' failure in Economics is the predominant usage of conventional teaching approach (traditional approach). From the foregoing, to improve students' achievement in Economics requires effective teaching method.

Teaching methods are primarily description of learning objectives, oriented activities and flow of information between teachers and students. The methods of teaching for the effective teaching of Economics are the innovative ways of imparting knowledge to learners. They usually involve interactions between the teachers, the instructional facilities, the learners and the classroom environment. There are different methods and techniques of teaching Economics and like the other school subjects, there are no best methods of teaching. Izuagba, Afurobi and Ifegbo (2016) assert that a method that is appropriate for a particular subject matter in a particular level may be inappropriate elsewhere. This is because varieties of factors combine to determine how effective or otherwise a method is. A subject teacher does not only need to have a sound mastery of the subject

matter, he is expected to also be versatile in the methods of teaching (Okoro & Ezeonwumelu, 2017). This is a way of having various methods of teaching at one's disposal and being able to make use of them appropriately. Teaching methods could be regarded as the vehicle through which a message is delivered. The existing method of instruction in the normal classroom setting that is predominantly used by teachers is the Glaser method.

Glaser method is a teacher-centered method whereby the teacher is seen as an authority imparting knowledge to the students. According to Egwu and Okigbo (2021), it could involve a mix of different methods, but it is mainly the conventional or Glaser method that is most commonly used. Although, Glaser method of teaching has been shown in a number of studies to be less effective compared to other innovative methods, teachers still adopt them for teaching and learning. This is because Glaser method is suitable for teaching large groups of students and for covering large content area. There is need therefore for teachers of Economics to get acquainted with the methods that are suitable or effective in teaching. Dorgu (2015) points out that good teachers follow no one method, instead they use whatever methods or materials that seem best for the particular combination of individual situations. It is more like a one-way traffic whereby learners are not sufficiently active in the lesson. This type of instruction may not provide the necessary background for active and participatory learning in Economics, which is basically a practical-oriented discipline, especially in 21st century education. The noticeable ineffectiveness of the lecture method has made it inappropriate to be used alone in teaching and learning of Economics instructions in secondary schools. However, different methods of teaching Economics instructions have been proposed by teachers and the knowledge of these methods may help in working out a better teaching strategy. No wonder, Victor-Ishikaka and Ekineh (2023) assert that in the world today, the teacher is no longer the reservoir of knowledge but a facilitator of learning, hence

information and learning resources are at the beck and call of learners with just a click of button away. Amongst these methods of teaching Economics is the creativity engagement method.

Creativity engagement method involves designing learning experiences that encourage students to think creatively, explore new ideas, and express themselves in innovative ways. Ayua (2019) asserts that creativity engagement involves teaching creatively and teaching for creativity, which goes hand in hand to enhance creative thinking in students with different-ability. Thus, teaching creatively entails demonstrating how to think creatively and the ability to use diverse technological methods and resources. While teaching for creativity involves inspiring students to think creatively, exposing them to creative thinking instances for generating ideas, encouraging creative learning and identifying learners' creative strengths as well as fostering them (Ezeonwumelu & Okoro, 2018). Paul E. Torrance is one of the prominent scholars of creativity who severally explored the teaching and learning of creativity (Ayua, Terhemba & Ikyernum, 2022). Torrance identified particular skills related to creativity and showed success in creativity teaching using Torrance Incubation Model (TIM) of Creative Teaching and Learning. The model was designed to make teaching more effective in any subject, at any age level with any method of instruction (Ayua, 2019). Torrance and Safter (1990) submit that creative teaching and learning can be applied to a lesson, unit or project in any subject including Economics at any school level to cultivate creative thinking in students with different abilities. This makes Economics meaningful to the students who are at formal operational stage (Piaget, 1957), the peak of mental development maturity where they understand calculation in abstraction by thinking creatively. In a related study, Dike, Otu and Dike (2023) who examined the effects of a creativity activities method on pupils' achievement in the Cultural and Creative Arts in Oshimili South Local Government Area, Delta State found a significant effect of creativity activities

method on pupils' achievement and retention in cultural and creative arts. In the same vein, Ukoima, Mina and Dimkpa (2021) who examined influence of teachers' creativity on the academic performance of senior secondary school students in Port Harcourt Metropolis found that students learning with fun, have emotional development, enhancing thinking capability, boosts problem solving skills, and improves focus and attention are importance of creativity in the classroom thereby influencing or enhancing students' academic performance. Teachers are urged to enrich the quality of their instruction through creativity engagement regardless of the students' gender.

Gender entails a social construct of masculine and feminine inclinations which are a moderating variable in the context of this study. Gender could be termed as a cultural construct writing developed by society to distinguish the roles, behaviours, mental and emotional characteristics between male and female. Some authors like Amedu (2015) and Eagly, Nater, Miller, Kaufmann and Sczesny (2020) ascribe gender as a determinant factor in any subject mastery. Some of them presume that females have more inclinations on subjects relating to science while some believe that they rather achieve more in art subjects. Asma, Madiha and Madiha (2022) equally maintain that males are more inclined to writing aspects than their female counterparts. According to Eagly, Nater, Miller, Kaufmann and Sczesny (2020), brain differences are the prime cause of functional and structural difference in male and females regardless of the teaching methods adopted. Empirically, Ayua, Terhemba and Ikyernum (2022) who investigated the effect of creative teaching on creative thinking among different-ability upper-basic science students in Gboko-town found no significant difference existed in the students' creative thinking level based on gender $F(2, 28) = 2.920$, $\rho = 0.070 > 0.05$. Similarly, Ajibo and Osuji (2023) who examined the effect of creative thinking method on academic achievement of entrepreneurship education in tertiary institutions in Enugu State, Nigeria found

that male and female students achieved almost the same scores in favour of the male when taught Economics with creativity engagement method but their mean scores was not significant.

Teaching methods especially the students-centered types are necessary in the delivery of Economics instructions as they help to ensure students think creatively and equip them with skills now and when they further their studies. Based on the experiences gathered from scholarly works on these teaching and learning methods, evidences showed that creativity engagement method is successful when applied in teaching of subjects like Chemistry, Accounting, Physics, Social Studies, Basic Science amongst others in secondary schools across Nigeria. Many researches show that different abilities have been used in learning. The results show that sometimes creativity engagement method is successful with particular type of students but sometimes are not (Ayua, 2019; Ayua, Terhemba & Ikyernum, 2022; Dike, Otu & Dike, 2023; Ukoima, Mina & Dimkpa, 2021) Also, several studies have been conducted on students' retention and academic achievement as dependent on several factors such as gender, socio–economic background, teaching method in various subject matters (Asma, Madiha & Madiha, 2022; Eagly, Nater, Miller, Kaufmann & Sczesny, 2020; Ajibo & Osuji, 2023) but little or no research to the researcher's knowledge has been done in relation to students' achievement in Economics among students in Economics. Thus, there is therefore an urgent need to bridge this gap by investigating the effects of creativity engagement and Glaser methods on students' achievement in Economics in public senior secondary schools in Anambra State.

Statement of the Problem

The teaching of Economics in secondary schools is of paramount importance, as it equips students with essential skills and knowledge to make sound economic analysis, contribute intelligently to discourse on economic

reforms and development. However, despite the significance of Economics education, students' performance in the subject has continued to dwindle over the years showing learning deficit. According to the WAEC Chief Examiner's report (2024), students' achievement in Economics has been consistently poor. A review of students' performance in Economics in the past six years (2019 – 2024) reveals a disturbing trend: 2019 (36% pass rate), 2020 (49% pass rate), 2021 (41.95% pass rate), 2022 (42.98% pass rate), 2023 (47.85% pass rate), and 2024 (42.960% pass rate). These percentages indicate a persistent decline in students' performance, with a significant proportion of students failing to meet the minimum standards.

The decline in students' performance in Economics has been a source of worry to educational stakeholders. Several studies have been conducted to unravel the causes of the low performance, and various factors identified, include inadequate teaching facilities, low motivation among teachers and students and large class sizes. Additionally, the teaching methods employed by Economics teachers have been criticized for being overly reliant on the traditional method. The use of traditional method has been identified as a major contributor to students' achievement in Economics. The use of traditional method has been identified as a major contributor to students' poor performance in Economics. This method often results in students memorizing formulas and procedures without understanding the underlying concepts, leading to poor retention and application of Economics knowledge. The call for creative method towards the teaching of Economics has opened teachers to the use of creativity engagement method. The effects of this method in teaching and learning of Economics is yet to be substantially proved empirically. This is the problem or the gap which this study sets to fill.

Research Questions

The following research questions were formulated in line with the purpose to guide the study:

1. What is the effect of creativity engagement and Glaser methods on students' achievement in Economics as measured by their mean scores in the pre-test and post test?
2. What is the effect of creativity engagement method on students' achievement in Economics based on gender as measured by their mean scores in the post test only?

Hypotheses

The following null hypotheses were formulated and tested at a 0.05 level of significance:

Ho_1: The effect of creativity engagement and Glaser methods on students' achievement in Economics as measured by their mean scores in the pre-test and post test is not significant.

Ho_2: There is no significant difference between the effects of creativity engagement method on students' achievement in Economics based on gender as measured by their mean scores in the post test only.

Methods

The design of the study was the quasi-experimental research design which adopted pre-test, treatment and post-test of non-equivalent group procedures. Ukozor, Onah, Ekwonye and Ogomaka (2021) affirm that quasi-experimental design is a design in which participants are not randomly assigned to the groups. The population is 76,542 SS 1 – 3 students in all the 263 public secondary schools in Anambra State. The sample consisted of 80 senior secondary two (SS II) Economics students. Purposive and cluster sampling techniques were used. Senior secondary school class two (SS II) Economics students were used in the study. The choice of SS II class was because they were matured enough after SS

III that might be busy preparing for their final examination, while it was the perceived that SSI are not yet fully abreast about the various concepts of Economics. The researcher purposively chose SSII Economics class and clustered them into two groups of experimental group I and experimental group II. In specifics, there are 35 students (18 males and 17 females) in Experiment Group I and 45 students (20 males and 25 females) in the Experiment Group II.

The instrument used for the collection of data for this study was a researcher developed achievement test titled, Economics Achievement Test (EAT). The EAT was used to elicit the academic achievement of students in Economics as a subject both at pre-test and post-test which contained 30 items of multiple choice questions with four options (letters A to D) each, out of which only one option is the correct answer. Each test item is allocated one mark and this gave a total of 30 marks. The instrument was validated by three research specialists, two in Economics Education and one in Measurement and Evaluation, from Imo State University, Owerri. Reliability coefficient of 0.88 was obtained using Kudder-Richardson 20 statistic (KR-20). Four lessons note were prepared, each on teaching Economics via Creativity engagement method and Glaser method. Four regular Economics teachers from the selected schools and classes for the experimental groups were enlightened separately for 5 days. The enlightenment sessions drilled them on the content, methodology and the procedural design of the study. At the end of the training, the teachers were assigned to group each based on the sessions. Teaching started immediately after the pre-test in each of the classes. Four of the research assistants taught the experimental groups using creativity engagement method and Glaser method. The researcher monitored the teaching at all the stages. Teaching lasted for six weeks at the end of which post test was administered to all the groups. The EAT was administered, as the post-test. Strict examination conditions were observed during post-testing. The EAT used for the pre-test, was administered to the subjects as the post-test. The same

procedure and conditions was used while conducting the pre-test was adopted. The researcher marked and scored the scripts and the computed scores were used for data analysis. Research questions were answered using mean and standard deviation. Analysis of Covariance (ANCOVA) was used to test the hypotheses at a 0.05 level of significance. The rationale behind the choice of ANCOVA was that it adjusts for covariates, providing a more nuanced understanding of variables' interactions. The hypotheses decision rule was based on the calculated F-cal against the tabulated F-tab. In this case, if the F-calculated is greater than the F-tabulated, the hypothesis was rejected but if otherwise, it was accepted. But in the case of using SPSS, the rejection of the hypotheses was based on the comparison of the SPSS p-value or significance level in the output directly with the chosen 0.05 alpha level of significance. When the p-value is equal to or less than the chosen alpha, reject the null hypothesis, if otherwise, accept the null hypothesis.

Result

Research Question One: What is the effect of creativity engagement and Glaser methods on students' achievement in Economics as measured by their mean scores in the pre-test and post test?

Table 1: Mean achievement scores of students taught Economics using creativity engagement and Glaser methods at pretest and posttest. Where: Sample Size (n), Mean ($\bar{X}$), and Standard Deviation (S) at pre-test and post-test

Test		**Pre-test**		**Post-test**	
Groups	**n**	$\bar{x}$	**S**	$\bar{x}$	**S**
Creativity engagement method	35	13.29	1.582	33.51	3.338
Glaser method	45	14.02	2.472	16.51	3.952

Data in Table 1 shows the mean achievement scores of students taught Economics using creativity engagement and Glaser teaching methods at pre test and post test. It also shows that students who were taught Economics with creativity engagement method had post test mean score of 33.51 and the standard deviation stood at 3.338, while those taught Economics with Glaser method had

post test mean scores of 16.51 with a standard deviation of 3.952. The disparity between the mean scores of the groups indicated that creativity engagement method is effective in students' achievement in Economics more than the Glaser teaching method in public senior secondary schools in Anambra State.

Hypothesis One:

Ho_1: The effect of creativity engagement and Glaser methods on students' achievement in Economics as measured by their mean scores in the pre-test and post test is not significant.

Table 2: ANCOVA F-test Analysis for the Test of Hypothesis 1

Tests of Between-Subjects Effects

Dependent Variable: Post Test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5714.511[a]	2	2857.255	210.880	.000
Intercept	1503.290	1	1503.290	110.950	.000
Pre_Test	22.698	1	22.698	1.675	.199
Methods	5404.668	1	5404.668	**398.892**	**.000**
Error	1043.289	77	13.549		
Total	52646.000	80			
Corrected Total	6757.800	79			

a. R Squared = .846 (Adjusted R Squared = .842)

Table 2, shows the result of the analysis with respect to hypothesis 1 for the significant difference between the mean achievement scores of students taught Economics using creativity engagement and Glaser teaching methods in the pre-test and post-test. The result indicated that the F-calculated (F-cal) value is high at 398.892. The p-value of 0.000 is less than the 0.05 level of significance. Therefore, the null hypothesis is rejected thereby upholding the alternative which concluded that the mean achievement scores of students taught Economics using creativity engagement and Glaser teaching methods is significantly different in public senior secondary schools in Anambra State.

Research Question Two: What are the mean achievement scores of male and female students taught Economics using creativity engagement method at post test?

Table 3: Mean achievement scores of male and female students taught Economics using creativity engagement method at post-test.

Test		**Pre-test**		**Post-test**	
Creativity engagement method	**n**	**$\bar{x}$**	**S**	**$\bar{x}$**	**S**
Gender					
Male	18	13.22	1.700	34.06	4.151
Female	17	13.35	1.498	32.94	2.164

Table 3 indicates the mean achievement scores of male and female students taught Economics using creativity engagement method at post-test. The result presented showed that male and female students that were taught Economics with creativity engagement method had post-test mean achievement scores of 34.06 and 32.94 respectively. The scores in the distribution are homogenous because there is a tangible distance between the mean scores and standard deviation. The result from the above table shows that teaching Economics to students using creativity engagement teaching method slightly remediated the male students more than the female students in public senior secondary schools in Anambra State.

Hypothesis Two:

Ho_2: There is no significant difference between the effects of creativity engagement method on students' achievement in Economics based on gender as measured by their mean scores in the post test only.

Table 4: ANCOVA F-test Analysis for the Test of Hypothesis 2

Tests of Between-Subjects Effects					
Dependent Variable: Post Test					
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Corrected Model	14.614[a]	2	7.307	.642	.533
Intercept	625.429	1	625.429	54.963	.000
Pre_Test	3.757	1	3.757	.330	.570
Gender	10.310	1	10.310	**.906**	**.348**
Error	364.129	32	11.379		
Total	39691.000	35			
Corrected Total	378.743	34			
a. R Squared = .039 (Adjusted R Squared = .022)					

Table 4, shows the result of the analysis with respect to hypothesis 2 for the significance of the difference between the mean achievement scores of male and female students taught Economics using creativity engagement method in the post test. The result on the table indicated that the F-calculated (F-cal) value of 0.906 is low. The p-value of 0.348 is greater than the 0.05 level of significance. Since the p-value is greater than 0.05 level of significance, the researcher did not reject the null hypothesis thereby concluding that there is no significant difference between the effects of creativity engagement method on students' achievement in Economics based on gender in public senior secondary schools in Anambra State.

Discussion of Findings

The result revealed that creativity engagement method is effective in students' achievement in Economics more than the Glaser teaching method in public senior secondary schools in Anambra State. This effectiveness is a proof the incorporating creative and engaging method, such as discussions, role-plays, and problem-solving activities, can help students better understand and retain economic concepts. Teachers who adopt creativity engagement method can potentially improve student outcomes and reduce academic decline in Economics. The result further established that the mean achievement scores of students taught Economics using creativity engagement and Glaser teaching

methods is significantly different in public senior secondary schools in Anambra State. This significance indicated that that one method (creativity engagement) is more effective than the other in promoting student learning. Corroborating the findings of this present study, Dike, Otu and Dike (2023) found a significant effect of creativity activities method on pupils' achievement and retention. In the same vein, Ukoima, Mina and Dimkpa (2021) found that students learning with fun, have emotional development, enhancing thinking capability, boosts problem solving skills, and improves focus and attention are importance of creativity in the classroom thereby influencing or enhancing students' academic performance. The result strengthened the fact that the creativity engagement method can be effectively used to improve students' achievement in Economics by incorporating interactive and thought-provoking activities, such as case studies, simulations, and debates, that encourage critical thinking and problem-solving. This method enables students to connect theoretical concepts to real-world scenarios, fostering deeper understanding and retention of economic principles, and ultimately bridging the learning gap.

The result also revealed that teaching Economics to students using creativity engagement teaching method slightly remediated the male students more than the female students in public senior secondary schools in Anambra State. This implies that creativity engagement method had a slightly greater remedial effect on male students compared to female students in public senior secondary schools in Anambra State. This implies that male students may have responded more positively to the creative and interactive teaching methods, leading to a slight improvement in their learning outcomes. The result further established that there is no significant difference between the effects of creativity engagement method on students' achievement in Economics based on gender in public senior secondary schools in Anambra State. This implies that the effectiveness of creativity engagement method in students' achievement in

Economics is not significantly influenced by students' gender, suggesting that the method is equally effective for both male and female students. This implies that the creativity engagement method can be a valuable tool for promoting inclusive learning and bridging learning gaps in Economics, regardless of students' gender. In line with the results, Ayua, Terhemba and Ikyernum (2022) found no significant difference existed in the students' creative thinking level based on gender $F(2, 28) = 2.920$, $\rho = 0.070 > 0.05$. Similarly, Ajibo and Osuji (2023) found that male and female students achieved almost the same scores in favour of the male when taught Economics with creativity engagement method but their mean scores was not significant. The result strengthened the fact that the creativity engagement method favours both male and female students by providing an interactive and inclusive learning environment that caters to diverse learning styles, allowing them to engage with economic concepts in a more meaningful way. By doing so, it helps to bridge the learning gap and promote equitable learning outcomes for both genders, enabling them to develop a deeper understanding of Economics concepts and apply them in real-world contexts.

Recommendations

Based on the findings of this study, the researchers made the following recommendations;

1. The Anambra State Ministry of Education should prioritize training and capacity-building programs for Economics teachers, focusing on the creativity engagement method, to equip them with innovative strategies and techniques that can help improve students' achievement and improve student outcomes in Economics.
2. Economics teachers in Anambra State public senior secondary schools should adopt the creativity engagement method as a key instructional strategy, as it has been shown to be equally effective in students' achievement in Economics

for both male and female students, promoting inclusive and equitable learning outcomes.

Conclusion

In conclusion, this study underscores that the creativity engagement method surpasses the Glaser teaching method in students' achievement in Economics. Teachers can help students grasp economic concepts more effectively by incorporating interactive and thought-provoking activities. This method enables students to engage with the subject matter in a more meaningful way, leading to improved understanding and retention. The creativity engagement method has been shown to be an effective tool for promoting deeper learning and bridging learning gaps in Economics.

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