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## The effect of exploitation strategy on concurrent thinking ability abilities of students in Saudi Arabia

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### Abstract:

The purpose of this study was to measure the effect of the exploitation Strategy in enhancing concurrent thinking ability of student. This study used a quasi-experimental method. The study sample in this research consisted of students who attend the Taibah university in Saudi Arabia, the study sample was chosen intentionally. The total sample number was fifty students. Who were divided equally into two group control (25 student) and experimental (25 student). Instrument was used concurrent thinking test for Abdeen, which assessed the student's level of concurrent thinking ability. This instrument was used to assess the skills pre and post the application of. The data for this research were collected by using quantitative method.

The result of this study showed a significance difference in developing the concurrent thinking of the students between the control and experimental groups after the application. The results also indicate that the student concurrent thinking ability were significantly enhanced after the application of the exploitation Strategy. This study confirmed that concurrent thinking can be enhanced through specialized Strategies, which target the development of concurrent thinking ability, considering these finding the study recommended conducting further research and studies to develop concurrent thinking.

**Keywords:** *Concurrent Thinking; Al-Madinah Program; Talented; Creative Acceleration Strategy; exploitation Strategy.*

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## Introduction

Development is limitless, a new era we are at its doors and new technologies have changed a lot of procedures and systems such as the Blockchain technology that adds confidence in dealing with the Internet, the technology of the virtual world that deals with imagination that simulates the truth and it is not real, the technology of the Internet of things that made systems, homes and clothes all Automated, and with the advent of artificial intelligence, everything became digitized, so the concept of the digital man appeared, and the concept of sharing appeared, as the largest car company did not own any car and the largest hotel company did not own any hotel, the concept of displacement appeared, a new work that replaces an old work, and displacement will occur in the education sector as well (abdeen,2021). , New technologies will appear, new programs, new standards that will displace what is old and does not fit the era (Davos, 2019), so we are facing many challenges, facing a new era whose requirements urge the human mind to accomplish multiple tasks simultaneously.

### Statemen of the Problem:

Scientists have been working on finding solutions for the era of the Fourth Industrial Revolution that works to raise the efficiency of mental abilities as a basic test and an urgent requirement to meet the needs of the times. The explosion of knowledge, technology and digital, demanding those concerned and officials to find urgent solutions to the problem before it aggravates, given that we are in the era of innovation or extinction(abdeen,2021).

Therefore, the need arose to develop synchronous thinking to suit the developments of the times, by increasing the capacity of information storage and the

speed of processing it in the brain, where capacity and speed will become the measure of difference in human intelligence in the next stage. (Abdeen, 2020).

### Research objectives:

To examine if there is a significant difference between concurrent thinking abilities of the experimental and control groups of the students after the intervention using exploitation strategy.

### Research Question:

Is there any significant difference between concurrent thinking abilities of the experimental and control groups after applying the exploitation Strategy?

### Hypothesis:

There is no significant difference between concurrent thinking abilities of the experimental and control groups after the intervention using exploitation Strategy.

### Significance of the Study:

1. The importance of the current study stands out as it dealt with the issue of exploitation strategy and concurrent thinking, as they are considered a main requirement to keep pace with the current era and its developments of rapid changes.
2. The importance of the study lies in the fact that it reveals the impact of the exploitation strategy on the development of concurrent thinking among Taibah University students, which helps those interested in developing plans and programs for students of higher education, which develop the abilities of concurrent thinking.
3. The study seeks to provide researchers with knowledge and information through theoretical

literature and previous studies on exploitation strategy and concurrent thinking.

### Methodology of the Study:

The study adopted the quasi-experimental approach, and a pre- and post-measurement was conducted to test concurrent thinking and the application of the exploitation strategy to the students of the experimental group.

### Variables of the Study:

**Independent variable:** exploitation Strategy.

**Dependent variable:** concurrent thinking.

### Definition of terms:

#### • Exploitation Strategy

The individual's ability to capture and harness information through (situations, events, words, actions, people and places..) and then process and manage it to achieve the individual's goals and objectives (abdeen 2021).

It is defined procedurally as the set of activities and exercises that the examinee applies in this study

#### • Concurrent Thinking

The possibility of performing more than one conscious mental activity at the same time and performing more than one conscious mental process at the same time (Abdeen, 2014)

It is defined procedurally as the total score obtained by the examinee on the concurrent thinking test

#### • Almadinah world program

It is about strategies, activities, and procedures. The Almadinah world Program contains three strategies, namely, the exploitation strategy, the concurrent strategy, and the creative acceleration strategy. The program aims to develop synchronous thinking, accelerate creative

thinking processes, and invest talent (Abdeen, 2020).

### Study Sample:

The sample of the study was (50) female students from the Faculty of Education at Taibah University, and the sample was divided into (25) female students in the experimental group and (25) female students in the control group.

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The Groups	
experimental group	25
control group	25
<b>Total</b>	<b>50</b>

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### Study limitations:

The study was limited to a sample of female students at the College of Education (Department of Special Education) at Taibah University in Al-Madinah Al-Munawwarah in the Kingdom of Saudi Arabia during the first semester of 2020.

### Study Tool:

The Tools which the study used:

- Exploitation strategy
- Concurrent thinking test

### Previous studies:

- **Abdeen (2020):** aimed to identify the level of concurrent thinking and its relationship to the achievement motivation among the students at the College of Business Administration at Taibah University. Honesty and reliability, the study revealed that the level of concurrent thinking was of a low degree, while the percentage of motivation was a percentage of a higher degree.
- **Abdeen (2021):** aimed to know the effect of the synchronization strategy in developing concurrent thinking among outstanding female students in the basic stage in Amman in the Hashemite Kingdom of Jordan. In the seventh, eighth, and ninth grades in

the city of Amman, the sample was randomly distributed into two equal groups: the experimental group (15) students and the control group (15) students. The study used Abdeen concurrent Thinking Scale to measure the effect of the strategy on the development of concurrent thinking, and the validity and reliability of the research tools were verified. The results of the study showed that there are statistically significant differences in the performance of students on the concurrent thinking scale due to the effect of the synchronization strategy in favor of the experimental group, and in light of these results the study recommended conducting more research and studies to develop concurrent thinking. It also recommended that the synchronization strategy should be included in the activities and school assignments.

- **Kazem (2020):** The study aimed to identify the effectiveness of a proposed training program using the strategies of the almadinah world program in developing the skills of lesson implementation and concurrent thinking among teachers of Arabic language. (22) male and female teachers for the experimental group, which consisted of (12) female teachers and (10) teachers, and (21) teachers for the control group, which consisted of (11) female teachers and (10) teachers of the control group, and the experiment was applied in a classroom The library Al-Ma'ali School for Girls in Mosul city center, and the results showed that there is a statistically significant difference between the average ranks of the experimental group and the average ranks of the control group in the observation performance of teaching implementation skills, and there is

also a statistically significant difference between the average ranks of the experimental group and the average ranks of the control group in the test concurrent thinking.

- **Abdeen (2021):** aimed to know the impact of the almadinah world program on the development of concurrent thinking among female students of the Faculty of Arts at Taibah University in Saudi Arabia. The study sample consisted of (40) female students who used the quasi-experimental approach. The study sample was divided into two groups, experimental (20) and control (20), applied the program was applied to the experimental group, and the concurrent thinking scale was used as a pre and post measurement tool, and to process the data, the Statistical Packages Program (SPSS) was used. Considering these results, the study recommended conducting more research and studies to develop concurrent thinking. It also recommended studying the impact of the almadinah's program on other study variables.

There are many studies that dealt with the recruitment strategy within the Almadinah world program.

- In the **Al-Aswad study (2017):** which aimed to identify the impact of the Almadinah world program in developing creative thinking in skills (originality, fluency, flexibility, detail) among talented people in Madaba Governorate in Jordan. The study was quasi-experimental, and the sample was divided into 20 students in the experimental group and 20 students in the control group. The Torrance Scale of Creative Thinking was used. The study concluded that there are statistically significant differences in the level of creative thinking, whether on the total degree or dimensions, as it

was found that there are differences in favor of the experimental group, which Demonstrates the effectiveness of the Almadinah world program in developing creative thinking

- **The study Alherbawy (2017):** aimed to reveal the effect of the Almadinah world program in developing critical thinking among the gifted in King Abdullah II schools in Jordan. The sample was 40 students from the eighth, ninth and tenth grades. The study used the quasi-experimental approach and divided the sample into two groups: 20 experimental and 20 control. Watson's Critical Thinking Scale The study concluded that there are statistically significant differences in favor of the experimental group, which indicates the effectiveness of the Almadinah world program in developing critical thinking.
- **Al-jabab (2016):** The study aimed to identify the effect of using the Madinah program on improving the level of academic achievement of the gifted in King Abdullah II schools in Jordan. The study tools were applied, namely the Al-Madinah Program and the academic achievement test prepared by the researcher on the study sample of 40 male and female students, tracing the study was quasi-experimental, and the study sample was divided into two groups: experimental and control. The researcher verified the validity and reliability of the tools before applying the research, and for data processing, the SPSS statistical package was used. The results revealed statistically significant differences in improving the level of academic achievement, and it was found that the differences in favor of the experimental group, and this indicates that the Almadinah world program contributed to

improving the level of academic achievement of the gifted

- **Abdeen (2016):** aimed to know the impact of the design of the Almadinah world program on the creative thinking abilities of talented EFL students in Jordan. The study sample consisted of 80 students of English as a foreign language who were approved as smart and talented by the Ministry of Education in Jordan. The sample consists of seventh, eighth and ninth grade students who study at KATS School in Madaba. The samples were divided into two groups, the experimental group, and the control group. The control group received a continuous program implemented by the Jordanian Ministry of Education, while the experimental group received the Almadinah world program. Torrance test was used to test the measurement of pre and post creative thinking. The data in this study used qualitative methods (interview protocol with participants and teachers) as well as quantitative (experimental). The results showed the emergence of statistically significant differences in favor of the experimental group in the scale of creative thinking.

### Concurrent Thinking

The capacity of the brain is released through a new pattern of thinking that may be called concurrent thinking which means thinking of more than one thing at a time. Thus, concurrent thinking is a new pattern of thinking basically aims at enabling the individual to re-realize his self-awareness and his capacities and capabilities. That is done through the best investment of the individual's capacities and capabilities. It investigates the ability to practice more than one conscious mental activity at the same time and to execute more than one

conscious mental operation at the same time. This is opposite to the vertical thinking (which is based on successive chains and steps) and lateral thinking. Concurrent thinking is a pattern of thinking. Sternberg (1994) believes that utilized thinking patterns are unfixed and thus differ based on the simulated models throughout the different stages of life. Individuals, in fact, differ in the degree of flexibility in moving from one thinking pattern to another and in the strength points in their identified preferences. In this way, though individuals may have preferred patterns of thinking, these patterns remain unfixed and open to change. According to KlobThe individual's thinking pattern lies in the method in which he perceives knowledge, information, experience, and in the method he arranges and organizes information and also in the method in which he records, codes and merges information and keep in his knowledge store and thus recalls in the method that reflects his method of expression either through sensory material means or semi-visual or symbolic way through character, word and number (Qatami, et al, 2007). The thinking pattern is known as the preferred method in the individual's use of his abilities where the individual can vary the use of different thinking patterns based on the different tasks and conditions (Sternberg,1994). The strength of the concurrent thinking theory lays in the fact that it copes with the extreme speed of the knowledge revolution which is on the features of this century through investing the abilities of the brain and its huge capacity to uplift the the individual to be more capable of coping with the rapid developments and to face the requirements and challenges of this age. The students today are different from students in the past and thus the student's brain today is different from that of the student 10 years ago.

Thus, thinking of different and new patterns of thinking that may encapsulate the vast quantity of change has become an urgent necessity in the thinking area. The theory of concurrent thinking does not involve unconscious operations such as heart beats of breathing, or other unconscious operations which the brain organizes. This theory, instead, focuses on the multiple conscious mental processes at the same time which are indeed on the conscious brain level such as listening to the news, surfing the net, writing a letter, and talking to a person at the same time and at a high proficiency. Another Example of the process of concurrent thinking is when an individual is thinking Life Science Journal 2014;11(12) <http://www.lifesciencesite.com> 1005 in two different topics Simultaneously. It can be clearly seen through the outcomes or through the channels that embody them. The individual may be thinking verbally in a topic and thinking in a written form in the other topic. Thus, he is thinking in both topics concurrently but through different channels where thinking about the first topic is expressed in a heard voice while thinking about the second topic, which occurs at the same time, is expressed in writing on a piece of paper.

In this way, multiple conscious thinking operations concurrently that the brain has millions of neurons, and the thinking process is done through the cooperation of groups of cells where many other cells can be employed in other thinking processes especially with the ability to generate new neurons. This is done in addition to the processing of the unconscious sensory input and experience which requires a better and bigger employment of the capabilities of the brain.

### **Exploitation Strategy:**

The exploitation strategy created by Dr. samar Abdeen in 2014 at the University of Malaysian Sciences (Abdeen, 2021), Dr. Abdeen developed the strategy after conducting more practical applications, applied research and scientific studies and working on the maturation of the strategy in its developed version in 2020, after it was subjected to experimentation and scientific research, and to intensive development that lasted for successive years, punctuated by practical applications in Schools, Universities and Institutions (Abdeen, 2020).

- **General Concept**

The individual's ability to capture and harness information through (situations, events, words, actions, people and places..) and then process and manage it to achieve the individual's goals and objectives (Abdeen 2021).

- **Explanation of the strategy**

Exploitation capacity is considered one of the capabilities of talented individuals, and this ability refers to the individual's ability to exploit and invest information in the context of material and moral resources, tangible and abstract, in a practical way.

Ordinary individuals can also train and practice on the exploitation strategy to raise their skills and capabilities to gain exploitative ability, through environmental stimuli and social interactions, the individual can enrich the information, process it, and manage it for the benefit of his goals (Abdeen, 2020).

- **Procedure**

1. Defining a clear goal (what do you want).
2. Obtaining information and knowledge about a subject.
3. Focusing on the current need and extrapolating the results for the future.
4. Exploiting information for the benefit of the target.

5. Processing and managing information to serve the desired goal in various practical ways and methods.

It is possible to start the procedures with the information and then create a goal to achieve through the information and vice versa (Abdeen, 2021).

The exploitation strategy was used as one of the innovative strategies in the Almadinah World Program at the University of Science Malaysia, which is a research university with an advanced ranking in the world. Scientific research published in refereed scientific journals and was the main topic of discussion in many conferences (Ewise & Abdeen, 2019). On the other hand, the results of the application revealed the achievement of various goals for the program. On the other hand, many researchers found a research problem worthy of attention and research work to solve it and present many researches, which is the problem of the gap between the endless acceleration in light of the Fourth Industrial Revolution and the weak use of mental abilities, so they took the initiative to use the Almadinah World Program or use one of the program strategies separate in order to contribute to solving this problem through research experimentation and by studying the level of program variables, and the results of tests and measures showed a development in concurrent thinking and accelerating the creativity process in varying proportions (Abdeen 2020).

### **Concurrent Thinking Scale**

The researcher relied on the concurrent Thinking Scale, which was prepared by Abdeen (2016), which measures two dimensions (two abilities), namely:

**Information storage capacity:** It means the ability to increase the area in which information is stored and processed together



Information processing speed: It means the ability to increase the speed of the individual in perceiving, absorbing, and using information to complete a mental task

The number of paragraphs of the scale was 44, divided into two dimensions, each field 22 paragraphs

• **Scale Correction:**

The answer to the scale is through five graduated alternatives Always, often, sometimes, rarely, does not apply.

The first alternative was given five marks, the second alternative was given four marks, the third alternative was given three marks, the second alternative was given two marks, the first alternative was given a point.

This is for positive paragraphs and vice versa for negative paragraphs.

The highest score a respondent can get on the scale is 220, and the lowest score is 44.

• **Validity and reliability of the scale**

The validity of the scale was verified by an interview with 10 specialized arbitrators in specialized fields.

The reliability of the scale was verified, as the scale has internal consistency with a Cronbach's alpha coefficient, which amounted to (0.803) and a reliability coefficient (0.87), a measure of concurrent thinking.

**Results**

To answer the question of the study, what is the impact of the exploitation strategy on developing concurrent thinking among Taibah University students, and to verify the validity of the study hypothesis, the pre and post arithmetic averages, the average, and the standard deviations of the performance of the experimental and control group students on the concurrent thinking test were calculated, and the results were as follows:

**Table (1):** Arithmetic averages and standard deviations before, after, and adjusted for concurrent thinking

Standard deviation	Arithmetic averages	Standard deviation	Arithmetic averages	Standard deviation	Arithmetic averages	groups
0.51	26.37	3.35	23.75	2.91	25.02	control
0.51	54.99	2.56	54.62	3.59	26.69	Experimental
		2.95	23.75	2.94	25.85	Total

It appears in the previous table that there are differences between the averages on the pre and posttest for the degrees of concurrent thinking for the students of the

experimental and control groups. One-way covariance analysis was used to test these differences.

**Table (2):** One-way Anova analysis to find out the effect of exploitation strategy on developing concurrent thinking

Alpha level	f-score	Mean square	Degree of freedom	Sun of square	Contrast source
0.000	16.43	124.44	1	124.50	prior
0.000	1546.87	11709.98	1	11710.89	the group
		7.57	57	431.44	The error
			59	12265.87	Total

From the above, there is a statistically significant difference at the significance level ( $\alpha = 0.05$ ) between the arithmetic averages of the performance of the students

of the experimental and control groups on the concurrent thinking test in favor of the experimental group, where the adjusted dimensional mean arithmetic for the

experimental group was 26.69 compared to the control group, which indicates that there is an effect of the exploitation strategy. Rejecting the null hypothesis, and therefore there is a statistically significant effect of the exploitation strategy in developing concurrent thinking among female students of Taibah University in Saudi Arabia.

### Discuss the Results:

The results showed that there were statistically significant differences between the averages of the members of the experimental and control groups in favor of the experimental group on the concurrent thinking test.

This result is due to the fact that the exploitation strategy included activities aimed at developing concurrent thinking as this appeared during training, in addition to activating and activating the dormant brain abilities through practical exercises for students, which shows the strategy's ability to develop concurrent thinking. This result agreed with the results of Abdeen study 2020, Kazem study 2020, Al-Sharari study 2021, the results of which showed that there are statistically significant differences in favor of the group that applied the exploitation strategy alone and within the Almadinah world program, because the exploitation strategy has a flexible feature that allows movement between brain functions and thus provides its user with the desired results.

### Recommendations:

- Conducting more studies that examine the impact of the exploitation strategy considering other variables.
- Training students on activities that use the exploitation strategy.

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