A suggested Strategy Based on Information Technology and its Impact on Developing Creative Writing Skills and Academic Self-efficacy among Alzawyaa EFL university Students

Dr. Najah Elbasher Tomi

Summary of the study:

The current study aimed to construct a strategy based on information technology for teaching English (English course 102), and its impact on developing creative writing skills and academic self-efficacy among Alzawya EFL university students. The literature and previous studies were analyzed to describe the study variables and construct the strategy the proposed strategy, in which teaching and educational practices in the strategy stages (revitalization, research and viewing, design the writing framework, digital publishing of written creativity, and final evaluation) were described. A test of creative writing skills (fluency, flexibility, and originality) was also prepared including 9 items graded open-ended essay questions in creative writing skills, also the preparation of the academic self-efficacy scale, including (25) items in the following dimensions: (the student's self-motivation to learn, the student's confidence in the ability to achieve, perseverance and continuity in learning, self-regulation of learning and recall habits). The study relied on the experimental method, designing two groups, the experimental and the control group (before - after). The study based on the experimental method, designing two groups, the experimental and the control group (pre - post). The study sample consisted of (60) second-year college students studying the course (English 102), which aims to develop language proficiency in writing skills. The sample was divided into two groups: experimental (30) and control (30)

Keywords: Information Technology, English Language Teaching (ELT), Creative Writing.
إستراتيجية مقترحة تعتمد على تقنية المعلومات وأثرها في تنمية مهارات الكتابة الإبداعية والفاعلة الأكاديمية الذاتية لدى طلاب جامعة الزاوية

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ملخص

تهدف الدراسة إلى بناء إستراتيجية تعتمد على تكنولوجيا المعلومات لتدريب اللغة الإنجليزية (مقرر اللغة الإنجليزية 102) ، وأثرها في تنمية مهارات الكتابة الإبداعية والكفاءة الذاتية الأكاديمية لدى طلاب جامعة الزاوية لللغة الإنجليزية كلغة أجنبية. وتم تحليل الأدبيات والدراسات السابقة لوصف متغيرات الدراسة وبناء الإستراتيجية المقترحة ، والتي يتم فيها التدريس والمنسقات التعليمية في مراحل الإستراتيجية. كما تم اختبار مهارات الكتابة الإبداعية (الطاقة ، والمرونة ، والتمكن) متضمنًا 9 بنود مدرجة كأسئلة مفتوحة في مهارات الكتابة الإبداعية ، وكذلك إعداد مقياس الكفاءة الذاتية الأكاديمية ، متضمنًا (25) فقرة فيما يلي الأبعاد: (القدرة الذاتية للتعلم ، ثقة الطالب في القدرة على الإنجاز ، المبادرية والاستمرارية في التعلم ، التنظيم الذاتي للطالب للتعلم). كما اعتمدت الدراسة على المنهج التجريبي وتصميم مجموعتين ، المجموعة التجريبية والمجموعة الضابطة (قبل - بعد). و تكوّنت عينة الدراسة من (60) طالب وطالبة في السنة الثانية بدرس مقرر (102 إنجليزية) والذي يهدف إلى تنمية الكفاءة اللغوية في مهارات الكتابة. وتم تقسيم العينة إلى مجموعتين: التجريبية (30) والضابطة (30).
Introduction:

Language is considered one of the essential subjects in educational systems. It is one of the educational system’s tools in building student’s personality in a proper, integrated and compatible manner. Language also is a method for thinking, a container of thought, and a means of preserving and transmitting heritage between generations. Rather, it is the main tool for the production and deepening of ideas on an ongoing basis, language is a means of communication and interaction as well as teaching and learning Language processes aim to enable student to build the linguistic knowledge (academic writing), and the processes of teaching and learning English for university students are linked to the development of the student’s skills in reading and searching also building student abilities in productive writing.

Writing skills are one of the language building skills, further it considered one of language communication skills. It is one of the most complex language skills, because it requires more abilities than other skills of language construction (listening, speaking and reading), linguists and educators describe it as a skill that combines all previous language skills, and writing skill at the university level is a necessary for the student to complete the study, the ability to academic achievement, the ability to Summarizing, taking notes, writing articles, reports and scientific research, writing educational and study projects, answering accurately and clearly in tests that include questions of the short and long essay style (Mousa, 2016, 52).

Creative writing skills are among the objectives of language teaching to train students to imagine, produce ideas, along with training on linguistic selection, scrutiny in the choice of words and formulations, It is noted that developing creative writing skills enhances students’ levels of language skills as a whole (listening, speaking, reading and writing). It also promotes the discovery of talent areas of each student individually, further directs each student to express his feelings and thoughts in a written form in integrated topic from the side of ideas, utterances and organization (Al-Zahrani, 2017, 163).
Creative writing skills are defined as the student’s ability to express his feelings, thoughts, beliefs and fantasies in a clear linguistic format, style, meaning, accurate in structure and structure, taking into account a degree of fluency in the production of ideas, their diversity and originality (Nasr, Faraj and Suleiman, 2019, 114).

Saudi studies (2017, 91) showed the importance of developing students’ creative writing skills, as they are directly related to language skills and language development, which affect the integrated development of the student’s personality, enhance the skills of expressing ideas, feelings. Creative writing skills are also tools for mental and linguistic enjoyment with a high degree of fluency, flexibility and originality. The results of Al-Harbi’s study (2015), also explained that the importance of developing creative writing skills in relation to the development of students’ thinking skills and pathways. Creative writing skills are also linked to developing creative thinking skills and improving its dimensions among students, besides this is resulted in improving student’s abilities to express his thoughts feelings, and improving the ability to communicate with others.

Creative writing includes a group of skills and processes that must be considered during teaching planning to develop and measure them on an continuous manner, among the most important of these skills and processes are the following (Mahmoud, 2018, 240):

- **Creative writing skills:** These include grammatical skills, proficiency in using punctuation, checking spelling, using a distinguished literary style, organizing content, topic building skills, using linking tools, technical standards for writing, and other skills.

- **Creative writing processes:** These include mental processes (topic planning, writing planning and subject building planning), and performativity processes and are related to production and writing.

around the development of creative writing skills whether the mother tongue (Arabic) or the foreign language (English), is one of the skills absent in the field, as many studies have shown, including Hanna study (2018,6) also, Al-Hudaibi (2012, 180) included that the teaching practices applied in language teaching do not take into account this type of writing, but are satisfied with functional
writing in some classes, which means reflect lack of motivation of teachers and students in pre-university education stages around developing creative writing skills.

In this context, studies indicated that creative writing skills are a necessary requirement to improve students’ functional writing skills, it depend on the connection with reality and its problems, expression and events, while creative writing skills depend on fertile imagination and thinking, and this is a necessary requirement to improve students’ writing production. The process of developing creative writing skills depends on developing teaching strategies and focusing on it that connect language skills, thinking skills and research skills, as these skills are necessary to train students in creative or productive writing.

The results of study Zain Al-Din and Al-Jarrah (2016, 148) also assured that developing creative writing skills requires designing educational environments that encourage creative productive and written expression, also developing the student’s sensitivity to problems in educational and life situations and his abilities to express them, while building the student’s cognitive abilities about Writing skills in the aspects of language construction, subject organization, form consistent the need for interrelationship and integration between language skills (listening, speaking, reading and writing) and training the student on them on an ongoing basis, while supporting students with models that clarify the criteria for evaluating written performance in creative writing skills.

It may also takes into consideration the necessity of gradual progression in the stages of developing creative writing skills, including the planning stage for writing, the writing stage, the review stage, the rewriting stages, and the evaluation stage.

It can be concluded from the previous that despite the importance of developing creative writing skills, teaching and learning practices are not appropriate for their development and measurement from one side, and it is difficult to develop them
using direct strategies at the university level because students are not trained in them at the pre-university education stage.

In complementary of the previous, the -academic – self efficacy is one of the contemporary concepts in the educational fields, besides it is directly related to writing skills in general, and creative writing skills. academic Self- concept has its roots in social constructivism, which assumes that achievement or performance in educational tasks is the product of the interaction between the student’s behavior, beliefs and the educational environment in which the student works.

Academic- Self is the product of an interaction for the internal relationships between three components: (student’s perceived competence in performing the tasks, the student’s belief about the nature of educational tasks in terms of ease, difficulty, and ability to be addressed, and the student’s feelings toward the educational tasks associated with writing).

Academic -Self is a necessary to improve student’s levels of writing, besides students with high self-academic are able to actively participate, exert more effort, persevere in educational activities, confront failure practices and educational difficulties (Mousa, 2016, 53).

Academic -Self is affected by a group of factors that can be used to predict Academic level of the undergraduate students as follows: student's ability to plan his learning, self-control, reduce anxiety, increase attention, motivation, persevere, participate in educational activities, social support, positivity in educational or life situations, flexibility, activity, a high degree of enthusiasm, high intelligence and adaptability in diverse situations (Al-Rasheed, 2019, 176).

According to Hassanein study (2011, 51) explains that self-academic is directly related to the student’s opinion of himself in the academic fields, his criticism about his actual abilities and skills, and his perception about those abilities. Does it help him to perform educational tasks successfully, and self- academic
branched from a group of premises that he developed (Bandura), according to the premises of social learning theory, the most important as follows:

- Students tend to persistence in educational tasks in which they feel successful or able to complete successfully and accurately.
- Academic self-efficacy motivates students towards excitement and challenge in educational situations, tasks, and directs them towards educational activities of high levels.
- The active self-academic enhances students' self-regulation processes in the mental, behavioral and emotional aspects, making them able to plan goals and persevere in achieving them.
- Self-efficacy enhances students in taking responsibility for learning, facing failure and learning difficulties, and dealing with them in an objective manner that can be remedied through planning and research processes.

On the other hand, it is noted on the reality that traditional teaching strategies have become inappropriate for learners teachers of English language at the current time, also they are insufficient to develop creative writing skills and self-academic development in English at any educational stage, so we must transfer from traditional methods to technology-centered methods (Nikolopoulou, et.al, 2019,599). Ghanem (2018, 702) explains that in light of the rapid development of information technology, work must be done to employ the applications of that technology in educational situations, and to build teaching strategies based on information technology that enhance meeting the needs of students in the twenty-first century on the one hand, to integrate them into educational and teaching situations. Furthermore, supports the development of students' levels in the academic aspects.

Salem (2006), showed the possibility of building teaching strategies based on information technology to develop foreign language learning practices (French) in smart schools. Information technology is the product of the great development in the knowledge and electronic revolution, and information technology is based on the use of computer technology and Internet technology.
in language education, which ensures the improvement of linguistic and social communication practices. Information technology is characterized by many applications, including e-learning applications (partial / mixed, and total / self-learning), mobile learning, and social communication applications in the educational situation, in addition to contemporary developments in the employment of cloud computing in teaching and learning. Several studies, including (Wai, 2012, 103) and Maharem (2012) showed the importance of using information technology in teaching and education for its effectiveness in diversifying teaching strategies, addressing multiple styles in teaching and learning, organizing knowledge and presenting it in different ways, and enriching the educational situation to meet the student’s needs taking into account the differences between students' abilities and previous experiences.

It also results of those studies Al-Zayni, Abdulaziz, (2010, 117) Al-Araimi (2020, 331) and study of the effectiveness of using information technology-based teaching strategies in language learning showed that their impact on developing the educational situation, developing traditional, virtual and digital educational environments. It provides students with a variety of tools, experiences and educational resources that help them plan their learning and manage learning as a successful educational project. Also, information technology strategies integrate the student into educational situation before learning event by participating in planning educational experiences and designing digital content. Language communication skills through tools, applications of modeling, simulation, continuous training, directing students towards self-learning and continuous training in language skills without being restricted to time or spatial learning limitations, while directing students towards self-assessment Al mukhallafi (2019).

**Problem and study questions:**
Several studies, including Mahmoud study (2018), indicated a decline in students’ levels on tests measuring creative writing
skills, which appear in indicators that students do not have the skills to produce new ideas and use text editing models. The processes of low levels of students in creative writing skills are attributed to shortcomings in teaching practices and strategies, and the adoption of traditional teaching strategies based on student guidance according to specific written models that do not provide the student with an opportunity for creativity in writing. The studies also showed the absence of appropriate teaching and learning strategies and educational activities for developing creative writing skills, also this may be due to the fact that most of those who teach languages (mother tongue and foreign languages) built teaching plans without integrating creative writing skills at the level of goals, activities and educational content, and this was reflected on the absence of educational practices associated with developing or measuring those skills.

It was also found through teaching English courses to Libyan EFL university students, whether in the joint program (preparatory year) or during specialized programs or university requirements, low levels of students in writing skills in general, and low levels in creative writing skills, as it is difficult for the student to produce ideas characterized by a degree of Flexibility, as the students are accustomed to functional topics and writing rigid templates devoid of sequencing in presenting the idea, coherence, diversity, interdependence and interdependence of paragraphs. Errors in language structure and scarcity of student’s application of his imagination in producing creative ideas and this is due to the failure of traditional teaching practices to develop creative writing skills, also most faculty staff do not tend to measure those skills among students because they are convinced of the futility of operations measurement.

Based on the previous, the problem of the current study is determined by the low levels among Alzawya university students in creative writing skills on the one hand, and the lack of clarity of the academic self-concept on the other hand, and may be attributed to many reasons, including the traditional teaching strategies used.
In order to solve the described problem, the study attempts to answer the main question: What is the impact of the proposed strategy based on information technology on developing creative writing skills and self-academic in English for undergraduate students? From the main question, the following sub-questions are derived:

**The first question:** What is the information technology-based strategy for developing creative writing skills and academic self-efficacy in English for university students?

- **The second question:** What is the impact of the information technology-based strategy on developing creative writing skills in English for university students?

**The third question:** What is the impact of the information technology-based strategy on and academic self-efficacy development in English for university students?

**The fourth question:** What is the type and level and the correlation between the students’ scores in creative writing skills and their scores in academic self-efficacy -Scale in English language?

**Aims of the study:**
The current study aimed to:

A- Building a proposed teaching strategy based on information technology for teaching English and developing creative writing skills for Alzawya EFL university students.

B- Investigating the impact of the proposed strategy based on information technology for teaching English on developing creative writing skills for university students.

C- Investigating the impact of the proposed strategy based on information technology for teaching English on development of components of the academic self-efficacy among university students.
D- Studying type and level of the correlation between students’ scores in creative writing skills and their scores in academic self-efficacy scale in English.

**importance of the study:**
The theoretical importance of the current study stems from the contemporary local global trends in the development of teaching practices and strategies, besides the transition from traditional teaching to teaching centered on the use of information technology and communication technology tools. It also stems from the fact that writing skills in general and creative writing skills are among the student’s building language skills, also among general objectives of teaching English in the university program, because of their importance for students in writing research and scientific reports, are among the strengths and distinctions of the university student. The practical significance of the study is also determined by the following:

A- It presents to university staff members an information technology-based teaching strategy that explains how to use information technology tools and formulas in a procedural manner in teaching and teaching activities and practices.

B- It is beneficial for university staff members who specialized in English language for developing and measuring students’ creative writing skills in educational programs, considering writing skills as language skills (listening, speaking, reading and writing), with an understanding of how to develop and measure the components of the academic self and its relationship to developing creative writing skills.

C- It offers for the undergraduate students are with the activities included in the teaching scenarios. These educational activities are based on information
technology for the possibility of developing and measuring creative writing skills on their own or directed by faculty members.

D- It provides researchers in the fields of English language teaching and learning a conceptual framework on the development of creative writing skills and the components of the self- academic, and how to develop each of them using a proposed teaching strategy based on information technology, while measuring it with appropriate tools.

**Limitation of the study:**

The current study was limited to the following:

**A- Objective limitations:**

The current study was limited to creative writing skills in three main skills (language skills - production skills - organizational skills) in the three components of creativity (fluency, flexibility and originality). In information technology, it is also limited to the applied aspects of e-learning and mobile learning that are appropriate for learning English language skills.

**B- Human limitations:**

A sample randomly selected from Alzawya EFL university students in the second year in English department who are studying a course (English 2)

**C- Time and place limitations:**

The tools of the current study (educational tools, including the proposed strategy, and data collection tools, including tests of creative writing skills and academic self-efficacy scale) were applied and was conducted in the second
semester in the academic year 1441/1442, on a sample of students from Alzawya university students.

**Hypotheses of the study:**

To answer the questions of the study through extrapolation and analysis of previous studies, the following statistical hypotheses were formulated:

- **The first hypothesis:**
  There are statistically significant hypotheses at level ($\alpha \leq 0.01$) between mean scores of experimental and control groups students in the post application of the creative writing skills test in general and each skill separately in favor of the students of the experimental group.

- **The second hypothesis:**
  There are statistically significant hypotheses at level ($\alpha \leq 0.01$) between mean scores of the experimental group students in the pre and post applications to test creative writing skills in general and each skill separately in favor of the experimental group students.

- **The third hypothesis:**
  There are statistically significant hypotheses at level ($\alpha \leq 0.01$) between mean scores of experimental and control groups students in the post application of the self-academic efficacy scale in general and each dimension separately for the benefit of the experimental group.

- **The fourth hypothesis:**
  There are statistically significant hypotheses at level ($\alpha \leq 0.01$) between mean scores of experimental group students in the two applications, pre-post, of self-academic efficacy scale in general and each dimension separately in favor of the experimental group students.

- **The fifth hypothesis:**
There is a positive correlation between scores of the experimental group students in the post application of the creative writing test and their scores on the self-academic efficacy scale.

**Study Methods and procedures:**

**Method of the study:**

The current study relied on the descriptive analytical approach to describe the variables of the study, and to derive the foundations of the proposed strategy based on information technology for teaching English courses and developing creative writing and -academic self-efficacy skills among university students. The current study depended on the quasi-experimental approach to study the impact of the proposed strategy on developing creative writing and self-academic skills.

**The study sample:**

Sample of the study consisted of 60 students from the second year English department, in two groups, the first is an experimental group (30), and the second is a control group (30). Where the measurement tools were applied before to assert the equality of the two study groups, followed by exposing the experimental group to the teaching strategy based on information technology, while the control group was exposed to the traditional treatments, with the application of measurement tools in the study afterwards to study the effectiveness of the proposed strategy.

**Instruments of the study:**

To achieve the objectives of the current study, the following tools were constructed:

- The suggested strategy based on information technology
To answer the first question: What is the strategy based on information technology for developing creative writing skills and academic self-efficacy in English among university students? Many literature and previous studies on the practices and requirements of developing creative writing skills were analyzed, including (Chen, et.al, 2019), Kostaris, et.al, 2017), Izquierdo, et.al, 2017, Saudi (2017), Musa (2016), and Al-Harbi (2015). Besides, previous studies in the field of applying information technology into teaching and learning processes were analyzed, including the Salem study (2006), Ghanem study (2018), and a group of foundations for building the proposed strategy were extrapolated according to the following:
- The processes of developing creative writing skills in English require training students on self-regulation skills, because of their significant impact on planning, reviewing and self-evaluating the writing process by students.
- The processes of developing and measuring students’ creative writing skills at the university level also require building students’ motivation through a sense of achievement and improving academic self-efficacy, training students to plan written educational situations, and taking responsibility for their learning, with the provision of simulation models and training in creative writing skills, and training on the mental processes associated with thinking and the modification of thought pathways to produce diverse and unique ideas.
- Academic Self efficacy is one of determinants of creative writing skills for students at the undergraduate level, raising their level through interactive teaching strategies, with a supportive environment for the student to self-assume responsibility for his learning and planning his desired educational goals according to his abilities and real experiences.
- Activating information technology is connected to being an integral part of the university learning environment with its human and material components, including programs and courses, besides
the need to provide digital content and educational platforms for students, build educational and knowledge societies from students, faculty members, and make the student the focus of academic work, while diversifying teaching and open sources of knowledge, especially digital.

Components and indicators for measuring creative writing

<table>
<thead>
<tr>
<th>N</th>
<th>skills</th>
<th>Scale indicators</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Fluency in writing</td>
<td>- Writing the largest number of main ideas on a specific topic.</td>
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<tr>
<td></td>
<td></td>
<td>- Writing the largest number of sub-ideas about a main idea.</td>
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<tr>
<td></td>
<td></td>
<td>- Write as many sentences as possible about a sub-idea.</td>
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<td></td>
<td></td>
<td>- Writing the largest number of words according to specific criteria.</td>
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<tr>
<td></td>
<td></td>
<td>Write the largest number of the sentence synonymous for the introductory sentence.</td>
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<td></td>
<td></td>
<td>Writing the largest number of the sentence contradicting with a given sentence.</td>
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<tr>
<td></td>
<td></td>
<td>Write the largest number of synonyms for a specific word.</td>
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<tr>
<td></td>
<td></td>
<td>Write the largest number of anti-words for a specific word.</td>
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<tr>
<td></td>
<td></td>
<td>Write the largest number of solutions for a specific problem.</td>
</tr>
<tr>
<td>2</td>
<td>Flexibility in writing</td>
<td>Writing the largest number of different main ideas about a particular topic or situation.</td>
</tr>
<tr>
<td>3</td>
<td>originality in writing</td>
<td>Writing the largest number of different and distinct main ideas on a particular topic or situation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Write as many different and distinct sub-ideas around a main idea.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Writing the largest number of different and distinct sentences about a specific idea.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Writing the largest number of different and distinct words according to specific criteria.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Write the largest number of the differentiated and</td>
</tr>
</tbody>
</table>
In case of writing open topics, creative writing skills related to the following skills are taken into consideration:

- **Linguistic skills** in creative writing: grammar skills, styles and structures, spelling, punctuation, organizing the content of the topic, coherence of ideas, good style, use of linking tools, accuracy of meaning, with linguistic formulation.

- **Productive skills**: diversity of ideas and their interrelationship, building the topic in a comprehensive, directed introduction, linking paragraphs with main ideas, presenting and explaining the main ideas, and summarizing the topic in a concluding paragraph.

- **Organizational skills**: These skills are related to the need to adhere to writing standards in terms of quantity, writing form and good handwriting as much as possible. These practices are directed to students through educational activities in the proposed strategy for the implementation of the course.

The test included (9) essay questions, which began with questions with short answers, but with open solutions for example, write the largest number synonymous for the word (study). The test also included questions that require building a paragraph around a specific sub-idea, and a long essay topic that requires production and organization. The concentration was on estimating the scores for each question according to the following table (3):

<table>
<thead>
<tr>
<th>N</th>
<th>skills</th>
<th>Scale indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>distinct sentence synonymous with the introductory sentence. Writing the largest number of different and distinct sentences that contradict a given sentence. Write the largest number of different and distinct words that are synonymous with a specific word. Writing the largest number of different and distinct words opposite a specific word. Write as many different and distinct solutions connected to a specific problem.</td>
<td></td>
</tr>
</tbody>
</table>

**Table (3) Estimating the students’ scores in the creative writing skills test**
<table>
<thead>
<tr>
<th>Creative writing skills</th>
<th>Calculating marks</th>
</tr>
</thead>
</table>
| Write the largest number of main ideas on a specific topic.  
Write the largest number of sub-ideas around a main idea.  
Write the largest number of sentences about a sub-idea.  
Write the largest number of words according to specific criteria.  
Write the largest number of the sentence synonymous with the introduction contradicting sentence.  
Write the largest number of the sentence with a given sentence.  
Write the largest number of synonyms for a specific word.  
Write as many anti-words for a given word.  
Write as many solutions as possible to a specific problem. |
| **Fluency**: a score for each idea, sentence, or word.  
**Flexibility**: a score for each different idea, sentence, or word.  
**Originality**: A score for each idea, sentence, or word that is less than 5% common among students. |

The test was written in its initial form, as the test included two parts, the first was linked to the basic data of the students and included instructions for applying the test and response instructions, and the second part included the test vocabulary.

**The validity and reliability of the test.**
Since validity indicates that the tool measures what it used to assess and the correlation of vocabulary with the objective of the test, the test was presented to (6) specialists in language acquisition, teaching methods and psychometrics, in order to examine the extent to which vocabulary is related to measuring creative writing skills, the suitability of vocabulary for a Study sample, and express an opinion on the linguistic formulation of the test vocabulary. Some observations were made according to the
opinions of the jury members. To measure the internal consistency of the test vocabulary, the test was conducted on a sample of (33) besides the basic sample of the study, and the Pearson correlation coefficient was calculated between the skill score in each question and the total score of the main skill.

The values of the correlation coefficient varied between the two values (0.627-0.809), which are function values at the level (0.01) and values that indicate a positive correlation that varied between a medium and strong positive relationship, besides a high level of internal consistency of the test items was adopted. The stability of the test was also measured using the alpha coefficient Cronbach, and the results are as in the following table (4):

Table (4) Cronbach's alpha coefficients to measure the stability of the creative writing skills test

<table>
<thead>
<tr>
<th>n</th>
<th>Creative writing skills</th>
<th>Items number</th>
<th>Cronbach's alpha coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fluency in writing</td>
<td>9</td>
<td>0.843</td>
</tr>
<tr>
<td>2</td>
<td>Flexibility in writing</td>
<td>9</td>
<td>0.819</td>
</tr>
<tr>
<td>3</td>
<td>Originality in writing</td>
<td>9</td>
<td>0.757</td>
</tr>
<tr>
<td></td>
<td>Total Creative Writing Skills</td>
<td>9</td>
<td>0.859</td>
</tr>
</tbody>
</table>

Table (4) shows that the values of Cronbach's alpha coefficients are acceptable, indicating the validity of the test for use in the current study. The test was constructed in the final form applicable to field experimentation.

**Academic self-efficacy scale:**
Studies that connected with self-concept and its components and academic -efficacy were extrapolated and analyzed, including (Peiffer, et.al, 2019) (Gorges & Hollmann, 2019), which indicated the possibility of building a scale to measure academic self-efficacy. The scale aimed to measure university student's level of
self-efficacy in English which is related to his level of motivation and enthusiasm in learning English and building language skills: academic writing, measuring the student's level of confidence in his own abilities, and the extent to which he developed his habits of studying English lessons. The content of the scale was related to a group of dimensions as in the following table (5).

**Table (5) Describe the dimensions of the academic self-scale in English.**

<table>
<thead>
<tr>
<th>N</th>
<th>dimensions</th>
<th>Operationally description</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student self-motivation to learn</td>
<td>Student motivation to learn English, the level of attention and enthusiasm in performing educational tasks and activities.</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>student's confidence in the ability to achieve</td>
<td>student’s confidence in his abilities and previous experiences in English, and his confidence in efficiency of English teaching practices in improving his achievement levels.</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Perseverance and continuity in learning</td>
<td>student’s attempt to learn and face failure, continuity of effort, and search for different ways and methods in building language skills.</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Self-regulation of learning and recall habits</td>
<td>student’s ability to plan learning processes, study and meet his needs, assimilate his learning styles, methods for recalling and retrieving educational experiences.</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td><strong>Academic self-efficacy scale</strong></td>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>

items of the scale was written, taking into consideration its diversity in a positive, negative way, and the five-point Likert scale (always = 5 degrees, often = 4 degrees, sometimes = 3 degrees, rarely = 2 degrees, never = 1 degree) was used in the positive items, and the scale was written in its initial form, which consists of two parts, the first part included the student's data and instructions for applying
the scale and responding to its items, while the second part included items of the scale.

**Validity and stability of the scale:**

To measure the apparent validity of the scale, the scale was presented to a group of jury members to express their opinion about the correlation of the scale’s items with the axis that falls below it, the item's correlation with the academic self-scale as a whole, and the appropriate duration of the scale for learning English in university, while ensuring linguistic accuracy.

In light of opinions of the jury members, observations were conducted, and the scale was applied on a sample of (33) students English department, and the degree of each individual and the total score for the axis was calculated, and the Pearson correlation coefficients were limited between the values (0.581 - 0.877), and awareness of values indicating that there is a positive correlation varied between medium, high, , it is statistically significant at the level (α≤0.01) and indicates the internal consistency of the scale items. To measure the stability of the scale, Cronbach's alpha coefficients were calculated for their suitability for one application, and the results were as in the following table (6).

**Table (6) Cronbach's alpha coefficients to measure the stability of the academic self-scale**

<table>
<thead>
<tr>
<th>Cronbach's alpha coefficients</th>
<th>Number of items</th>
<th>Dimensions of academic self scale</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.653</td>
<td>5</td>
<td>Self-motivation to learn</td>
<td>1</td>
</tr>
<tr>
<td>0.823</td>
<td>7</td>
<td>Confidence in ability to accomplish</td>
<td>2</td>
</tr>
<tr>
<td>0.774</td>
<td>6</td>
<td>Perseverance and continuity in learning</td>
<td>3</td>
</tr>
<tr>
<td>0.801</td>
<td>7</td>
<td>Self-regulation of learning and recall</td>
<td>4</td>
</tr>
</tbody>
</table>
Table (6) shows that the values of Cronbach's alpha coefficients are acceptable, indicating the validity of the academic self-scale for practical application in the current study. The scale was constructed into the final form applicable to field experimentation.

**practical Application Procedures:**

procedures practical application were conducted in in the first semester of the academic year 1439/1440 AD, on course (English 102), for students of the second year at the university. The practical application procedures began with the pre-application of the research tools to ensure that the experimental and control groups were equal, and the results of the pre-application were as follows:

**Table (7) Arithmetic averages, standard deviations, and t-test results for the two uncorrelated groups to study the differences between scores of the experimental and control groups in the pre-application of the creative writing skills test**

<table>
<thead>
<tr>
<th>Statistical significance</th>
<th>degrees of freedom</th>
<th>T-value</th>
<th>Standard deviation</th>
<th>arithmetic average</th>
<th>sample</th>
<th>group</th>
<th>Creative writing skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.127</td>
<td>60</td>
<td>1.548</td>
<td>1.019</td>
<td>9.156</td>
<td>30</td>
<td>control</td>
<td>Fluency in writing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.915</td>
<td>9.531</td>
<td>30</td>
<td>control</td>
<td></td>
</tr>
<tr>
<td>0.571</td>
<td>60</td>
<td>0.570</td>
<td>0.840</td>
<td>2.563</td>
<td>30</td>
<td>control</td>
<td>Flexibility in writing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.913</td>
<td>2.438</td>
<td>30</td>
<td>control</td>
<td></td>
</tr>
<tr>
<td>0.499</td>
<td>60</td>
<td>0.680</td>
<td>0.718</td>
<td>1.001</td>
<td>30</td>
<td>control</td>
<td>Originality in writing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.751</td>
<td>1.125</td>
<td>30</td>
<td>control</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>60</td>
<td>0.837</td>
<td>1.727</td>
<td>12.791</td>
<td>30</td>
<td>control</td>
<td>Total test</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.855</td>
<td>13.094</td>
<td>30</td>
<td>control</td>
<td></td>
</tr>
</tbody>
</table>

Table (7) assured that the arithmetic averages converge between the students of the experimental and control groups in the creative
writing skills test in general and its skills. As it is clear from the calculated (T) values that the differences are not statistically significant at the level of significance (α ≤ 0.01) in the test in general and its skills separately. This indicates that the students of the experimental and control groups are equal in previous experiences related to creative writing skills before the experiment and application of educational materials.

Table (8) Arithmetic averages, standard deviations, and t-test results for the two uncorrelated groups to study the differences between the scores of the experimental and control groups in the pre-application of the creative writing skills test

<table>
<thead>
<tr>
<th>Statistical significance</th>
<th>degrees of freedom</th>
<th>T-Value</th>
<th>arithmetic average sample</th>
<th>group</th>
<th>Dimensions of academic self-efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.796</td>
<td>60</td>
<td>0.260</td>
<td>1.450</td>
<td>9,656</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.436</td>
<td>9,750</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>control</td>
</tr>
<tr>
<td>0.630</td>
<td>60</td>
<td>0.485</td>
<td>1.651</td>
<td>12,718</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.437</td>
<td>12,531</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>control</td>
</tr>
<tr>
<td>0.817</td>
<td>60</td>
<td>0.232</td>
<td>1.727</td>
<td>11,281</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.490</td>
<td>11,168</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>control</td>
</tr>
<tr>
<td>0.807</td>
<td>60</td>
<td>0.246</td>
<td>1.717</td>
<td>12,781</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.306</td>
<td>12,688</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>control</td>
</tr>
<tr>
<td>0.702</td>
<td>60</td>
<td>0.384</td>
<td>3.330</td>
<td>46,438</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2,464</td>
<td>46,156</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>control</td>
</tr>
</tbody>
</table>

Table (8) explain the convergence of the arithmetic averages between the students of the experimental and control groups in the measure of academic self-efficacy in general and in each axis separately, as it is clear from the calculated (T) values that the differences are not statistically significant at the level of
significance ($\alpha \leq 0.01$) in degrees of freedom (62) in scale in general also in its dimensions separately, which indicates the equality of students of experimental and control groups in the levels of academic self-efficacy before the experiment and the application of educational materials.

After verifying the equivalence of experimental and control study groups, the practical application procedures were completed and the two study groups were subjected to treatments, where the experimental group was exposed to teaching course using the proposed strategy, while the control group was exposed to the usual strategy. It was noticed that the experimental group students a high degree of enthusiasm, motivation and attention, especially in the educational activities included in the strategy and related to the development of creative writing skills, in addition to the inclusion of the strategy into research and thinking processes that fit their needs.

The experiment procedures were carried out throughout the semester, at the end of the experiment, the creative writing skills test and the academic self-efficacy scale were applied after in preparation for studying the differences and studying the impact of the proposed strategy based on information technology in developing creative writing skills and developing students’ academic self-efficacy levels.

**Statistical processing:**

To answer the questions of the current study and test the validity of its hypotheses, the study relied on a set of descriptive and inferential (parametric) statistical treatments, including:

- **Descriptive treatments:** the arithmetic mean and standard deviation manipulations to describe the data.
- **Inferential treatments:** to measure statistical significance: The t-test for two uncorrelated groups was used to study the differences between the experimental and control groups, and the t-test for the
two related groups to study the statistical significance differences between the pre and post applications.

- **Measurement of educational significance:** Using the effect size to study the significance and educational importance of the independent variable in the development of dependent variables, and Pearson correlation coefficient test was used to study the type and degree of correlation between creative writing skills and academic self-efficacy, in addition to using the coefficient of determination to study the educational importance of the type and degree of correlation.

- Treatment tools for measuring the validity and reliability of the study tools: Pearson correlation coefficient and Alpha Cronbach coefficient.

**Presentation and discussion of the study results:**

To answer the study questions, the second question: What is impact of information technology-based strategy on developing creative writing skills for university students? The following hypotheses were tested:

**Hypothesis one:** There are statistically significant hypotheses at level \( \alpha \leq 0.01 \) between the mean scores of experimental and control groups students in the post application of the creative writing skills test in general and each skill separately in favor of the students of the experimental group. To test the validity of the hypothesis, the arithmetic means and standard deviations were calculated, and the value of \( (T) \) was calculated for the two uncorrelated groups as follows:

Table (9) Arithmetic averages, standard deviations, and t-test results for the two uncorrelated groups to study the differences between scores of the experimental and control groups in the post application of the creative writing skills test
<table>
<thead>
<tr>
<th>Effect size</th>
<th>Statistical significance</th>
<th>degrees of freedom</th>
<th>T-value</th>
<th>standard deviation</th>
<th>arithmetic average</th>
<th>sample size</th>
<th>group</th>
<th>Creative writing skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.30 9</td>
<td>0.000**</td>
<td>60</td>
<td>35.69 4</td>
<td>2.563</td>
<td>31.406</td>
<td>30</td>
<td>experimental</td>
<td>Fluency in writing</td>
</tr>
<tr>
<td>5.40 8</td>
<td>0.000**</td>
<td>60</td>
<td>30.59 6</td>
<td>2.577</td>
<td>21.469</td>
<td>30</td>
<td>experimental</td>
<td>Flexibility in writing</td>
</tr>
<tr>
<td>5.57 1</td>
<td>0.000**</td>
<td>60</td>
<td>29.25 6</td>
<td>1.218</td>
<td>9.250</td>
<td>30</td>
<td>experimental</td>
<td>Originality in writing</td>
</tr>
<tr>
<td>9.11 1</td>
<td>0.000**</td>
<td>60</td>
<td>51.54 4</td>
<td>4.022</td>
<td>62.125</td>
<td>30</td>
<td>experimental</td>
<td>Total Test</td>
</tr>
</tbody>
</table>

According to Table (9) that there are differences between the arithmetic averages in scores of experimental and control groups students in favor of the experimental group students in testing creative writing skills in general and in each skill separately ($\alpha \leq 0.01$) with degrees of freedom (62). Therefore, it is possible to accept the first oriented hypothesis.

- There are statistically significant hypotheses at level ($\alpha \leq 0.01$) between the mean scores of the experimental and control groups students in the post application in creative writing skills test in general and each skill separately in favor of the experimental group students.

To measure the educational benefits or practical significance, the effect size was calculated to investigate the impact of the independent variable (the proposed strategy based on information technology) on development of dependent variable (creative writing skills) in case of the two unrelated groups.

Table (9) assured that the effect size is greater than the correct one (Murad, 2011, 244), which indicates the large size of the educational importance or the impact of the independent variable.
on the development of dependent variables, and indicates the importance of using the strategy based on information technology in teaching English And its impact on developing creative writing skills in general and their skills separately.

**The second hypothesis:** There are statistically significant hypotheses at the level \( \alpha \leq 0.01 \) between the mean scores of the experimental group students in the pre and post applications to test creative writing skills in general and each skill separately in favor of the experimental group students. To examine the validity of the hypothesis, value of \( (T) \) was calculated for the two related groups as follows:

**Table (10) Arithmetic averages, standard deviations, and t-test results for the two related groups to examine the differences between the experimental group scores in the pre and post applications of creative writing skills test**

<table>
<thead>
<tr>
<th>Creative writing skills</th>
<th>Pre-mark standard deviation</th>
<th>Pre-mark arithmetic average</th>
<th>Post-mark standard deviation</th>
<th>Post-mark arithmetic average</th>
<th>T-value</th>
<th>degrees of freedom</th>
<th>Statistical significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency in writing</td>
<td>1,019</td>
<td>9,156</td>
<td>2,563</td>
<td>31,706</td>
<td>0,074</td>
<td>44,500</td>
<td>0,000**</td>
</tr>
<tr>
<td>Flexibility in writing</td>
<td>0,840</td>
<td>21,469</td>
<td>2,577</td>
<td>21,469</td>
<td>0,232</td>
<td>42,456</td>
<td>0,000**</td>
</tr>
<tr>
<td>Originality in writing</td>
<td>0,718</td>
<td>9,250</td>
<td>1,218</td>
<td>9,250</td>
<td>0,221</td>
<td>36,474</td>
<td>0,000**</td>
</tr>
<tr>
<td>Total test</td>
<td>1,727</td>
<td>12,719</td>
<td>4,022</td>
<td>62,125</td>
<td>0,120</td>
<td>61,237</td>
<td>0,000**</td>
</tr>
</tbody>
</table>

Table (10) explain that there are differences between arithmetic averages in the scores of the experimental group students between the two applications, the pre and post applications, in favor of the post application’s scores in testing creative writing skills in general and in each skill separately. By extrapolating T-values of the two calculated correlated groups, the statistical significance of these differences is evident at the level \( \alpha \leq 0.01 \) with degrees (31) of freedom therefore, it is possible to accept the second directed hypothesis:
- There are statistically significant hypotheses at level ($\alpha \leq 0.01$) between the mean scores of the experimental group students in the pre and post applications in creative writing skills test in general and each skill separately in favor of the experimental group students.

To measure the educational importance or practical significance, the effect size was calculated to investigate the impact of the independent variable (the proposed strategy based on information technology) on development the dependent variable (creative writing skills), in the case of the two interrelated groups. Table (10) asserts that the effect size is greater than one, which indicates the large size of the educational importance or the impact of independent variable on the development the dependent variables, and indicates the importance of using the strategy based on information technology in teaching English and its impact on developing creative writing skills as a General and their skills separately.

To answer the third question: What is the impact of information technology-based strategy on academic self-development in English for university students? The two following hypotheses were examined:

The third hypothesis: There are statistically significant hypotheses at level ($\alpha \leq 0.01$) between the mean scores of experimental and control groups students in the post application of the academic self-efficacy scale in general and each dimension separately in favor of the students of the experimental group. To examine the validity of the hypothesis, the arithmetic means and standard deviations were calculated, and the value of ($T$) was calculated for the two uncorrelated groups as follows:

Table (11) Arithmetic averages, standard deviations, and t-test results for the two uncorrelated groups to study the differences between scores of the experimental and control groups in the post application of the academic self-efficacy scale.
According to Table (11) there are differences between arithmetic averages in students' scores in experimental and control groups in favor of experimental group students in the academic self-efficacy scale in general and in each skill separately. By extrapolating the computed T-values in the case of two unrelated groups, the statistical significance of these differences is evident at the level ($\alpha \leq 0.01$) with (62), degrees of freedom. Therefore, it is possible to accept the third directed hypothesis:

- There are statistically significant hypotheses at level ($\alpha \leq 0.01$) between mean scores of experimental and control groups students in the post application of the academic self-efficacy scale in general and each dimension separately for the benefit of the experimental group.
For measuring the educational benefits or practical significance, the effect size was calculated to investigate the impact of the independent variable (the proposed strategy based on information technology) on development the dependent variable (academic self-efficacy) in case of the two unrelated groups.

Table (11) explain that effect size is greater than one, which indicates the large size of educational importance or the impact of the independent variable on the development of dependent variables, and indicates the importance of applying the strategy based on information technology in English and its impact on developing academic self-efficacy as General and its dimensions separately.

The fourth hypothesis: There are statistically significant hypotheses at level (α ≤ 0.01) b,406etween the mean scores of the experimental group students in the two applications, pre and post, of the academic self-efficacy scale in general and each dimension separately in favor of the experimental group students. To examine the validity of hypothesis, the of (T) value was calculated for the two related groups as follows:

Table (12) arithmetic averages, standard deviations, and t-test results for the two interrelated groups to study the differences between the experimental group scores in the pre and post applications of the academic self-efficacy scale.
Table (12) explain that there are differences between the arithmetic averages in the scores of the experimental group students between the two applications, the pre and post applications, in favor of the marks of the post application in the academic self-efficacy scale in general and in each skill separately at level (α ≤ 0.01) with degrees of freedom (31), so it was possible to accept the fourth directed hypothesis.

There are statistically significant hypotheses at level (α ≤ 0.01) between the mean scores of the experimental group students in the two applications, before and after in the academic self-efficacy scale in general and each dimension separately in favor of the experimental group students.

To measure the educational importance or practical significance, the effect size was calculated to investigate the impact of the independent variable (the proposed strategy based on information technology) on the development of the dependent variable (academic self-scale), in the case of the two interrelated groups, and it is clear from Table (12) that the effect size is greater than unity, which indicates the great size of the educational importance or the impact of the independent variable on development of the dependent variables, and indicates the importance of using the strategy based on information technology in teaching English and
its impact on the development of academic self-efficacy in general and its dimensions separately.

**fourth question answer:** What is the type and level of the correlation between students’ scores in creative writing skills and their scores on the Self-Academic Scale in English? The following hypothesis was tested:

The fifth hypothesis: There is a positive correlation between scores of experimental group students in the post application of the creative writing test and their scores on the academic self-efficacy scale. To examine the validity of the hypothesis, Pearson correlation coefficient was calculated. The results were as in the following table (13):

Table (13) Pearson correlation coefficient to study the correlation between the scores of the experimental group students in the post application for testing creative writing skills and their scores in the academic self-efficacy scale.

<table>
<thead>
<tr>
<th>The coefficient of determination</th>
<th>Indication level</th>
<th>type and degree</th>
<th>Pearson correlation coefficient</th>
<th>sample</th>
<th>relationship dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,968</td>
<td>0,000</td>
<td>strong positive</td>
<td>0,984</td>
<td>32</td>
<td>Creative writing skills-Academic self-efficacy</td>
</tr>
</tbody>
</table>

Table (13) explains that there is a strong positive correlation between scores of the experimental group students in the post application of the creative writing skills test and their scores in post application of the academic self-efficacy scales shown in Table (12) the statistical significance of the correlation at the level (α≤ 0.01). Through the current result, it was possible to accept the fifth hypothesis: There is a positive correlation between the scores of the experimental group students in the post application of the creative writing test and their scores on the academic self-efficacy scale.
In order to study the educational significance of the positive and strong correlation, the coefficient of determination or the correlation ratio between two variables was calculated, which represents the ratio of covariance between two dependent variables. The coefficient of determination was calculated by finding the square of the correlation coefficient. Table (12) shows that 96.8% of the variance of one of the two dependent variables (creative writing skills or self-academic efficacy) can be explained with the knowledge of the second variable, while the remaining percentage (3.2%) is attributed to other variables. The covariance ratio between the two variables indicates the strong relationship also the possibility of explaining each of two variables to the other.

According to the previous, the study reached to answer the study questions and concluded the following:

- There are statistically significant differences at level \( \alpha \leq 0.01 \) between the mean scores of the experimental and control groups students in the post application in test creative writing skills in general and each skill separately in favor of the students of the experimental group.

- There are statistically significant differences at level \( \alpha \leq 0.01 \) between the mean scores of the experimental group students in the pre and post applications for creative writing skills test in general and each skill separately in favor of the experimental group students.

- There are statistically significant differences at level \( \alpha \leq 0.01 \) between the mean scores experimental and control group students in the post application of the academic self-efficacy scale in general and each dimension separately in favor of the students of the experimental group.
- There are statistically significant differences at level \( \alpha \leq 0.01 \) between the mean scores of the experimental group students in the pre and post applications of the academic self-efficacy scale in general and each dimension separately in favor of the experimental group students.

- There is a positive correlation between the experimental group students' scores in the post application of the creative writing test and their scores on the academic self-efficacy scale.

The previous result is attributed to the proposed strategy based on information technology, as it allowed designing discussion and brainstorming sessions with students to activate previous experiences, activate them mentally to produce ideas on a specific topic and identify main and subsidiary ideas. This stage also allowed students to assimilate the standards of writing in the linguistic, organizational and production aspects. It also directed the students to make knowledge trips across the web for free viewing on a specific topic, and to build the student’s abilities to produce ideas characterized by fluency, flexibility and originality.

The proposed strategy also provided training students on writing framework, also how to plan writing a topic or scientific or literary article before writing, besides evaluate it through a digital exhibition that provides the opportunity for reading and criticism, which enhances the modification of thinking paths, and this process helps in developing original ideas, taking into account Bearing in mind that these information technology-based practices increase the levels of attention, motivation and self-confidence of students, which supports the development of creative writing skills and the development of levels of academic self-efficacy.

**Recommendations of the Study:**

Through the importance and results of the study, the following recommendations were formulated:

- Planning professional development programs for university staff members in light of the use of information technology to build
capacities about its use in teaching in general, and teaching English courses at university level in particular.

- Building the capacities of university staff members specialized in teaching English language courses in developing and measuring creative writing skills as one of language building skills, with the necessity to focus on developing and measuring dimensions of academic self-efficacy.

- Inclusion English courses in educational situations, activities and exercises based on information technology to develop and measure creative writing skills, with the importance of linking them to the development and measurement of academic self-efficacy dimensions among students at the university level.

- Planning practices for developing and measuring academic self-efficacy with its dimensions as one of the directives to improve levels of achievement in many academic skills, including creative writing skills in the English.

References


Chong, S., & Lee, C.-S. (2012). Developing a pedagogical-technical framework to


