



The Effect of Contract Learning Strategy (CLS) on the Development of Decision-Making Skills among Primary School Students in light of their Academic Self-Concept

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ABSTRACT

Introduction. The student's ability to engage in learning decisions strengthens her/his self-efficacy and responsibility, which are key to learning decision making competence and having a positive academic self-concept

The aim of the present study was to investigate the effectiveness of the Contract Learning Strategy in developing decision-making skills among primary stage students and to investigate the role of academic self-concept and interaction between the instructional strategy and academic self-concept in decision-making results of students.

Research methods. The experimental research approach, based on a quasi-experimental design, is appropriate for achieving the research objectives. The research sample consists of (53) female students in the 8th grade, randomly divided into two groups: the experimental group taught using the contract learning strategy and the control group taught using the traditional teaching method. The Academic Self-Concept Scale (ASCS) and Decision-Making Scale (DMS) are used as research instruments.

Results. The results showed statistically significant differences in decision-making skills in favor of the students who have been taught using the contract learning strategy ($F = 52.53$, $p < .05$, $e2 = .52$). Students who had a positive academic self-concept also showed significantly greater decision-making skills than students who had a negative self-concept ($F = 95.04$, $p < .05$, $e2 = .66$), although the effect of the teaching strategy on academic decision-making skills was not statistically significant.

Conclusion. The findings affirm the effectiveness of the contract learning strategy in improving decision-making skills among primary stage students irrespective of the academic self-concept, and hence the effectiveness of this strategy as an alternative instructional learning approach that focused on lean learners and seek for autonomy and responsibility in learning.

KEYWORDS

Academic self-concept, contract learning strategy, decision-making, skills

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INTRODUCTION

Today's societies are facing a huge information and technology revolution. Knowledge applications and information are growing and don't have to be stopped as they become part to the development and growth of society, which calls for the creative, thinking and productive minds that could make informed decisions to keep up with the rapid growth and pace of life. It is no longer acceptable for the goals of education to focus solely on memorizing and teaching information. Instead, it is now critical to deal with the development of decision-making skills which are regarded as a significant tool of knowledge and to reach the target of lifelong learning process since the development of decision-making skills is regarded as a fundamental objective of modern education systems [1; 2].

Modern education trends emphasize the importance of making the student the focus of the educational process, focusing on their uniqueness, individuality, and differences, and moving away from traditional methods. These trends necessitate the adoption of numerous modern strategies to achieve this goal, including the contract learning strategy, which focuses on educational methods that cater to the student's personality traits, providing them with self-learning skills, knowledge-seeking skills, decision-making skills, and problem-solving skills [3].

Modern learning strategies emphasize the principle that students learn how to learn, can self-monitor their studies in the future, and possess decision-making skills. Among these strategies is the contract learning strategy, a new and modern approach that encourages innovation and creativity, fostering an educational environment where respect and mutual agreement prevail between the teacher and students. The contract learning strategy refers to the principle of concluding an agreement between the teacher and the students about what will be learned in detail in terms of steps, how to complete the lessons, the period allocated for that, specifying the used resources, the applied activities, clarifying the criteria that the teacher used to evaluate the students, and determining the tasks and responsibilities of each party in light of the specific goals [4].

The contract learning strategy has several important features that benefit both male and female students. The contract learning strategy makes students feel responsible for what they learn, increases their motivation toward the learning process, fosters confidence in themselves in various educational situations, and gives them the freedom to choose what they want to learn and how to teach it. This strategy also fosters an atmosphere of flexibility in the classroom environment, alleviates educational stress, and develops various skills among students, including management and leadership skills. Thus, this strategy develops students' decision-making skills [5].

Decision-making skills are one of the necessary and important skills for students. Therefore, educational institutions and the educational system continually strive to equip students with this skill, as it enhances students' ability to rely on themselves and solve problems, create various alternatives, and select the most suitable option among these alternatives. The significance of this skill is greatly highlighted in educational situations that require an open and flexible mindset, as well as a supportive classroom environment, which increases the student's self-confidence and allows them to practice and experiment, ultimately making them more capable of making the right decisions [6].

Students' decision-making ability is closely related to the self-concept that is formed from childhood, as they collect information about themselves and interact with their surroundings. The concept of the self is not born with the individual but instead is formed and developed as a result of the successive experiences to which he or she is exposed. Academic self-concept is one aspect of general self-concept, as it is formed within the student's educational environment through educational experiences and classroom situations that shape their academic self-concept [7].

A student's understanding of their academic self-concept has a significant impact on their academic performance. Academic self-concept is also important in students' adaptation to their educational environment, as it refers to the way the student views their academic abilities and self-concept, how they feel about themselves as learners, and their ability to take responsibility for class duties and tasks. A positive academic self-concept significantly contributes to supporting the growth process. It helps students master various skills, whereas a negative self-concept negatively affects students' mastery of many skills, including decision-making skills [8].

The remainder of the paper is structured as follows: Section two provides an overview of the literature review. Section three presents the research problem, while section four shows the research hypotheses. Section 5 presents the theoretical framework, while Section 6 highlights the research significance. Section seven presents research terms and definitions, and a review of the adopted methodology is provided in Section eight. Section nine provides a discussion. Subsequently, section eleven provides recommendations.

Accordingly, the purpose of the present study is to share its contribution toward the learning centered instruction literature by exploring the effective use of Contract learning strategy in the development of decision making skills among primary stage students. In addition, it examines the contribution of academic self-concept as a learner-related factor affecting decision-making performance, and an interaction between instructional strategy and academic self-concept by relying on principles of self-regulated and constructivist learning theories.

LITERATURE REVIEW

In recent years, there is a growing focus in educational research to focus on learner-centered models of instruction that promote autonomy, engagement and deep learning, rather than passive reception of knowledge. Within this paradigm shift there has been considerable attention given to the contract learning strategy because it may help to individualize learning, increase student motivation, and cultivate high-order cognitive as well as life skills. Although initial studies emphasized the conceptual basis for the use of learning contracts as a type of individualized instruction, more recent research – especially that conducted within the past five years – has begun to systematically analyze the impact of the learning strategy in a broad range of subjects, level and educational outcomes.

One of the most recent studies, Sumarsono and Permana [9] showed that the contract learning strategy was significant in improving academic writing among English language students of Mandalika Educational University. Using a quasi-experimental design, the researchers have found that learning contracts gave the learners structured autonomy that allowed them to self-monitor learning progress, reflect on their skill gaps, and reach learning outcomes better than the control group. These findings are consistent with the finding that contractual learning increases accountability and ownership of learning, two key attributes for long term mastery of skills.

In Taher and Hussein [10], employing the learning contract approach in enhancing decision-making and problem-solving skills of primary school students was effective. The authors reported that the students exposed to contract learning became more aware of alternatives, consequences and justification for choices, demonstrating that the advantages of using contract learning are not only visible in students' academic performance but also in the metacognitive and executive functioning skills. Similarly, WJARR [11] showed significant changes in the level of engagement and persistence of learners had also improved, indicating that the strategy helps students to view learning as a process self-regulated, rather than the teacher's instruction.

A number of the latest studies further strengthen the psychological aspect of learning contracts. In the study presented by [12], it was shown that structured bibliotherapy and study skills programs – conceptually similar to the use of learning contracts in terms of their requirement to reflection and self-monitoring – improved academic self-concept in students. In their book feedback, reflection and new learning, the jury emphasizes the positive impact on academic self-concept in this way: The recognition of capabilities and control is a recurrent theme throughout the literature: electors who see themselves as competent and in control when learned tend to show higher levels of engagement and resilience and perform better. Extending this line of evidences, Baysal et al. [13] noted a medium amount of decision making between middle grade students and the need for mindset of learning techniques that reinforce autonomy and reflection, which contract learning provides inherently.

From Turkey, Akaydin and Cokcaliskan [14] established that third and fourth grade students demonstrated high levels of metacognitive awareness-a predictor of sound decision-making-and argued that instructional strategies need to get students to become self-assessors, planners and evaluators as opposed to rote learners. The learning contract model, through design, includes these metacognitive stages and gives them operational form via agreed learning tasks, assessment criteria and timelines.

In the domain of STEM education, Al-Gharib et al. [15] highlighted that contract learning had a significant effect on the enhancement of creative thinking in mathematics of the students of the preparatory school. Their quasi-experimental study concluded that learning contracts students did superior in flexibility, originality, fluency, and elaboration skills. Similarly, improvements in realistic mathematics education (RME) when implemented through educational contracts in Indonesia was reported by [16] through which the rationale for implementation of the contractual learning devised by the researcher to be educational contracts in Indonesia, both the independent and collaborative exploration.

Multiple and the benefits of contract learning come in part from the fact that it aligns with constructivist learning theory, which stresses the active role of the learner in constructing knowledge. VeisiKahre et al. [17] found that problem-solving training was able to increase academic self-concept, which is consistent with the argument that instructional approaches that emphasize learner control and intentional reflection can improve self-beliefs and performance. Likewise, Emmanuel et al. [18] concluded that academic motivation and self-concept were predictors of academic achievement among high school students, strengthening the argument that learning strategies should strengthen psychological investment of students and autonomy -- two pillars of learning contracts.

More recently there has also been evidence linking learning contracts with self-directed learning, especially when access is online or a blended learning approach is taken. Studies attached in the dataset (e.g., The Effect of the Learning by Contracts Strategy on Achievement and Motivation in Distance Learning) consistently show that students learning under contractual frameworks are more persistent, possess more time management and are more goal oriented. These competencies are very pertinent as digital learning gets integrated into the educational systems around the globe forever.

The body of reviewed research clearly shows that the contract learning strategy has moved from theoretical instructional model to empirically validated instructional strategy that improves several aspects of student learning across academic stages and subject areas. Consistent evidence from more recent studies indicates that learning contracts not only enhance academic performance, such as writing competence and performance in mathematics, but also boost higher order skills such as problem-solving, metacognition, decision-making, and creative thinking. Moreover, the strategy is found to contribute to key psychological outcomes, especially academic engagement, persistence, and self-concept as the strategy encourages autonomy, accountability, and self-regulated learning. Findings in a variety of educational settings suggest the power of contract learning is due to its congruence with constructivist values that allow learners to take active responsibility for planning, monitoring and evaluating their learning progress. Collectively, the literature suggests that contract learning is a potent learner-centred model of instruction that is appropriate to the modern educational enterprise, particularly as educational systems move to a digital and blended learning model where self-directed learning is becoming a core competency.

Research Problem

Various studies based on constructivist theory and its applications have indicated the need for learners to feel responsible for what they learn and to engage with the educational material to build, refine, and develop reproducible knowledge, which increases their motivation towards learning, makes them feel confident in themselves in many educational situations, and gives them the freedom to make decisions. Unlike the contract learning strategy, traditional teaching methods limit students' thinking and creativity levels, contributing to their lack of participation and Interaction with the environment around them, as well as difficulty in making decisions.

Given the results of previous studies emphasizing the necessity of using modern and constructive strategies in the modern approach to developing decision-making skills, and with the increasing number of realistic problems in the ability to bear responsibility and decision-making, which requires solving this problem through the use of contract learning strategy and measuring its impact on developing decision-making skill, the research problem is reflected in answering the following question:

What is the effect of the contract learning strategy on the development of decision-making skills among primary-stage students in light of their academic self-concept compared to the traditional teaching method?

Research Hypotheses

Given the research objectives, question, and problem, the research null hypotheses can be read as follows:

H (1): There are no statistically significant differences ($\alpha = 05.0$) between the means of scores of primary-stage students in developing decision-making skills due to the teaching strategy.

H (2): There are no statistically significant differences ($\alpha = 05.0$) between the means of scores of primary-stage students in developing decision-making skills due to the academic self-level "positive, negative".

H (3): There is no statistically significant relationship ($\alpha = 05.0$) between teaching strategy and academic self-level in developing decision-making skills among primary-stage students.

Theoretical Framework

This section gives an insight into contract learning strategy (CLS), decision-making skills, and academic self-concept.

First: Contract Learning Strategy

It is a strategy that involves concluding a clear and specific agreement between the learner and the teacher before the educational process begins. It is an agreement that clearly explains the purpose of the process to the learner and outlines the nature of the activities that need to be practiced, identifies the educational resources used in this process, and agrees on the evaluation method and criteria [19]. The contract learning strategy, also known as learning contracts, is considered a new approach in which the teacher and learner agree on and determine the details of the educational process, such as educational content, teaching methods, and the expected timetable for achieving the goals. The contract learning strategy determines the evaluation criteria adopted by the teacher to assess the learner's progress and the responsibilities of each party towards the specific goals, which include evaluation, feedback, and the granting of appropriate scores [4].

Ali [20] mentioned the elements of contract learning and defined them as follows:

1. The two parties to the contract: They are the learner and the teacher, as each one has his or her role.
2. Contracting alternatives: It is a negotiation between the learner and the teacher about alternatives to the educational process, such as negotiation in evaluation methods, teaching methods, forms of presenting content, and others.
3. Contract: It is the document that binds both the learner and the teacher to their roles, the methods of implementing them, and the tools used to implement them, as it is subject to modification according to the circumstances of each of them and the nature of the content, so the contract is the result of these negotiation processes.

The principles of this strategy are based on the learner's freedom to learn, meaning that they are not forced to comprehend and acquire knowledge and skills; instead, they bear responsibility for selecting the learning they will undertake and engaging in dialogue with the teacher. It is also based on taking into account individual differences among learners, as contract learning is characterized by positivity, activity, and the learner's motivation toward the learning process [3]. In the same context, Saltah [21] mentioned that the characteristics of contract learning are represented by four characteristics, which are:

1. Compulsory: It means that the learner bears the burden of his or her learning, obligates them to achieve the intended goals, and requires the teacher to assist the learner.
2. Clarity of Roles: This strategy precisely defines the roles of the teacher and the learner and the features of their work to achieve the set goals.

3. Diversity of Learning Sources and Methods: This strategy depends on giving the learner the freedom to select the learning methods, sources, and teaching methods appropriate to him or her to achieve the desired educational goals.

4. Flexibility: It allows the learner the freedom to change the established alternatives with flexibility that helps him or her achieve the goals, and this is done with the guidance and direction of the teacher.

Moreover, the contract learning strategy goes through three stages negotiated by both parties and implemented in the following stages:

Integration: Learners gain a clear understanding of the general picture of what they will learn, what they must learn, and what they must do. This means that learners are aware of the goals they must achieve, and this stage includes the negotiation process among learners [22].

Exploration: At this stage, learners explore the path they will take through the sub-elements and topics. They also identify the intended learning sources, such as CDs, websites, or the textbook, and recognize the steps, sequences, and alternatives that can be taken to achieve what is required of them [5].

Reflection: The learner ensures that they have achieved the targeted results and recognizes the benefits of the knowledge they have acquired. The learner also recognizes new challenges arising from what they have learned, and their self-motivation for continuous learning and strengthening the principle of "what is next" [23].

Second: Decision-Making Skill

It is a process based on conscious choice in selecting the most appropriate alternative after studying the alternatives available in a specific circumstance, considering the outcome of each alternative and its impact on the desired goals [24]. Decision-making skill is a complex thinking process that seeks to select the best alternatives or solutions for the individual in a specific circumstance to achieve the desired goals. It is also a mental skill that falls within the framework of complex thinking, as thinking when making a decision requires performing sequential steps.

Some researchers and scholars believe that it can be classified as a form of complex thinking that encompasses concept formation and problem-solving, as it often requires the use of higher-order thinking skills, such as evaluation, analysis, deduction, and induction. Therefore, it may be appropriate to classify it under complex thinking strategies, such as critical thinking, problem-solving, and creative thinking [25]. The stages of decision-making are mentioned in several studies [26; 27].

1. Identifying the Problem: This involves identifying the problem and its causes.
2. Problem Analysis: This includes collecting information related to the problem and understanding it to find appropriate solutions.
3. Developing Solution Alternatives: Analyzing the problem reveals the relationship between its elements and parts and links potential alternatives to the results.
4. Evaluating Solution Alternatives: Alternatives are studied by linking each potential alternative to its results and then selecting the optimal alternative.
5. Choosing the Most Appropriate Alternative: This is done by comparing different alternatives and then selecting the optimal solution.
6. Implementing the Solution: The previous steps are carried out in preparation for selecting the appropriate alternative, implementing it, and following it as a solution to the problem.
7. Evaluation and Control of the Solution: A practical examination of the alternative is conducted, and its efficiency in solving the problem is verified.

Practicing the skill of decision-making faces many challenges, including mixing the main issue with the secondary issues resulting from it, rushing to issue a judgment, not studying the issue and the ways to address it and its dimensions adequately and looking at it from one

angle, avoiding comprehensiveness when studying the pros and cons of decisions and potential solutions, and being satisfied with the first available alternative that the individual finds and making the decision, abandoning investigation and looking for other alternatives that may be more appropriate in the case [28; 29].

Third: Academic Self-Concept

Academic self-concept (ASC) refers to the mental representation of an individual's overall academic abilities and their proficiency in various academic areas [30]. It is also broadly defined as the relative thoughts and feelings that students have about their intellectual or academic skills, particularly when compared to those of other students [31]. Academic self-concept reflects a student's perception of themselves in terms of academic experience and progress. Factors consistent with academic self-concept include success and failure in achieving expected goals, perceived difficulty of academic tasks, relationships with other members of the school community, "teachers and peers", and self-perception of contribution [32].

Academic self-concept is classified into positive and negative, where a positive academic self-concept is represented by the student's acceptance and satisfaction with their academic self, achievement in academic curricula, desire to value and respect themselves, maintaining their academic position, and participating in academic activities effectively. However, a negative academic self-concept indicates that people with this perception see themselves as unimportant, unable to accomplish many of the things they want to do, believe that the level of other students is better than their own, and expect negative outcomes, such as failure [33].

External and internal comparisons influence academic self-concept. External comparison refers to students comparing their performance, achievements, and abilities to those of other students. In contrast, internal comparison involves comparing their academic performance in one area with that in other areas [34]. Therefore, several researchers have emphasized the importance of developing and growing this concept for students, as it may serve as a mediator in helping them develop their academic skills and adapt to the demands of the academic environment.

A positive academic self-concept can help students master various skills and support their growth. In contrast, a negative academic self-concept can lead to negative emotions that prevent students from achieving their goals. Thus, it is acknowledged that educational institutions play a significant role in shaping students' self-image, as the academic atmosphere, treatment system, and academic experiences are among the primary elements that contribute to forming the self-concept [35]. Jalgal, Ghannam, and Al-Milaha [36] stated that the causes of low academic self-concept are found in four areas, with the first area being the wrong practices carried out by parents, such as punishment, bullying, negative criticism, pressure, and a lack of approval.

The second area is that the student is exposed to school experiences that exceed their actual abilities, or they are asked to reach levels higher than their potential, which may reflect negatively on them due to their feeling of inability to reach a level that suits their potential and abilities. The third area is the use of incorrect teaching methods, such as teacher dominance, poor social Interaction with students, and the use of sarcasm and punishment, which may negatively impact students' self-concept. The fourth area is represented by the student's painful experiences, such as their low level of achievement and repeated academic failure, which leaves them feeling helpless and incompetent, ultimately leading to the formation of a negative self-concept.

Research Significance

The research significance is reflected in the new additions to the educational community in terms of theory, practice, and research. In theory, this research study examines a modern teaching strategy in the educational learning process and is considered one of the preliminary studies in Jordan, as recognized by researchers. In practice, it provides descriptive and applied procedures for the contract learning strategy, which may offer teachers the opportunity to employ and activate this approach. It is also hoped that this study will contribute to improving teacher performance if it is adopted, thereby enhancing student learning and achieving the desired learning outcomes. From a research standpoint, this study serves as a starting point for further exploration in this area and other related scientific fields.

Research Terms and Definitions

In this research, the following terms are mentioned, and their procedural definitions are as follows:

Contract Learning Strategy

It is a set of planned procedures applied to the students of the experimental group within the classroom in an organized and sequential manner to achieve the intended educational goals. Through this process, students decide to take responsibility for learning forms and patterns with the help of the teacher. It is based on negotiation to accurately determine the dimensions of the agreement, thereby developing their decision-making skills.

Decision-Making

The research sample can make informed decisions regarding the problems and situations they face while studying academic material and choose the correct solution from among several available options. It is measured by the degree to which students perform on the items of the decision-making ability scale, which researchers prepared for this purpose.

Academic Self

It is the learner's awareness of their academic abilities in classroom cognitive topics and their definition and description of these abilities. It is determined by the score that students obtain on an academic self-concept scale explicitly developed for this purpose.

The traditional Method

It is a set of traditional steps and procedures that the teacher follows when teaching, using the necessary methods, tools, materials, and devices with which they are accustomed.

Research Limitations

The findings of this study can be generalized in light of the following limitations:

1. Human Limitations: This research study was limited to a purposive sample of eighth-grade female students.
2. Spatial Limitations: This research study was conducted at one of the schools affiliated with the Directorate of Education of Madaba District.
3. Temporal Limitations: This research study was conducted in the second semester of the academic year (2023/2024).

The research results are determined by the reliability of its instruments and their ability to reveal variation among the research sample in developing decision-making skills.

METHODS

Research Approach

The methodology appropriates and adapts the experimental research approach based on a quasi-experimental design.

Research Sample

The research sample consists of (53) female students in the 8th grade, randomly divided into two groups: the experimental group taught using the contract learning strategy and the control group taught using the traditional teaching method. The selected school includes three sections for the 8th grade. Two groups were randomly selected to participate in the research study: one was an experimental group, consisting of 26 female students taught using the contract learning strategy, and the other was a control group, consisting of 27 female students taught using the traditional teaching method. However, the third section was used to find the psychometric properties of the research

instruments. The female students in both groups were classified according to their levels of academic self-concept into positive and negative. Table 1 illustrates the distribution of the research sample according to group and academic self-level.

Table 1 Distribution of the Research Sample According to Group and Academic Self-Level

Group / Academic Self-Level	Experimental	Control	Total
Positive	15	17	32
Negative	11	10	21
Total	26	27	53

As shown in Table 1, female students with a positive academic self-level represent a percentage of 60%, while female students with a negative academic self-level represent a percentage of 40%. It is also evident that female students with a negative academic self-level in either group are fewer in number than their female counterparts with a positive academic self-level in the same group.

Research Instrument

To achieve the research objectives, the Academic Self-Concept Scale (ASCS) and Decision-Making Scale (DMS) are used as research instruments.

Academic Self-Concept Scale (ASCS): Brookover's scale, designed and developed as the Self-Concept of Academic Ability, was used. The scale determines an individual's assessment of their school academic abilities in comparison with classmates from the same group. In its original form, the scale consists of six basic items that measure an individual's self-concept in academic terms, comparing themselves to their fellow members of their class or group. A 5-point scale was placed in front of each item, as follows:

- I am the highest with (5) degrees
- I am medium-high with (4) degrees.
- I am medium with (3) degrees.
- I am less medium with (2) degrees.
- I am the lowest with 1 one degree.

Accordingly, the student's responses were divided into:

Students with a negative academic concept whose scores on the scale range from (1) to (15)

Students with a positive academic concept whose scores on the scale range from 16) to 30)

Research Instrument Validity

To check and ensure the research instrument's validity, it was reviewed by (10) experienced and specialized faculty members with experience in the area of psychology in Jordanian universities. The comments, modifications, and recommendations proposed by the validators are taken into account, selecting the items that have obtained an approval rating of 90%. The degree of agreement on the suitability of the items to measure what they were designed to measure ranged between 80% and 100%.

Research Instrument Reliability

To verify and ensure the reliability of the research instrument, a test-retest reliability analysis was conducted over four weeks, yielding a correlation coefficient of 0.88 between the two applications.

Research Design

The current research uses the experimental approach based on a quasi-experimental design as follows:

E G O1 X O1

C G O1 O1

Where:

E G Experimental Group

C G Control Group

O 1 Decision-Making Ability Scale

Accordingly, the research study design includes the following variables:

a. Independent Variables: There are two independent variables:

1. Teaching Strategy: It has two levels: The contract learning strategy and the traditional Method.
2. Academic Self-Concept "categorical variable": It has two levels: positive and negative.

b. Dependent Variables: There is a dependent variable: decision-making skill.

Statistical Processing

Descriptive statistics, such as means and standard deviations, and inferential statistics were used, applying Analysis of Covariance (ANCOVA) to determine the effect of the independent variables, "Contract Learning Strategy and Academic Self-Concept," on the dependent variable. The level of statistical significance ($\alpha = 0.05$) was adopted to examine the research study's null hypotheses in terms of rejecting or accepting them. To determine the effect size and identify the effect and effectiveness of the Contract Learning Strategy, the Eta Square² (η) and the percentage of explained variance "prediction" were used.

Research Procedures

Having ensured the validity and reliability of the research, the following procedures are conducted as a requirement to complete the research study.

1. Conducting the official correspondence necessary to apply the research instruments.
2. Selecting the school purposefully, identifying the selected groups in the research study, and randomly assigning them to two groups: experimental and control.
3. The Academic Self-Concept Scale (ASCS) was applied to the research study members. As a result, the female students in each group were classified into two subgroups: one with a positive level and the other with a negative level.
4. Applying the pre-decision-making scale to the research sample, correcting the answers, and attaining the results.
5. Applying traditional teaching strategy and Contract Learning Strategy to both groups.
6. Applying the post-decision-making scale to the two groups, correcting the students' answers, and recording the results.
7. The data were processed using the Statistical Package for Social Sciences (SPSS) according to the requirements for answering each research question.

RESULTS

This section presents the results related to the research hypotheses. The three null hypotheses are as follows:

H (1): There are no statistically significant differences ($\alpha = 0.05$) between the means of scores of primary-stage students in developing decision-making skills due to the teaching strategy.

H (2): There are no statistically significant differences ($\alpha = 0.05$) between the mean scores of primary-stage students in developing decision-making skills due to the academic self-level "positive, negative".

H (3): There is no statistically significant relationship ($\alpha = 0.05$) between teaching strategy and academic self-level in developing decision-making skills among primary-stage students.

The necessary descriptive data were collected to obtain the results related to decision-making ability. Table 2 illustrates those statistics and results.

Table 2 Means and Standard Deviations of the Research Sample's Scores on the Pre- and Post-Decision-Making Scale According to Two Strategy Variables of Traditional Teaching Strategies and Contract Learning Strategy

Strategy	Academic Self-Level	Pre-Test			Post-Test		
		AM	SD	Number	AM	SD	Number
Experimental Group	Positive	27.87	5.19	15	62.00	6.89	15
	Negative	27.64	6.50	11	37.73	4.94	11
	Total	27.77	5.56	26	51.73	13.63	26
Control Group	Positive	29.71	5.89	17	43.29	9.14	17
	Negative	27.10	5.55	10	28.8	4.24	10
	Total	28.74	5.80	27	37.93	10.41	27
Overall	Positive	28.84	5.57	32	52.06	12.43	32
	Negative	27.38	5.92	21	33.48	6.42	21
	Total	28.26	5.70	53	44.70	13.86	53

As illustrated in Table 2, the means of the scores for the female students in the research study on the pre-decision-making scale were similar, with a mean of 27.77 and a standard deviation of 5.56. However, the mean of the scores of the female students in the control group was (28.74) with a standard deviation of (5.80), meaning that there is an apparent difference in the mean between the two groups, "experimental and control" of (0.97).

It is also important to note that the means of scores of female students with a positive academic self-concept and those of female students with a negative academic self-concept are similar on the pre-decision-making scale, as the mean of the scores of female students with a positive academic self-concept is 28.84, with a standard deviation of 5.57. However, the means of the scores of the female students with a negative academic self-concept were (27.38) with a standard deviation of (5.92), meaning that there is an apparent difference in the mean of the scores of the female students in the research sample with a positive and negative academic self-concept of (1.46).

On the other hand, Table 2 indicates a noticeable difference between the means of scores of the female students of the research study members on the post-decision-making scale according to the strategy and academic self-concept variables, where the mean of the scores of the female students of the experimental group is 51.73 with a standard deviation of 13.63. However, the mean score of the control group students was 37.93, with a standard deviation of 10.41. Additionally, the mean of the female students' positive academic self-concept and self-concept scores in the post-test was 52.06, with a standard deviation of 12.43. However, the mean score of female students with a negative academic self-concept was 33.48, with a standard deviation of 6.42.

Given the apparent difference in the descriptive statistics of the scores of the female students of the research study members related to the post-decision-making scale, the effect of teaching strategy, academic self-concept, and the Interaction between them was tested to develop the post-decision-making skill using Analysis of Covariance "ANCOVA", considering the female students' scores on the pre-decision-making scale as a standard variable, as shown in Table 3.

As demonstrated in Table 3, the results of the analysis of variance associated with the scores of the female students of the research study members on the post-decision-making skill scale show that the "F-value" is 52.529, which is related to the effect of the teaching strategy on the variance of the scores of the female students on the post-decision-making skill scale. This result indicates a statistically significant difference ($\alpha = 0.05$) in the mean development of decision-making skills among female students in the research study, attributed to the teaching strategy used for female students taught using a contract learning strategy compared to their female counterparts taught using the traditional Method.

Table 3 Results of the Analysis of Variance Associated with the Scores of the Female Students of the Research Study on the Post-Decision-Making Scale According to Two Strategy Variables of Traditional Teaching Strategies and Contract Learning Strategy, and the Interaction between them

Source of Variance	Sum of Squares	DF	Square Mean	F-Value	Sig. Level	Eta-Squared	Size Effect
Pre-Scale	145.010	1	145.010	3.079	0.086	0.060	
Teaching Strategy	2473.549	1	2473.549	52.529	0.000	0.523	Big
Academic Self-Concept	4475.355	1	4475.355	95.039	0.000	0.664	Big
*Teaching Strategy Academic Self-Concept	343.806	1	343.806	7.301	0.09	0.32	
Error	2260.301	48	47.090				
Total	9991.170	52					

To determine the effect of the contract learning strategy on its effectiveness in developing decision-making skills, the effect size was calculated using Eta Square (η^2), as shown in Table 3. The effect size was found to be equal to (0.523), which means that the teaching strategy explains about (52.3%) of the variance in developing the decision-making skill of female students in the study. In comparison, the rest (47.7%) is unexplained due to other factors that may be uncontrolled.

Also, it is important to note that the results of the analysis of variance associated with the scores of the female students of the research study members on the post-decision-making scale show that the "F-value" is (95.039) which is related to the effect of academic self-concept "positive, negative" on the variance of the scores of the female students on the post-decision-making scale. This result indicates a statistically significant difference ($\alpha = 0.05$) in the mean development of decision-making skills among female students in the study, attributed to academic self-concept, favoring female students with a positive academic self-concept compared to their counterparts with a negative academic self-concept.

To determine the effect of academic self-concept and its effectiveness, the effect size was calculated using Eta Square (η^2), as shown in Table 3. The effect size was found to be equal to (0.664), which means that the academic self-concept explains about (66.4%) of the variance in developing the decision-making skill of female students in the study. In comparison, the rest (33.6%) is unexplained due to other factors that may be uncontrolled. As indicated in Table 3, the results of the analysis of variance associated with the scores of female students in the research study also show no statistically significant differences ($\alpha = 0.05$) for the "F-value" (7.301) related to the Interaction effect between the teaching strategy and the post-academic self-concept.

DISCUSSION

Given the aforementioned results related to the research hypotheses, the study's findings indicated that the contract learning strategy had a superior effect on developing the decision-making skills of the research sample compared to the traditional teaching method. This result can be explained and attributed to the fact that implementing the contract learning strategy, along with its procedural steps and cognitive processes, has increased students' motivation to learn and interest in the academic subject, leading to more coherent learning and a lower risk of forgetting. This strategy is based on negotiating with the help of the teacher until the students decide on their learning, by which they write a written contract that includes the dimensions of the agreement between the teacher and the student, so that both parties are committed to the elements of this agreement during the teaching process, which makes them more responsible for deciding it. With this in mind, this result is consistent with the findings of some similar studies [15] which discusses the effectivity of the contract learning strategy in the development of thinking skills for creativity in mathematics by the middle school class; [13] research examines the perceptions of the decision-making skills among primary school third and fourth graders; and [9] which examines the application of contract learning as an individualized instructional strategy in order to enhance student performance in academic

writing courses, on the effectiveness of the contract learning strategy in developing creative thinking in mathematics among middle school students.

The contract learning strategy is also characterized by several characteristics that make students more responsible and able to make decisions. Firstly, it is compulsory, in which students bear the burden of their learning and are required to achieve the goals they set. This obligation is within the framework of freedom in selecting the contents, means, and Method by which they should learn. Secondly, it is the clarity of roles through the concluded contract, as this strategy precisely defines the roles of both the student and the teacher to achieve the desired goals. Accordingly, contract learning is one of the forms of education that does not neglect the role of the teacher, but rather enhances its effectiveness and directs it in a way that achieves independence for both the teacher and their students in learning. Thirdly, it is the diversity of learning sources and methods, as this strategy gives the student the freedom to choose what they deem appropriate learning sources to achieve the desired educational goals. Fourthly, it is flexibility, as this strategy allows students the freedom to change the alternatives they select for their learning, providing them with the flexibility to achieve goals under the guidance and direction of the teacher. Therefore, due to the students' self-reliance, their responsibility for their work, and their testing of methods that suit their learning, this led to the development of their decision-making skills.

Furthermore, it is important to note that the results indicate a statistically significant difference ($\alpha = 0.05$) between the means of scores of primary-stage students in developing decision-making skills attributed to the academic self-level "positive, negative". This result can be explained and attributed to the fact that female students with a positive academic self-concept have a greater sense of the responsibility required by the educational situation, are more confident and bold in searching for resources and information and benefiting from them appropriately, and increase their motivation in performing tasks, and taking initiatives that challenge difficult situations and problems and providing new ideas and solutions for them, which constitutes an incentive for students' perseverance and determination, leading to assuming responsibility and developing their decision-making skills. The research study results align with those of previous studies [12; 18]. Additionally, the findings revealed no statistical significance ($\alpha = 0.05$) for the Interaction between teaching strategy and academic self-concept in developing decision-making skills among primary school students. This result can be interpreted as indicating that the effect of the teaching strategy was equal for both female students with a positive academic self-concept and those with a negative academic self-concept.

Recommendations

In line with the results, the article recommends adopting a contract learning strategy in teaching due to its positive impact on developing decision-making skills among primary-stage students. Another key recommendation is to develop aspects that enhance students' academic self-concept and provide educational experiences that encourage students to take responsibility for their learning, motivate them to make informed decisions, and exert the necessary effort in learning tasks. The article also recommends conducting studies on the use of learning strategies by controlling other variables.

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