Journal of Humanities and Social Sciences Researches (JHSSR)

ISSN: 2958-3160 (Online)

Product thinking and its relationship to academic adaptation at the request of the Department of Educational and Psychological Sciences at Tikrit University

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Received: 12/07/2024 Accepted:14/08/2024

Abstract

The study aimed to determine the level of productive thinking and academic adjustment of students of the Department of Psychology and Educational Sciences, Faculty of Education, University of Tikrit and to differentiate between productive thinking and academic adjustment. The treatment was then recommended based on the curriculum. A descriptive comparative exploratory approach was adopted, and the questionnaire was distributed to the study sample of (120) male and female students. The study found that students' creative thinking was associated with an arithmetic mean (4.086) and a high degree, and students' academic adjustment was associated with an arithmetic mean (4.150) and a high degree. The study also found a significant relationship between productive thinking and academic adjustment. The study showed no statistically significant difference between males and females on the productive thinking and academic adjustment scales. The study made many recommendations, such as B. Work on applying modern teaching methods to promote students' creative thinking and improve academic adaptability.

Keywords: Productive thinking, Academic adaptation, Students, Educational, Psychological Sciences

1- Introduction

Productive thinking is a powerful tool and a requirement for college students, especially those in psychology departments, as it requires the ability to critically analyze and think creatively to solve complex problems they face in their studies and research. For psychology students, productive thinking is not limited to understanding psychological theories and concepts but extends to applying this knowledge in a modern way. Productive thinking is innovative in understanding and analyzing human behaviour and understanding psychological processes, which can help students develop problem-solving and critical thinking skills, allowing them to conduct innovative research and effectively contribute to the advancement of psychology. This way of thinking also improves their ability to handle academic and professional challenges more effectively, preparing them for a successful career in psychology. Academic adjustment is an essential aspect of the life of college students, especially psychology majors, as this precise and extensive profession requires the ability to adapt to the ever-changing educational environment and its numerous demands. Academic adjustment is the process by which students learn how to cope with the pressure of college, interact with classmates and teachers, and balance academics and personal life. A student spends four years in college life, which is a long time for the student's academic adjustment and satisfaction with college life, which affects his productivity and contributes to his readiness for college life. Identify and accept the trends and values

DOI: 10.33687/jhssr.003.03.000365

that the university tries to cultivate among college students, and the adjustment of college students to college life is influenced by many factors, including gender, self-concept, intelligence, and some personal and social factors as some psychological variables. It is affected by college life (Barakat, 2006). Students' expectations and impressions of the university environment vary from student to student, depending on the many pressures they face in college life, such as academic, psychological, economic, social and moral pressures, which affect their compatibility with school obligations and college studies (Mahyuddine, 2010). If a person is satisfied with his or her academic performance and the school is satisfied with him or her, both in terms of his or her academic performance and his or her school relationships with teachers, classmates and staff, then he or she is considered to be well adjusted academically (Saleh, 1996). This study analyses the productive thinking of students in the Department of Psychology of the Faculty of Education and its role in promoting academic adjustment, trying to understand the relationship between productive thinking and academic adjustment and improving student performance in the academic environment. Analysis.

The first topic: research methodology

First: The problem of the study

Due to the importance of productive thinking required for the learner's mind and the need to develop personal skills, especially at the university level, the university environment, like other environments where individuals are exposed to new problems and new experiences, has the following characteristics: academic characterised by specificity, requiring students to adapt to them, pass them and face them. Studies on the education that students receive at university, among others, show weaknesses in productive thinking skills, which indicates students' lack of thinking skills. Problems faced by university students, especially in the departments of education and psychology, include decreased self-confidence, fear, difficulty in establishing social relationships with people around them, students and professors, as well as poor achievement or their motivation to learn thinking skills characterised by productivity, as well as deficiencies in planning and time management and other problems that affect reasonable adjustment, which means a decrease in mental health.

Second: The importance of research

The importance of the research is reflected in the following points:

1. Students majoring in education and psychology often work in fields that require creative skills and problem-solving, such as education, psychological counselling, and productive thinking. By developing productive thinking skills, we can help them prepare for future careers and enable them to deal with career challenges better and effectively.
2. The relationship between productive thinking and academic adjustment is a fundamental pillar of academic and personal success for Department of Education and Psychology students.
3. The relationship between developing productive thinking and academic adjustment improves the ability to deal with challenges innovatively and effectively achieve academic and career goals.

Third: Research Objectives

The objectives of the study are as follows:

1. To determine the level of productive thinking among the Department of Psychology and Educational Sciences, Faculty of Education, University of Tikrit students.
2. To determine the level of academic adjustment among students of the Department of Psychology and Educational Sciences, Faculty of Education, University of Tikrit.
3. To determine the correlation between productive thinking and academic adjustment among students of the Department of Psychology and Educational Sciences, Faculty of Education, University of Tikrit.

Fourth: Research hypothesis

DOI: 10.33687/jhssr.003.03.000365

First hypothesis:

The level of productive thinking of students in the Department of Psychology and Educational Sciences at the University of Education is average.

Second hypothesis:

Students' average academic adaptation level in the Department of Psychology and Educational Sciences of Normal University.

Third hypothesis:

The relationship between productive thinking and academic adjustment among the Department of Psychology and Educational Sciences, Faculty of Education, University of Tikrit students.

Fourth hypothesis

There is no statistically significant difference in the productive thinking level of students in the Department of Psychology and Education due to academic gender variables.

Fifth hypothesis

There is no statistically significant difference in the level of productive academic adjustment of students in the Department of Psychology and Education due to the gender variable.

Fifth: Research Methodology

After reviewing previous studies on the research topic, a questionnaire was created and presented in the form of personal information, as well as two main axes, totalling (50) items, where the productive thinking axis included (30) items and the productive thinking axis included (30) items. The academic adjustment axis included (20)) The elements included are shown in Table (1). This study used the descriptive comparative exploratory method because it was exploratory in its absolute form and then extended to examine possible differences based on the gender variable. The research topic and its variables were appropriate for qualitative and quantitative research, analysis, and description of phenomena.

Table (1): Questionnaire axes and phrases

Axis	Dimension	Number of ferries	Total
Productive thinking	Educational Environment	6	30
	Academic ambition	6	
	Self-efficacy	6	
	Study Skills	6	
	Social relations	6	
Academic adaptation	Motivation field	5	20
	Applied field	5	
	Performance area	5	

	Academic Environment	5	
Total paragraphs of the questionnaire		50 paragraphs	

Sixth: Study population and sample

The study population consisted of students from the Faculty of Education and Psychology, the Faculty of Education, and the University of Tikrit. For the sample, the researcher randomly selected one hundred (120) male and female students as the sample. Table (2) shows the distribution of the study sample by gender and school level.

Table 2: Distribution of the sample by school level and gender

Grades	gender				Total	
	males		Female			
	Iteration	%	Iteration	%	Iteration	%
most appropriate	10	8.33	11	9.17	21	17.5
second	24	20	21	17.5	45	37.5
Third	12	10	17	14.17	29	24.17
fourth	13	10.83	12	10	25	20.83
Total	**59**	**49.17**	**61**	**50.83**	**120**	**100**

The second topic: Research terminology and theoretical framework and previous studies

First: Search Terms

Product Concept:

It is defined as the critical development of thinking, the practical application of helping its members understand and plan clearly and effectively, combining creative and critical thinking with generating new ideas (Hurson, 2008).

It is defined as a person's consideration of exploring a part of their experience to achieve a goal, which may be understanding, making decisions, solving problems, or judging (Hussein, 2014).

Adaptation is the modification or change of behavior so that the organism can keep up with environmental changes (Sutherland, 1999). It is also defined as an individual's behaviour due to his physical, social, emotional, and psychological preparedness towards the environment in which he lives. So, we find a significant correlation between an individual's characteristics and his ability to bring about the adaptation process (Omaria, 2005).

Types of adaptation

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Customisation includes the following:

Psychological adaptation: Psychological adaptation is also called personal or ego adaptation. A person can reconcile their motivations and social roles that conflict with those motivations to achieve happiness, reduce anxiety and tension, and fully satisfy everyone until the inner conflict is released (Al-Hait, 2003).

Social adaptation: It means the adaptation of the individual to his society, i.e., to the external environment, whether material or social and the social environment, i.e., the adaptation of society. H. Elements of non-material culture include values, norms, customs, traditions, beliefs, ideas, parents, social relations, economic, political and social systems, hopes, goals, and motivations (Ghobari, Mohamed, 2010).

Academic adaptation: is a continuous dynamic process by which a student assimilates and completes school material and achieves compatibility with the learning environment and its essential components (e.g., professor, peers, learning materials, learning location, learning time, etc.). (Abdul Ghani, Sayed, 2006).

Academic adaptation: A college student can develop good relationships with professors nine and classmates to coexist with the college environment and meet his needs (Azzam, 2010). It is also defined as the set of thoughts and behaviors that a college student uses with full consciousness to deal with or control the effects of a situation he is experiencing or may experience in the future (Stone, Neal, 1999).

Theoretical framework

Characteristics of productive thinking:

Productive thinking includes the following characteristics (Black, 2021):

1. 1. Reframe ideas by skipping thought structures and restating them in different frameworks.
2. It requires freedom of thought, which means leaving the problem alone to allow internal foresight to consider unfamiliar ideas and solutions.
3. It includes hyperconvergent thinking, grouping solutions, and adopting problem-solving criteria.
4. It is characterised by organised thinking based on a set of principles, which is followed by careful deviation from itself when deducing. (Razouki et al., 2016).

Components of productive thinking

Productive thinking combines critical and creative thinking as skills for generating new ideas (fluency, originality, flexibility, sensitivity to problems, elaboration, reasoning, evaluation, and interpretation) (Black, 2021).

Previous studies:

Some studies are looking at productive thinking and academic adjustment, including the following:

Study (Black, 2021):

The study aimed to determine the level of productive thinking among students of the Science Education College dismissed by Ibn Haitham and to determine the relationship between productive thinking and 21st-century skills. Here, the random preview was used to test the study sample consisting of (420) male and female students and a descriptive method was used in the study. The study found that the students of the fourth-level education college possessed 21st-century skills and were also productive in thinking. The study also found a significant statistical correlation between the students' productive thinking scores and 21st-century skills scores.

Study (Shashan, Lakhal, 2019):

This study aimed to determine university students' academic adjustment level and examine this concept based on gender, major and place of residence using a descriptive approach appropriate to these topics. The researcher developed a measure of academic adjustment to achieve the research objectives and applied it to a sample of (100) male and female students of the Faculty of Social Sciences and Humanities at Jerfazayan Ashur University, who were randomly selected. The study concluded that students of social sciences and humanities showed a high level of academic adjustment, and the study found no statistically significant differences in academic adjustment between students based on the variables (gender, department and place of residence).

Study (Salman, 2021)

This study aimed to determine the level of mental health and academic adjustment of university students and the correlation between mental health and academic adjustment. Descriptive boxes were used. The study sample consisted of (400) male and female students from various faculties of Al-Mustansiriya University, of which (200) males and (200) females, distributed between (20) science majors and (200) humanitarian majors. Conclusion of the study: The students had a high level of mental health and academic adjustment, and a statistically significant correlation was found between mental health and academic adjustment of university students.

The third topic: The practical side

Psychometric properties of the scale

1. Honesty of the scale:

- **Authenticity of content**: The validity of the scale was checked, and it was ensured that it was intended to measure the content developed as it was presented to a group of academic referees and experts in the fields of psychology, educational sciences and teaching methods, including (6) referees, where they were asked to express their opinions on the scale in terms of the following aspects: (appropriateness of the wording of the content - appropriateness of the scale concerning its dimensions and number of paragraphs - completeness of the research topic - completeness of its content linguistically expressed). After rewriting a few paragraphs based on the referees' suggestions, the scale was formulated from (50) items with scale levels determined according to a five-point Rickardt gradient (strongly agree, agree, neutral, disagree, strongly disagree). to determine according to weights (1,2,3,4,5).

• Honest internal consistency

Table (3): Pearson correlation coefficient between each segment of the scale and the total score

Paragraph number	Correlation coefficient	Significance value	Paragraph number	Correlation coefficient	Significance value
1	0.301**	0.001	26	0.484**	0.000
2	0.181*	0.048	27	0.406**	0.000
3	0.389**	0.000	28	0.501**	0.000
4	0.261**	0.004	29	0.359**	0.000
5	0.354**	0.000	30	0.478**	0.000

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6	0.257**	0.005	31	0.506**	0.000
7	0.235**	0.01	32	0.322**	0.000
8	0.390**	0.000	33	0.327**	0.000
9	0.276**	0.002	34	0.347**	0.000
10	0.382**	0.000	35	0.389**	0.000
11	0.358**	0.000	36	0.511**	0.000
12	0.467**	0.000	37	0.504**	0.000
13	0.238**	0.009	38	0.370**	0.000
14	0.330**	0.000	39	0.407**	0.000
15	0.315**	0.000	40	0.405**	0.000
16	0.263**	0.004	41	0.401**	0.000
17	0.295**	0.001	42	0.374**	0.000
18	0.208*	0.023	43	0.414**	0.000
19	0.333**	0.000	44	0.375**	0.000
20	0.406**	0.000	45	0.425**	0.000
21	0.303**	0.001	46	0.321**	0.000
22	0.202*	0.027	47	0.383**	0.000
23	0.348**	0.000	48	0.399**	0.000
24	0.228*	0.013	49	0.489**	0.000
25	0.456**	0.000	50	0.338**	0.000

**** Correlation D at significance level 0.01**

*** Correlation D at significance level 0.05**

The results in Table (3) show that all the passages have statistically significant correlations as the statistical significance level for all the passages is less than 0.05. These results indicate that both the Productive Thinking Scale and the Academic Adjustment Scale show honesty in internal consistency.

2. Stability

The stability of the Productive Thinking Scale (including five dimensions and 30 items) and the Academic Adjustment Scale (including four dimensions, as shown in Table (4)) was evaluated using the Cronbach alpha equation and Spearman-Brown. The equation was calculated using the half-split method.

Table (4): Stability coefficients of the Productive Thinking Scale and the Academic Adaptation Scale

Axis	Dimension	Number of ferries	Alpha Cronbach	Half Hash
Productive thinking	Educational Environment	6	0.821	0.826
	Academic ambition	6	0.842	0.810
	Self-efficacy	6	0.723	0.743
	Study Skills	6	0.784	0.776
	Social relations	6	0.894	0.877
Productive Thinking Scale		**30**	**0.721**	**0.772**
Academic adaptation	Motivation field	5	0.744	0.749
	Applied field	5	0.871	0.899
	Performance area	5	0.835	0.836
	Academic Environment	5	0.819	0.825
Academic Adaptation Scale		**20**	**0.724**	**0.802**

The results in Table (4) show that the stability coefficient of the productive thinking scale reached (0.721) when using the Cronbach alpha method and (0.772) when using the Spearman-Brown fragment method, and the coefficient value was greater than 0.7 in both methods. The results show that the productive thinking scale has good stability after dilution. The stability coefficient of the academic adjustment scale using Cronbach's alpha method is (0.724), and the stability coefficient using the Spearman-Brown semi-grading method is (0.802). The stability coefficient results show that the academic adjustment scale has good stability.

Research results and discussion

The commonly accepted five-level standard was determined in the study by dividing the difference between the highest value on the scale (5) and the lowest value on the scale (1) by three levels (3/4) = 1.33. This value was then added to the lowest value in the scale gradient (1) to determine the category's upper limit and importance. Table (5) illustrates this.

Table (5)

Acceptance criteria for the degree of response of the research sample members to the research variable paragraphs

Category length	Degree of response
1-2.33	Low
2.34-3.67	Medium
3.68 -5	High

First hypothesis:

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The Department of Psychology and Educational Sciences students at the University of Education have an average level of productive thinking.

The means and standard deviations of the productive thinking scale and its five dimensions were calculated, and the one-sample t-test was applied by testing the difference between the actual mean and the hypothesized mean in (3). The results are shown in Table (6):

Table (6): Arithmetic means, standard deviations and t-tests of product thinking and dimensions

figure	Dimension	Arithmetic mean	Standard deviation	Appreciation	T value	Degree of freedom	Statistical function level	Statistical significance
1	Educational Environment	4.103	0.587	High	20.592	119	0.000	D
2	Academic ambition	4.203	0.637	High	20.684	119	0.000	D
3	Self-efficacy	4.043	0.522	High	21.873	119	0.000	D
4	Study Skills	4.023	0.637	High	17.583	119	0.000	D
5	Social relations	4.06	0.711	High	16.32	119	0.000	D
Productive thinking		4.086	0.285	High	41.775	119	0.000	D

The results in Table (6) show that the arithmetic mean of product thinking reaches (4.086) and the standard deviation is (0.285), which is at a high average level among students of the Institute of Educational Sciences and Psychology of the School of Education. , and the degrees of all its dimensions are high, among which the academic ambition dimension ranks first, with an arithmetic mean of (4.203) and a standard deviation of (0.637), followed by the educational environment, with an arithmetic mean of (4.103) and a standard deviation of (0.637). The deviation is (0.587), ranking third after self-efficacy, with an average value of (0.637). Arithmetic reaches (4.043) and a standard deviation of (0.522), and learning skills rank fourth, with an arithmetic mean of (4.023) and a standard deviation of (0.637). Finally, the social relationship dimension ranks fifth, with an arithmetic mean of (4.06) and a standard deviation of (0.711). The results show that the productive thinking scale's arithmetic mean and dimensions are statistically significant at the moral 0.05 level. Therefore, the first assumption is acceptable.

Second hypothesis:

Students of the Department of Psychology and Educational Sciences of the University of Education showed average academic adaptability.

The mean and standard deviation of the Academic Adjustment Scale and its four dimensions were calculated, and the one-sample t-test was applied by testing the difference between the actual mean and the hypothesized mean of (3). The results in Table (7) are as follows:

Table (7): Arithmetic mean, standard deviation and t-test of the Academic Adjustment Scale and its dimensions

figure	Dimension	Arithmetic mean	Standard deviation	Appreciation	T value	Degree of freedom	Statistical function level	Statistical significance
1	Motivation field	4.127	0.6	High	20.581	119	0.000	D
2	Applied field	4.152	0.681	High	18.537	119	0.000	D
3	Performance area	4.122	0.595	High	20.637	119	0.000	D
4	Academic Environment	4.202	0.62	High	21.219	119	0.000	D
Academic adaptation		4.15	0.328	High	38.444	119	0.000	D

The results in Table (7) show that the arithmetic mean of academic adjustment reached (4.15) and the standard deviation was (0.328), which is at a high level among the students of the Department of Education and Psychology of the University of Education. All dimensions showed a high degree, among which the academic environment dimension ranked first, with an arithmetic mean of (4.202) and a standard deviation of (0.62), followed by the application field, with an arithmetic mean of (4.152) and a standard deviation of (0.62). (0.681). The motivation dimension ranked third, with an arithmetic mean of (4.127) and a standard deviation of (0.6). The fourth and last place is performance, with an arithmetic mean of (4.122) and a standard deviation of (0.595). The results show that the arithmetic mean of the academic adjustment scale and its dimensions are statistically significant at the moral level of 0.05. Therefore, the second hypothesis is acceptable.

Third hypothesis:

There is a correlation between productive thinking and academic adjustment among students of the Department of Psychology and Educational Sciences, Faculty of Education, University of Tikrit.

In order to determine the relationship between the productive thinking scale and the academic adjustment scale, the Pearson correlation coefficient was calculated. The results are shown in Table (8):

Table (8): Relationship between productive thinking scale and academic adjustment scale

Scale	Academic adaptation	
Productive thinking	**Correlation coefficient**	**0.234***
	Significance level	**0.010**
	Statistical significance	**D**

*** Correlation D at significance level 0.05**

Table (8) shows a statistically significant relationship between productive thinking and academic adjustment, with a correlation coefficient of (0.234). Therefore, the results indicate that the fourth hypothesis is acceptable.

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Fourth hypothesis

There is no statistically significant difference in the productive thinking level of students in the Department of Psychology and Education due to gender differences in academic qualifications.

In order to test the difference between males and females on the productive thinking scale, a t-test of two independent samples was used, as shown in Table (9) below:

Table (9): Testing differences between men and women using the Productivity Mindset Scale

Dimension	gender	Arithmetic mean	Standard deviation	T value	Degree of freedom	Significance level	Statistical significance
Educational Environment	**males**	4.054	0.667	-0.901	118	0.369	Non-D
	Female	4.15	0.498				
Academic ambition	**males**	4.116	0.814	-1.478	118	0.142	Non-D
	Female	4.287	0.386				
Self-efficacy	**males**	4.025	0.492	-0.362	118	0.718	Non-D
	Female	4.06	0.554				
Study Skills	**males**	4.073	0.614	0.856	118	0.394	Non-D
	Female	3.974	0.66				
Social relations	**males**	4.122	0.666	0.935	118	0.352	Non-D
	Female	4	0.753				
Productive thinking	**males**	4.078	0.302	-0.311	118	0.756	Non-D
	Female	4.094	0.269				

The results in Table (9) show that there is no significant difference between men and women in the productive thinking scale of the Department of Psychology and Educational Sciences of the College of Education, which reaches a significance level (0.756), which is higher than the moral level (0.05). The results show that there is no significant difference between men and women in the dimensions of the productive thinking scale, and the significance level is lower than the moral level (0.05), which indicates that the significance level of the productive thinking scale is lower than the moral level (0.05). The fourth hypothesis can be accepted.

Fifth hypothesis

Due to the influence of gender variables, there is no statistically significant difference in students' productive academic adjustment levels in the Department of Psychology and Education.

In order to test the difference between males and females on the academic adjustment scale, two independent sample t-tests were used, as shown in Table (10) below:

Table (10): Examining differences between males and females on the academic adjustment scale

Dimension	gender	Arithmetic mean	Standard deviation	T value	Degree of freedom	Significance level	Statistical significance
Motivation field	**males**	4.085	0.619	-0.752	118	0.454	Non-D
	Female	4.167	0.582				
Applied field	**males**	4.027	0.767	-1.996	118	0.048	Non-D
	Female	4.272	0.566				
Performance area	**males**	4.129	0.622	0.129	118	0.898	Non-D
	Female	4.115	0.573				
Academic Environment	**males**	4.227	0.527	0.44	118	0.66	Non-D
	Female	4.177	0.702				
Academic adaptation	**males**	4.117	0.347	-1.101	118	0.273	Non-D
	Female	4.183	0.308				

The results in Table (10) show that there is no significant difference between males and females in the academic adjustment scale of the Department of Psychology and Education of the College of Education, which reaches the significance level (of 0.273), which is higher than the moral level (0.05). The results show no significant difference between males and females in the production adjustment scale dimensions, except according to the application field, and the significance level is lower than the moral level (0.05). Among them, the results show a significant difference between males and females, and the difference is in favor of females because the significance level reached (0.048) is lower than the significance level (0.05). The results show that the scale's difference between males and females is insignificant overall, indicating that the fifth hypothesis is acceptable.

Fourth Theme: Conclusions and Recommendations

1. Conclusions:

The study found the following results:

1. The statistical analysis results showed that students at the Faculty of Psychology and Education of Tikrit University had a high level of product thinking.
2. I noticed that the level of academic adjustment of students at Tikrit University's Faculty of Psychology and Education was high.
   There was a statistically significant relationship between productive thinking and academic adjustment.
   There were no statistically significant differences between men and women on the productive thinking scale, its five dimensions, academic adjustment, and its four dimensions, except for the difference in the scope dimension, which favoured women.

2. Recommendations:

Based on the research results, the following recommendations are made:

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1. The faculty of the School of Education must pay attention to modern teaching methods because the educational environment is one of the most critical variables that affect students' productive thinking.
2. Workshops and courses must be held to train students in the School of Education in productive thinking, such as the scope of application and performance.
3. Integrate technological tools into education, such as educational applications and electronic platforms, that help students improve their learning skills.
4. Encourage students to use online educational resources and university libraries for independent research and active learning.
5. Design activities and assignments that require students to use creative thinking skills such as critical thinking and creative thinking.

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