



RESEARCH ARTICLE

The Level of Self-Regulation among Talented Upper Basic Stage Students in King Abdullah II Schools for Excellence and its Relationship to their Creative Self-Efficacy

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ARTICLE INFO	ABSTRACT
Received: May 17, 2024 Accepted: Jul 20, 2024	The study aimed to identify the level of self-regulation of talented upper basic stage students in King Abdullah II Schools for Excellence and its relationship to their creative self-efficacy, and to reveal the effect of the variables: gender and grade on it. To achieve the objectives of the study, the descriptive correlative approach was used. The study sample consisted of (146) gifted male and female students in King Abdullah II Schools for Excellence during the second semester of the academic year 2021/2022, they were selected by simple random method. The second, for the creative self-efficacy measure, consisted of (20) paragraphs, and the validity and reliability of the tool were confirmed. The results of the study showed that the level of self-organization and creative self-efficacy of talented upper basic stage students in King Abdullah II Schools for Excellence came at a high level. The results also showed the absence of any statistically significant differences in the dimensions of cognitive organization, as well as the dimensions of creative self-efficacy due to the variable of gender and grade among gifted students. The results also showed the existence of a direct correlation between the self-regulation and creative self-efficacy of gifted students in the upper basic stage and its dimensions. In light of the findings of the study, the researcher recommended several recommendations, including: revealing and exploiting the creative aspects of gifted students. Paying attention to activities that would improve the creative aspects of gifted students.
Keywords Self-Organization Creative Self-Efficacy Talented Upper Basic Stage Students King Abdullah II Schools for Excellence	
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INTRODUCTION

Allah Almighty has blessed man with multiple abilities, capabilities, and talents that vary from one to another, qualifying him to adapt to the surrounding environment in order to succeed the earth and rebuild it, each according to his abilities, talents, and capabilities. Creative human minds are distinguished by many features and high capabilities. Such as speed of understanding and conclusion, information management, the ability to scientific evaluation, the high ability to take courage and risk in research and development, creativity and innovation... and other abilities that creative and talented individuals possess (ELadL & PolpoL, 2020).

In this sense, interest in caring for talented students has grown in many Arab countries, as well as in developed countries, as these countries have realized that the talented are their repertoire that must be preserved. Cultural superiority is achieved by the hands of a few with talent and creativity who

possess extraordinary abilities if they have them. Early care and appropriate conditions (Jarwan, 2021).

Al-Darabkeh (2018: 31) defines the talented as: “one who excels in one or more special abilities.” While Al-Rababa (2023: 102) defined the talented as “one who has excelled in one or more special abilities, or one who has reached a high level of performance in a field of non-academic fields, such as the arts, sports, craft fields, or social skills, and so on.” It is one of the fields that is considered to be unrelated to intelligence and its measurement. Talented students “are those who are identified by specialized professionals, and the talented is the one who provides outstanding performance when compared to other students in the age group to which he belongs” (Wright & Ford, 2017).

The researcher believes through her review of many definitions of talent and the talented, and from her scientific experience in talented centers, that the talented are those who excel in their performance in academic and non-academic fields, and in order for their talent to appear in any field of life, they need guidance, reinforcement, and assistance, to solve their problems and create the appropriate environment for them. In order to show their mental and creative abilities, which distinguish them from other ordinary people.

Self-regulation among talented students is one of the most prominent topics addressed by theorists, scholars, and specialists in educational psychology at the present time. The importance of self-regulation among talented students lies in the type of student seeks to form. The self-regulated student has the ability to monitor his performance, identify and apply appropriate strategies, and be driven towards learning for the sake of learning (Habiba, Akhler & Batool, 2019). In this regard, Al-Hilat and others (2015) consider that the process of self-regulation is not limited to acquiring knowledge, skill, and solving problems only, but at the same time constitutes a basic goal in the long-term learning process, and it is a comprehensive theory that emphasizes, in addition to metacognitive processes, Processes of control and monitoring of motivation, behavior, and affective behavior in the self-regulated individual.

Self-regulation has emerged as one of the cognitive terms to which many researchers have paid great attention, and this vision has played a major role in developing the educational process. (Zimmerman,1990) defined that self-regulation: “is an organized mental and cognitive process in which the individual learner is an active participant during the educational process until his goal of learning is achieved.”

Tortop (Khalid & Jasim, 2019) defined self-regulation as a process in which the educated individual maintains a level of perceptions, behaviors, and emotions directed toward achieving certain objectives and is motivated toward achieving some of the objectives, so he carries out self-regulatory activities that he believes will help them achieve his objectives.

While Al-Hilat and others (2015: 360) defined it as the ability of a self-organized individual to learn and be self-motivated, at the same time knowing his capabilities and limits, and based on this knowledge, he controls and organizes the learning processes, adjusts them to suit his important objectives, and adjusts them based on the context in order to Improves performance and skills during practice.

In light of these definitions, the researcher considers that self-regulation is the learner’s effort to improve and direct preparation and processing with the aim of raising the level of his learning, through controlling his resources and setting his objectives and expectations for success and deep cognitive integration.

Al-Ayesh Hadar (2022) points out that students who have high levels of self-regulation are characterized by a set of characteristics, are: (their ability to use cognitive strategies (using details, listening, organizing).) and their ability to plan, control, and direct their mental processes towards

achievement and achieving their personal goals. (Metacognition). They also show a set of beliefs about their motivation and adaptive emotions, such as their sense of self-efficacy, adopting educational goals, and developing positive feelings towards the task (pleasure, satisfaction, enthusiasm), as well as the ability to control and modify it according to the requirements of the task and the educational situation in addition to their ability to apply a set of optional strategies that protect them from internal and external distractions and maintain their focus and effort during the task (Saifan, H. & Alsrour, 2019). They also have the ability to self-esteem and self-confidence, in various educational situations and are skilled in confronting various problems. They also have the ability to complete tasks successfully, especially those that require some kind of challenge and result in new, meaningful learning. Students who have a high level of self-regulation show great effort in controlling and organizing academic tasks and in the actual environment (how the assessment will be done, task requirements, organization of group work, design of actual meals). They self-evaluate performance outcomes against certain criteria, and if they find a discrepancy between desired performance and actual performance, they adjust learning activities. They use feedback (test scores, teacher or peer writing) when they self-evaluate performance. They are also aware of their academic strengths and weaknesses, and of the strategies they use in the classroom to meet challenging skill requirements. They direct all their efforts to acquiring skills and knowledge, instead of relying on teachers, parents... and others.

Abdel Hamid (2020) states that there are six dimensions of student self-regulation; the first dimension is represented by the question "Why do I learn?" This dimension refers to the student's motivation to self-organize his education. In order for the student to become self-organized, he must be able to choose tasks and participate in them effectively. The second dimension is the question "How?" This dimension refers to the student's method of self-organization, and focuses on giving the freedom to the student to choose from among multiple strategies that are appropriate to his abilities on the one hand, and that are consistent with the requirements of the task on the other hand. As for the third dimension: "When?" This dimension refers to the time for self-regulation. As the student advances in the classroom level, he becomes more independent in organizing and controlling his learning time. The student who has a high level of self-regulation is more effective in planning his time than other students with low self-regulation. The fourth dimension is represented by the question "What?" It is linked to the behavioral performance of the student who has a high level of self-regulation. In order for the student to reach this level of self-regulation, he must personally be able to choose, adapt, change, and modify his responses to suit the requirements of the task, and in light of the performance outcomes he reaches, so that all of this happens. In conjunction with the feedback resulting from these responses. The fifth dimension relates to the question "Where?" It refers to the way in which the student organizes his educational environment, whether with regard to the place of learning, or the use of some educational means to perform various tasks, although the student with self-regulated learning may face difficulties in organizing his environment due to crowding, noise, or lack of means. However, it is often characterized by its ability to adapt to the environmental conditions surrounding it as a result of its awareness of it and its ability to control it organizationally. Regarding the sixth dimension: the question "with whom?" This dimension refers to the social dimension of self-regulated learning, which is the characteristic that appears in the student who has high self-regulation, as he is aware of the possibility of receiving help from others, and is aware of the way and manner of initiating a request for help, and is fully aware of the model that others choose to request, assistance from peers or teachers.

Al-Jarrah (2010) mentions that there is a model provided by Purdie, which includes four components of student self-regulation, which are: The first component: (goal setting and planning); It relates to the student's ability to set his general and private objectives, his ability to plan them according to a specific timetable, and to carry out activities related to achieving those objectives. The second

component: (the ability to keep records and monitor); It relates to the student's ability to monitor and record the activities he undertakes to achieve his objectives, and then record the results he reaches. The third component: (recitation and memorization); This component relates to the student's ability to memorize the material by listening to it aloud or silently. Regarding the fourth component: (Request for social assistance): The student's ability to turn to a family member, teacher, or colleague with the aim of obtaining assistance to understand the educational material or to perform assignments.

There are many creative qualities that distinguish talented students. Although there are some unique characteristics of each talented individual; Such as a love of inquiry, fluency, flexibility, and originality of thinking, in addition to a high ability to imagine and manipulate ideas, a love of discovery, a high sensitivity to beauty, and strength in opinions and beliefs. Bandura (1977) proposed the concept of self-efficacy, which represents the individual's expectations and beliefs that enable him to carry out any private action successfully. Individuals who have a greater degree of perceived self-efficacy perform better on many types of tasks compared to those who have a lower degree of self-efficacy (Beck, 2004).

Bandura (2007) believes that self-efficacy is a state of motivation through which an individual's self-esteem is measured for carrying out certain actions to achieve some of his objectives. Self-efficacy is not concerned with the capabilities the individual possesses, but rather is concerned with his beliefs about what he can do, and represents the cognitive theme for operations.

Interest in creative self-efficacy began at the beginning of the current century with a number of researchers such as Tierney and Farmer (2002) and Phelan (2001), and their work helped establish theoretical and experimental justifications to confirm that creative self-efficacy is related to effort. And the mental risk necessary for creative expression, such as expressing new and useful ideas, and generating solutions and outcomes. In any case, the topic of creative self-efficacy still needs more research. Although it is necessary for an individual to have the creative ability for creative expression, it is not sufficient to produce creative outcomes. Creative expression - like other forms of behavior - is affected by the individual's subjective judgments about his abilities to generate new ideas and distinctive and useful creative products, and these subjective judgments indicate the individual's creative self-efficacy. Therefore, building an individual's creative self-efficacy differs from building general self-efficacy, as is the case for the field of creativity, which differs from other fields (Wright & Ford, 2017).

Bandura (1997) defined creative self-efficacy as an individual's perception of his ability to perform creative behavior successfully in a specific environment. Tierney and Farmer's definition (2002) is similar to Bandura's definition of creative self-efficacy. He defined it as an individual's confidence in his ability to achieve creative results. While Phelan (2001) defined it as an individual's view and beliefs about his personal creative ability and energy; To achieve desired improvements, innovations and changes. Tan and others (Tan, et al, 2011) consider creative self-efficacy as an individual's self-evaluation through his assessment of his creative potential, which particularly includes his vision of himself as being able to confront problems, solve them in a creative way, and come up with new ideas.

In light of this, the researcher believes that the individual's creative self-efficacy appears to provide effective and strong beliefs that work to enhance his level of perseverance, and direct him towards efforts that ultimately lead to an increasing growth in their confidence in his creative abilities.

There are two main areas of the individual's creative self-efficacy, which Abbott (2010) identified as: **(The field of self-efficacy in creative thinking:** which represents the effectiveness of the individual's internal mental state, such as his expression of creativity through creative thinking skills: fluency, originality, flexibility... etc., which enable the individual to produce new and appropriate ideas. **The field of self-efficacy in creative performance:** It represents the effectiveness of the

individual's external social state, such as his expression of creativity through his internal and external systems that interact with each other during creative performance, such as motivation, personality, mood, and self-organization....etc..

The importance of the creative self-efficacy among talented students is highlighted in that it plays a decisive role in promoting innovation. It can also be enhanced by improving the classroom climate, or by the teacher's continuous support for the behavior of his students. Enhancing the creative self-efficacy among students also depends on the teacher's awareness of the creativity process and its frameworks. Scientific and practical. Because gifted students are considered society's human wealth that must be discovered, many researchers have pointed out that; Al-Rashidi (2015) pointed out that society must exploit their energies and invest them for the benefit of society's progress and development in various aspects of life, in which the mind and creativity have become the ruler, because the conflict exists between societies depending on the minds of their children, to reach a scientific, cognitive and technological breakthrough that guarantees them leadership and leadership. Especially since the ultimate goal of education at the present time is to develop creativity and thinking of all kinds, and from here comes the role of education in preparing creative students. They are able to learn by using thinking in the search for knowledge and solving the problems they face in their lives. The methods and methods of learning and teaching students according to traditional methods that revolve around the skills of memorization, understanding, assimilation and remembering are no longer sufficient. Rather, this stage has passed, and the student can no longer He depends entirely on the teacher or the book. Rather, he is forced to rely on his own effort and self-learning to obtain the information, knowledge, and events he needs. Self-learning, in its various ways, has become a practical method that keeps pace with modern trends in education.

Previous studies

Despite the presence of theoretical framework for the variables of this study, the researcher, through her extensive research in libraries and websites, found that there is a lack of studies that addressed the direct relationship between the variables of the current study, which enhances its originality and novelty of the study. These studies have been presented and classified according to their chronology, from newest to oldest:

Al-Ghamdi (2019) aimed to determine the degree of self-regulation among the study sample of talented students in the middle school. And identifying the degree of creative performance among the study sample of talented students in the middle stage. As well as identifying the effect of self-regulation on creative performance among the study sample of talented students in the middle stage. The descriptive, correlational approach was used. Through the questionnaire. The study sample consisted of (76) talented students in the middle stage in boys' schools in the Al-Baha region in the center region. The results of the study indicated a high degree of self-regulation among the study sample of talented students in the middle stage, and also indicated a high degree of creative performance among The study sample is talented students in middle school. The results of the study also indicated that there is a positive effect of self-regulation on the creative performance of the study sample of talented students in middle school

Al-Jadani (2019) also aimed to identify self-regulated learning and its relationship to the level of ambition among talented students in Al-Qunfudhah Governorate and the differences in their grades according to the educational stage variable. To achieve the objectives of the current study, the descriptive correlational approach was adopted. The study sample consisted of (107) talented students who were intentionally selected using a comprehensive enumeration method. To achieve the objectives of the study, two measures of self-regulated learning and the level of ambition were used. The results showed that the degree of self-regulated learning among talented students was high. The results also indicated that there are statistically significant differences in the averages of

talented students on the two scales of self-regulated learning and the level of ambition and their dimensions due to the educational stage (middle - high school) in favor of middle school students. The results also showed that there is a positive and statistically significant correlation between the dimensions of self-regulated learning and the dimensions of the level of ambition among the talented students, as the correlation coefficients ranged between the degree of self-regulated learning and the dimensions of the level of ambition among the talented students.

Al-Zoubi (2014) aimed to investigating the creative self-efficacy of talented students and their teachers in Jordan, by studying the relationship between the creative self-efficacy of students and teachers, and the extent to which it differs according to their gender, grades, and their teachers' specializations. A random sample of students from King Abdullah II Schools for Excellence was chosen and consisted of (190) talented male and female students from the seventh and tenth grades, and (44) teachers of the gifted students. The results showed that the level of creative self-efficacy of talented students and their teachers was high. The study also found that there were no statistically significant differences in the creative self-efficacy of students and their teachers attributable to gender, while statistically significant differences were found in the creative self-efficacy of students attributable to the academic grade in favor of seventh grade.

In the study of Chang et. Al. (2010), which aimed to identify the relationships between creative self-efficacy and creativity among students while they were enrolled in the study. The descriptive correlational approach was used, and a questionnaire was used to collect data. A sample of (60) male and female students in Taiwan was found, and a statistically significant positive correlation was found between creative self-efficacy, study processes, and creativity.

While the study by Chen (2013) aimed to reveal the relationship among the creative self-efficacy, creative ability, and self-management among students. The study used the descriptive correlational approach, by designing a questionnaire to collect data and distributed it to a sample consisting of (158) students in China. The results of the study showed that there are two factors for creative self-efficacy: the presence of intention or design to create, in addition to creative behavior. Self-management can be predicted through creative self-efficacy, and there was a positive correlation between creative self-efficacy and creative ability.

As for the study of (Beghetto, et al, 2012), which aimed to reveal the level of creative self-efficacy among basic stage students in science material. The study used a descriptive survey method, and used a questionnaire to collect the data. The study sample consisted of (901) male and female elementary school students in America. The findings showed that teachers' evaluations of students' creative expression in science predicted students' creative self-efficacy, and that students' creative self-efficacy tended to decrease as grade level increased.

Mathisen & Bronnack (2009) conducted a quasi-experimental study that aimed to identify the effect of training on creativity according to social cognitive theory in developing students' creative self-efficacy in Norway. The study sample consisted of two control and experimental groups, each group consisting of (20) students. The results of this study showed that students who received training on creativity showed more improvement than students who were not trained on creative self-efficacy.

Comment on the studies

Through reviewing previous Arab and foreign studies, the researcher noted that these studies addressed some of the axes of the current study, but those studies did not address the direct relationship between the level of self-regulation among talented students in upper elementary school and its relationship to their combined creative self-efficacy. The study sample differed from some other studies, as Al-Zoubi's (2014) study dealt with students and teachers. The current study differs from previous studies in its treatment of upper elementary school students.

The researcher noted that most previous studies had relied on the descriptive correlational approach and used the questionnaire as a tool for collecting data. The current study agrees with most previous studies in dealing with the descriptive correlational approach due to the suitability of this approach to the nature and subject of the study. Some previous studies used the quasi-experimental method by Mathisen and Bronnick (Mathisen, & Bronnick, 2009). The current study was distinguished from other previous studies in its study of the level of self-regulation among talented students in upper elementary school in the King Abdullah II Schools for Excellence and its relationship to their creative self-efficacy.

Problem of the study

The problem of the study raised through the researcher's work in the educational field. I noticed a lack of interest from teachers in developing self-regulation skills among talented students, which led to a decrease in their creative self-efficacy. This study also aimed to fulfill the recommendations of some previous studies, such as the study of Al-Zoubi (2014), which indicated the need to pay attention to the creative self-efficacy of talented students, and the study of Al-Ghamdi (2019), which recommended the need to pay attention to the creative performance of talented students by developing their self-regulation. The problem of the current study also lies in the lack of studies - especially Arabic studies - that investigated the level of self-regulation among talented students and its impact on their creative self-efficacy, which prompted the researcher to conduct the current study. Accordingly, this study came to reveal the level of self-regulation among talented students in the upper basic stage in Irbid Governorate schools and its impact on their creative self-efficacy. This is done by trying to answer the following questions:

1. What is the level of self-regulation among talented students in upper elementary school at King Abdullah Schools of Excellence?
2. What is the level of creative self-efficacy among talented students in upper elementary school at King Abdullah Schools of Excellence?
3. Are there statistically significant differences at the level of statistical significance ($\alpha=0.05$) in the average answers of the study sample members on the level of self-regulation among talented students in upper elementary school at King Abdullah Schools of Excellence and its relationship to their creative self-efficacy due to the variable (gender, grade)?
4. Is there a statistically significant correlation at the level of statistical significance ($\alpha = 0.05$) between the degree of self-regulation among talented students in upper elementary school at King Abdullah Schools of Excellence and their creative self-efficacy?

Significance of the study

The significance of the current study is determined as follows:

Theoretical significance: The significance of the theoretical study arises from the importance of revealing the level of self-regulation among talented students and its impact on their creative self-efficacy, as it represents the cornerstone of the creative performance of talented students. Its importance also comes from the fact that it is considered – to the best of the researcher's knowledge - one of the few studies, if not it is the first in Jordan to address the topic of the current study. The importance of this study is also highlighted in that it sheds light on an important aspect of designing programs offered to gifted students, which is creative self-efficacy.

Practical significance: It is highlighted in the following:

1. Enriching the Arab library with such studies. It is also hoped that this study will be a reference for researchers and scholars when conducting such a study.

2. Developing two scales for each of (emotional regulation and creative self-efficacy), and determining a set of psychometric properties that the two scales used in this study have.

Study objectives:

This study aims to the following:

1. Detecting the level of self-regulation among talented students in upper elementary school students at King Abdullah Schools of Excellence.
2. Detecting the level of creative self-efficacy among talented students in upper elementary school students at King Abdullah Schools of Excellence.
3. Determine whether there are statistically significant differences at the level of statistical significance ($\alpha = 0.05$) in the average answers of the study sample members on the level of self-regulation among talented students in upper elementary school students at King Abdullah Schools of Excellence and its relationship to their creative self-efficacy due to the variable (gender, grade).
4. To find out if there is a statistically significant correlation at the level of statistical significance ($\alpha = 0.05$) between the degree of self-regulation among talented students in upper elementary school students at King Abdullah Schools of Excellence and their creative self-efficacy.

Terminology of the study:

Self-regulation: Al-Jarrah (2010: 334) defined it as an organized mental and cognitive process in which the individual learner becomes an active participant in an educational process until his goal of learning is achieved. It is **defined procedurally:** as the score obtained by respondents on the self-regulation scale used in this study.

Creative self-efficacy: Abbott (2010: 6) defines it as “the individual’s beliefs about his creative abilities, which are represented by his beliefs about his creative thinking and creative performance.” It is **defined procedurally as:** the score obtained by respondents on the creative self-efficacy scale used in this study.

Talented students: Jarwan (2008: 13) defines them as students who demonstrate high levels of ability to perform in the mental, academic, creative, artistic, and other fields, so they need special educational programs to meet their needs.

Limitations and delimitations of the study

This study will be implemented according to the following limitations and delimitations:

Objective limits: The current study seeks to reveal the level of self-regulation among talented students in upper elementary schools in Irbid Governorate and its impact on their creative self-efficacy.

Spatial limits: This study was conducted in senior basic schools in Irbid Governorate.

Human limits: The application of this study was limited to talented students in upper basic stage.

Time limits: This study was implemented during the 2021/2022 academic year.

Study delimitations: The generalizability of the study findings is determined by the response of the study sample members to the two tools used to collect information and data and the psychometric properties of the tool.

METHOD AND PROCEDURES

This part dealt with a description of the study population and its sample, the method of its selection, the study instruments that were used in collecting data, the procedures for developing them, their validity and reliability, the study's methodology and design, its variables and applied procedures, and the statistical methods used in it.

Study methodology: The descriptive, correlational approach was adopted. It is an approach that relies on describing and analyzing phenomena related to the variables of the study, to reveal the level of self-organization among talented students in upper elementary schools in Irbid Governorate and its impact on their creative self-efficacy. The phenomenon targeted by the study was described to the study individuals as it is, without change or modification.

Study population: The study population consisted of all talented students in the upper basic stage in Irbid Governorate, who numbered (425) male and female students, where the number of males reached (203) students, while the number of females reached (222) students, in the academic year 2021/2022, and they were identified after addressing King Abdullah Schools for Excellence in Irbid Governorate, and taking statistics according to official letters.

Study sample: The study sample consisted of (146) talented male and female students in the King Abdullah Schools for Excellence in Irbid Governorate. They were chosen intentionally, and Table (1) shows the distribution of the sample members according to personal variables (grade, gender).

Table 1: Distribution of sample members according to personal variables

Grade	Male	Female	Total
8 th	24	28	50
9 th	21	26	47
10 th	22	25	49
Total	67	79	146

Study instruments:

In order to obtain primary data and achieve the objectives of the study, the researcher developed two instruments (the questionnaire) for this study, consisting of two parts, to reveal the level of self-regulation among talented students in upper basic stage of the King Abdullah Schools of Excellence in Irbid Governorate and its impact on their creative self-efficacy. Below is a description of these two. The two tools:

First: Self-regulation scale

To measure the level of self-regulation among talented students in upper elementary schools in Irbid Governorate, the self-regulation scale was developed by referring to the study of Al-Ghamdi (2019), which used the Purdie scale, Arabized by Ahmed (2007), which it applied to Saudi society, and it may be the scale in its initial form, consists of (30) items divided into four areas: the first area: goal setting and planning, the second area: keeping records and monitoring, the third area: listening and memorizing, and the fourth area: asking for help from others.

Content validity of the scale

The content validity of the scale was verified by presenting it to (11) experienced and specialized professors in the specializations of special education, psychological counseling, and psychology in Jordanian universities, with the aim of expressing their opinions about the accuracy and validity of the content of the scale in terms of: clarity of items, and wording. Linguistic, its suitability to measure what it was designed for, its belonging to the field to which it belongs, and adding, modifying or deleting what they deem appropriate to the paragraphs. The proposed amendments were taken into account, where two paragraphs were deleted, and many paragraphs were drafted, and they were agreed upon by (80%) of the arbitrators, so that the scale in its final form consisted of (28) items.

Construct validity of the scale:

The study instrument was applied to a survey sample consisting of (30) male and female students from the study community and outside the sample. To verify the construct validity indicators, the inter-correlation coefficients (INTER-CORRELATION) of the scale dimensions were calculated using the Pearson correlation coefficient, as in Table (2), where the correlation coefficient between the scale dimensions reached (0.89). This result confirms that the scale has a high degree of internal consistency.

Table 2: Correlation coefficient of each item of the dimensions of self-regulation with the total score of the dimension

Paragraph	Correlation coefficient	Paragraph	Correlation coefficient
Goal setting and planning		Record keeping and monitoring	
1	.588**	1	.617**
2	.427**	2	.726**
3	.728**	3	.591**
4	.679**	4	.561**
5	.697**	5	.645**
6	.604**	6	.717**
7	.443**	7	.573**
Recitation and memorization		Ask for help from others	
1	.640**	1	.510**
2	.580**	2	.658**
3	.643**	3	.710**
4	.573**	4	.590**
5	.767**	5	.573**
6	.638**	6	.703**
7	.574**	7	.776**

Scale reliability:

The researcher calculated the reliability of the scale by finding the Kornbach alpha value for all dimensions of the scale, and the total value was (0.890). This high value indicates the credibility of the tool and its suitability to the objectives of the study, so the credibility was extracted for each dimension according to its items, as shown in Table (3).

Table 3: Cronbach's Alpha values for the reliability of the study's dimensions

Dimensions		Cronbach's Alpha
Self-regulation	Goal setting and planning	.699
	Record keeping and monitoring	.748
	Recitation and memorization	.743
	Ask for help from others	.770

Second: Creative self-efficacy scale

The researcher developed the creative self-efficacy scale by reviewing the theoretical literature related to the concept of creative self-efficacy, and reviewing previous studies related to creative self-efficacy, such as the study by Al-Zoubi (2014), and in light of the information and data that was reviewed, the scale was developed, which consisted of (23) An item to measure creative self-efficacy at the levels of fluency and originality, with (10) items for each level.

Scale's face validity

The researcher presented the creative self-efficacy scale (fluency and originality) in its initial form to (11) arbitrators at Jordanian universities in the specializations: special education, mental health, psychology, and each arbitrator was asked to express his opinion on the clarity of the scale's items, and the extent of their suitability and belonging to the field in which it measures it in addition to the integrity of the language. After that, some items were added and some were deleted until the final form of the scale was reached, consisting of (20) items.

Construct validity:

To determine the validity of the scale, the internal consistency validity was calculated, which is the relationship between the score of each item and the total score, using the Pearson correlation coefficient, as shown in Table (4) below. The items are linked to the total score of the dimension to which they belong, with a statistically significant relationship at the significance level (0.05). This result confirms that the scale has a high degree of internal consistency.

Table 4: Correlation coefficient of each item in the creative self-efficacy areas with the total score for the area

Paragraph	Correlation coefficient	Paragraph	Correlation coefficient
Fluency		Originality	
1.	.465**	1.	.464**
2.	.615**	2.	.620**
3.	.654**	3.	.697**
4.	.687**	4.	.619**
5.	.402**	5.	.366*
6.	.634**	6.	.510**
7.	.501**	7.	.364**
8.	.414**	8.	.465**
9.	.614**	9.	.489**
10.	.511*	10.	.54**

Scale reliability:

The researcher calculated the reliability of the scale by finding the Cronbach's alpha value for all the main areas of the creative self-efficacy scale and its dimensions. The total value was (0.748). This high value indicates the credibility of the tool and its suitability to the objectives of the study. The credibility of each dimension was extracted according to its items, as shown in Table (5).

Table 5: Cronbach's alpha values for the reliability of the dimensions of the creative self-efficacy scale

Dimensions		Cronbach's alpha
Creative performance	Fluency	.741
	Originality	.702

As demonstrated by the procedures used to verify the validity and reliability of the two scales, the two scales achieve the objectives of the study and answer its questions.

Study procedures:

To achieve the objectives of the study; The study followed the following steps and procedures:

- Review of literature review and previous studies related to the study variables.
- Developing study instruments represented by two scales (self-regulation and creative self-efficacy).
- Verifying the apparent validity of the study tool in its initial form, by presenting it to a group of experienced and specialized arbitrators from various fields in Jordanian universities.
- Verifying the validity and reliability implications of the study tool in its final form, by applying it to a survey sample from outside the study sample.
- Determine the overall study population, which is represented by gifted students in the basic stage at King Abdullah Schools of Excellence, and then the members of the study sample were selected according to the method available from the overall study population.
- Distribute and circulate the study instrument to members of the study sample, on paper and electronically, through an electronic link.
- Quantitative data was collected and then entered into the computer memory, and processed statistically using the Statistical Package for the Social Sciences (SPSS) program, to extract the results in order to describe and interpret them and set up its recommendations and proposals.

Study variables:**Independent variables**

Gender: two categories: male and female.

Grade: Three levels: 8th, 9th, and 10th.

Dependent variables:

- Self-regulation.
- Creative self-efficacy.

Statistical processors:

The researcher used a set of statistical methods to analyze the study data and answer her questions. Among the methods used were: (frequencies, arithmetic means, and standard deviations. T-test analysis to find statistical differences between fields of study and gender, then the Pearson correlation coefficient, to find the correlation between Self-regulation and creative performance as the main field of study). In order to explain the values of the arithmetic averages used in analyzing the presented results, they were divided into the following grades:

Divisions of arithmetic average	Degree of arithmetic average
1-0.8	Very low
Above 1.8-2.6	low
Above 2.6-3.4	Moderate
Above 3.4-4.2	High
Above 4.2-5.00	Very high

STUDY FINDINGS

This part includes the findings of the study that aimed to identify the level of self-regulation among talented students in upper elementary schools in Irbid Governorate and its relationship to their creative self-esteem. The results will be presented based on the study's questions.

Findings related to answering and discussing the first question: What is the level of self-regulation among talented students in upper basic stage students in King Abdullah Schools of Excellence?

To answer the first question regarding the degree of self-regulation among talented students in the upper basic stage, the arithmetic means and standard deviations were calculated for all dimensions of self-regulation (goal setting and planning, keeping records and monitoring, listening and memorizing, and asking for help from others) and the total degree of regulation, as shown in table (6).

Table 6: Arithmetic means and standard deviations for the dimensions of self-regulation skill and the total score

Area	A.M	S.D	A.D
Goal setting and planning	3.73	0.72	High
Record keeping and monitoring	3.62	0.78	High
Recitation and memorization	4.23	0.64	Very high
Ask for help from others	4.01	0.79	High
Total degree	3.90	0.55	High

Table No. (6) shows that the arithmetic averages ranged between (3.62 - 4.23), where the third area: recitation and memorization ranked first with a very high degree, with an arithmetic average of (4.23), and the fourth area: seeking help from others, with a high degree, with an arithmetic average of (4.01), as for the first area: goal setting and planning, it came in third place with a high degree, with an arithmetic average of (3.73), and the second area, keeping records and monitoring, came in last place, with a high degree, and with an arithmetic average of (3.62), as for the general average score for organizational skill. The self-esteem of talented students in upper basic stage in King Abdullah Schools for Excellence reached (3.90) with a high degree. The table above shows that the total score for self-regulation was high, and this indicates that the talented students used self-regulation skills. As for the dimensions of organization mentioned above, they were all high except for the skill of recitation and memorization, which were very high.

This result confirmed that the degree of self-regulation among talented students in the upper basic stage is high, and this result can be explained by the high levels of self-regulated learning that talented students enjoy. He learns and adjusts it to suit his goals. These results are consistent with the results of Al-Jarrah's study (2010).

Findings related to answering and discussing the second question: What is the level of creative self-efficacy among talented students in upper basic stage students at King Abdullah Schools of Excellence?

To answer the second question related to the level of creative self-efficacy among talented students in upper elementary school students, the arithmetic means and standard deviations for the two dimensions of creative self-efficacy (fluency, originality) and the total score of creative self-efficacy were calculated, as shown in Table (7).

Table 7: Arithmetic means and standard deviations for the dimensions of creative self-efficacy and the total score

Dimension	A.M	S,D	Degree
Fluency	3.94	0.97	High
Originality	3.96	0.95	High
Total score	3.95	0.96	High

Table No. (7) shows that the arithmetic averages ranged between (3.94-3.96), where the field of originality ranked first with a high degree, with an arithmetic average of (3.96), while the field of fluency came in second and last place with a high degree, with an arithmetic average of (3.94). As for the general average score for creative self-efficacy among talented students in upper elementary school at King Abdullah Schools of Excellence, its value reached (3.95), with a high degree.

It is clear from the above that the total score for creative self-efficacy was high, and this indicates that the talented students used the skills of creative self-efficacy, and as for the two dimensions of creative self-efficacy mentioned above, they were also high. This result can be explained by saying that gifted students are characterized by many creative abilities and skills, including creative self-efficacy, through which they can be distinguished from their ordinary peers, which makes them a strategic asset to any society that desires progress and advancement.

The findings related to answer and discussing the third question: Are there statistically significant differences at the level of statistical significance ($\alpha = 0.05$ in the average of the answers of the study sample members on the level of self-regulation among talented students

in upper basic stage in Irbid governorate schools and its relationship to their creative self-efficacy attributed to the variable (gender, grade)?

To answer this question, T-tests were used, which are as follows:

Table 8: Results of tests of differences between the dimensions of self-regulation and the dimensions of creative performance for males

	Gender	A.M	S.D	Sig.
Goal setting and planning	Male	3.84	0.57	0.08
Record keeping and monitoring	Male	3.84	0.65	0.001
Recitation and memorization	Male	4.15	0.58	0.17
Ask others for help	Male	4.01	0.60	0.20
Fluency	Male	3.87	0.60	0.13
originality	Male	3.89	0.55	0.07

Table 9: Results of tests of differences between the dimensions of self-regulation and the dimensions of creative performance for females

	Gender	A.M	S.D	Sig.
Goal setting and planning	Female	3.64	0.81	0.08
Record keeping and monitoring	Female	3.43	0.83	0.001
Recitation and memorization	Female	4.30	0.69	0.17
Ask others for help	Female	3.93	0.91	0.20
Fluency	Female	4.00	0.44	0.13
originality	Female	4.03	0.37	0.07

It is clear from Table (8) and Table (9) that there are no statistically significant differences between talented male students and talented female students in the dimensions of goal setting and planning, reciting and memorizing, asking for help from others, fluency, and originality. This can be explained by the fact that talented males and females possess the same skills. In terms of their ability to plan and define their goals clearly and precisely, as well as their ability to memorize and retrieve what they have memorized easily, as well as their ability to seek help and assistance from others in the tasks they carry out, as well as the ability to produce a large number of solutions to the problems they face and not be limited to just one solution, As well as always striving to reach everything that is new, original and unusual, and do not limit themselves to traditional ways of thinking.

The results also showed that there were statistically significant differences between males and females in the record-keeping and monitoring dimensions only of the self-regulation dimensions, and they were in favor of male talented students. This result may be attributed to the maturity and awareness on the part of male students of the importance of keeping school records and following up in order to benefit from them in the future, either in higher education or employment.

The researcher used one-way analysis of variance (One Way ANOVE) to find differences in the dimensions of self-regulation and the dimensions of creative self-efficacy among talented students in the upper basic stage due to the grade variable, as shown in Table (10) and Table (11).

Table 10: Results of one-way analysis of variance for the dimensions of self-regulation

		S.D ²	Df	MD	F value	Sig.
Goal setting and planning	Variation between groups	2.659	2	1.329	2.607	0.77
	Variation within groups	72.906	143	.510		
	Total Variation	75.565	155			
Record keeping and monitoring	Variation between groups	2.151	2	1.076	1.770	0.17
	Variation within groups	86.916	143	.608		
	Total Variation	89.067	145			0.26
Recitation and memorization	Variation between groups	1.31	2	.566	1.350	
	Variation within groups	59.919	143	.419		
	Total Variation	61.051	145			
Ask others for help	Variation between groups	2.181	2	1.091	1.762	0.17
	Variation within groups	88.526	143	.619		
	Total Variation	90.707	145			

Table 11: Results of one-way analysis of variance for dimensions of creative performance

		S.D ²	Df	MD	F value	Sig.
Fluency	Variation between groups	0.791	2	.0395	1.452	0.24
	Variation within groups	38.946	143	.272		
	Total Variation	39.737	145			
Originality	Variation between groups	.874	2	.437	2.036	0.13
	Variation within groups	30.678	143	.215		
	Total Variation	31.551	145			

It's clear from Table (10) and (11) that there are no statistically significant differences in the dimensions of cognitive organization as well as the dimensions of creative self-efficacy due to the grade variable among talented students, which were divided into three grade levels: eighth grade, ninth grade, and tenth grade. As is clear from the previous two tables, there are no differences between talented students according to the grade variable in any dimension of self-regulation as well as in the dimensions of creative performance. This is because they are relatively close in many abilities, especially mental ones, because they are talented students.

Results related to answering and discussing the fourth question: Is there a statistically significant correlation at the level of statistical significance ($\alpha = 0.05$) between the degree of self-regulation among talented students in upper basic stage and their creative self-efficacy?

To answer this question, the Pearson Coefficient Correlations was used with the aim of finding the relationship between self-regulation and creative self-efficacy for talented students in the upper basic stage, as shown in Table (12).

Table 12: shows the correlation coefficients between self-regulation and creative self-efficacy

	creative self-efficacy
self-regulation	.463**

It clear from Table (12) that there is a statistically significant relationship and correlation between self-regulation skills and creative self-efficacy skills (.463**) among talented students in the upper basic stage at the significance level (0.01), and as for the dimensions of self-regulation, there is a strong correlation between them and the dimensions of creative self-efficacy are shown in Table (13).

Table 13: Results of the analysis of correlations between the dimensions of self-regulation skills and creative self-efficacy

	Fluency	Originality	Creative self-efficacy as a whole	Goal setting and planning	Record keeping and monitoring	Recitation and memorization	Ask for help from others
Originality	0.253**						
Creative self-efficacy as a whole	0.818**	0.764**					
Goal setting and planning	0.387**	0.352**	0.467**				
Record keeping and monitoring	0.293**	0.290**	0.368**	0.672**			
Recitation and memorization	0.302**	0.350**	0.276**	0.533**	0.537**		
Ask for help from others	0.275**	0.518**	0.491**	0.726**	0.685**	0.743**	
Self-regulation as a whole	0.306**	0.435**	0.763**	0.852**	0.822*	0.910**	

The results of Table (13) showed that there is a direct correlation between both self-regulation and creative self-efficacy among talented students in the upper basic stage and its dimensions, such that a high level of either field leads to a high degree of the other field, as the students' possession of the dimensions of self-regulation (goal setting Planning, keeping records and monitoring, reciting and memorizing, and asking for help) increases students' ability to creative self-efficacy in the dimensions of fluency and originality. This is due to the nature of giftedness, as talented students possess self-regulation skills, which in turn contribute to improving their level of creative self-efficacy and make them more motivated to learn and achieve in academic subjects, which distinguishes them from their ordinary peers.

RECOMMENDATIONS

In light of the findings of this study, the researcher recommends the following:

1. Revealing the creative aspects of talented students and exploiting them.
2. Paying attention and training teachers of talented students on how to deal with talented students.
3. Paying attention to activities that would improve the creative aspects of talented students.
4. Early detection of talented students at different academic levels.

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