



Effectiveness of reading & math initiative on the development of language & computational skills among early grade students: From teachers' standpoint

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ABSTRACT

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The study aims to investigate the effectiveness of reading and math initiative on the development of language and computational skills among early grades students, from teachers' standpoint. The study sample consisted of 180 male and female teachers of early graders in Amman city, Jordan. To achieve study objectives, researchers used a scale to measure the effectiveness of reading and math initiative on the development of students' language and computational skills from teachers' standpoint. The study results showed that teachers' assessment of reading initiative effectiveness on developing language skills came high at both overall and sub-items levels (vocal awareness skill, letters' sounds reading skill, vocabulary skill, reading absorption skill, and writing skill). Results also showed that teachers' evaluation of the math initiative effectiveness on developing computational skills was high at both the overall and sub-items levels (problem-solving skill, standard counting skill, number manipulation skill & number sensory skill). Results also showed the non-existence of any statistically significant differences in teachers' evaluation of the reading and math initiatives' effectiveness due to gender variable.

Contribution/Originality: The present study adds a brick to the wall of knowledge to bridge a gap in the literature that tackles teaching issues related to early-stage students in general. Moreover, it assists the Jordanian Ministry of Education in their efforts regarding the effectiveness of reading and math initiative in developing reading and computational skills among early-stage students in particular.

1. INTRODUCTION

The increased scientific and technical development and wide intellectual diversity made it necessary to redouble efforts in developing academic skills, and primarily the language and math skills of learners, through the development of educational policies and the transition from traditional teaching methods to distinct and creative teaching methods that place learners in a more effective and positive role to enable them from having the competencies to succeed in the face of new and diverse challenges imposed by the technical and cognitive revolution. Education is considered the main method for helping individuals to develop their cognitive, emotional, and skills personality and therefore it's

necessary to update teaching methods to ensure the development of learners' concepts and awareness. The early basic stage is critical in the development of academic skills in general and the development of language and computational skills in particular among learners, where in this stage they began to receive information and knowledge and interact with teachers seriously, which requires the creation of an appropriate educational environment that helps learners to effectively acquire the basic academic knowledge and skills (Suleiman, 2008).

Language skills are the main pillar of other learning skills, where they are the basis of learning; in its broad sense and are one of the most important components of learning and education process, and one of the most important academic skills that learners must possess, and any defect in it has different effects on all other academic fields (Combs, 2012). Reading, writing, listening, and speaking formulate an integrated linguistic system that individuals seek to acquire through the educational learning process, where reading represents the basic language skills and it is a complex set of intellectual and performance processes (Ruddell, 1992). Smith (2004) defines reading as a process that requires proper perception of letters' visual image, distinction of sounds and words, and the connection, understanding, and reusing of common elements in the written article, while Burns, Jaorn, and Kelebhan (1999) define it as a linguistic skill based on a sensory and intellectual activity directed toward the written material and linked with cognitive processes, but Pardo (2004) defines it as a complex intellectual process that requires the integration and interaction with written material. Therefore, reading is not a simple process that is limited to decoding and pronunciation of written language units, but rather a complex performance rational process of several overlapping processes and it's an intellectual process in every sense of the word (Chen, 2009).

The process of learning reading is done through training and practice; in multiple and serial phases. Wolf, Stoodley, and Catherine (2007) refer to five stages of reading learning process, which are: first stage, the readiness to read and include pre-school years and involves the availability of audio, visual, verbal, and intellectual capabilities. There are many indicators that refer to learners' possession of reading readiness requirements, such as intelligence, motor sensory synergy, physical growth, speech integrity, vision, hearing, motivation, attention, and focus level. The second stage, learning to read and start in the first year of basic level, where learners will formulate the basic reading habits and learn the basic skills, such as character recognition, linkage between word and image, vocal distinction between letters' pronunciation and their correct exits, visual distinction between different shapes and situations of characters, and the basic movements. The third stage, progress in reading and includes the rapid expansion of gaining basic reading habits and extends from the second grade to the sixth. It is characterized by accurate understanding and absorption of reading materials, speed of reading, and an increase in vocabulary. The fourth stage, achieving reading competency and includes seventh and eighth grades. This stage is characterized by extensive reading that increases the richness, understanding, and experience of learners; due to the interaction with reading materials, as well as an increase of their speed in the silent and loud reading, an increase in their efficiency to critique and evaluate the reading materials, and expand their reading inclinations. Finally, the fifth stage, the consolidation of reading tendencies and habits and extends from 9th grade to the end of secondary school where readers will appropriately identify and refine tendencies and habits of reading.

In general, reading education in the early learning stages is influenced by multiple factors; the most important are the selection of most appropriate reading education method, the way to train learners on sub-skills, and linking it to other language skills, such as writing, listening, and speaking, reading functions, and its role in contemporary life (Obeid, 2009). There are different reading education strategies, where structured oriented people present the process before results and see that effective reading education is done by creating opportunities for learners to connect the new education with past experiences, and tend to use teaching methods; such as brainstorming, reciprocal learning, and other similar methods (Tobin, 1993) but the integrative oriented people in reading teaching depends on the natural relationship between the reading and writing skills and other language skills, where they guide learners toward the completion of reading, writing, and oral tasks based on reading absorption of various texts (Barchers, 1994). In this context, teachers must use different reading education strategies, and its accompanying analytical and

structural processes, and performance and training tasks that allow learners to practice language skills within a systematic and effective natural setting (Sadler, 2003).

Mathematic skills are particularly important, since they are an integral part of students' academic and practical life, and they are the foundation for success in learning advanced subjects in mathematics, such as algebra, engineering, trigonometry, and calculus. They are also important in the adaptation process with daily life and economic transactions' demands, where basic computational skills include four calculations: addition, subtraction, multiplication, and division (Al-Maliki, 2008). Usually, the computational skills are taught during early primary grades at the following order: addition, subtraction, followed by multiplication and then division where teachers often enhance math calculation skills through games, time tests, and exercises. The new learning depends on past knowledge and ongoing training to master all four computational skills; for example, problems may be simple enough to be solved intellectually (Harrop & Swinson, 2003).

The early basic classes consider critical stages and require learners to master many skills; mainly language and computational skills, where the Ministry of Education in Jordan gives great importance to language and numerical skills, and after the emergence of national survey results and USAID (United States Agency for International Development) support during (2012) the Ministry of Education initiated the experimental intervention that aimed to improve reading and computational performance of early grades. The National Survey conducted during (2014) showed success of this experimental intervention on improving early-grade students' skills in reading and math (Ministry of Education, 2017b).

The Ministry of Education in Jordan has followed this success by reviewing the Arabic language and math curricula for early grades, and by committing to generalize this intervention approach on the national level. Therefore, Ministry designed the early class reading and math initiative to establish methodologies, policies, and practices of reading and math education, which support the development and improvement of reading absorption and math understanding, on the school and community levels. The response to this initiative was in partnership with institutions concerned with teachers' training, such as Arab staff for developing and modernizing education, Queen Rania Academy for teachers' training, and we love reading initiative. The initiative aims to develop the love of reading among children in early grades, encourage them to read loudly, and encourage them to read for pleasure besides learning where it leads children to question their actions and way of thinking. It also trains a group of volunteers to read aloud for children, which stimulates their imagination, strengthens their creativity, and makes human relationships more beautiful. The initiative also aims to establish (1,000) community libraries in cooperation with the Ministry of Education in the vicinity of schools. This initiative is being implemented based on three stages: first stage, the training on teaching reading skills; second stage, the training on teaching math skills, and third stage, so-called family participation (Ministry of Education (2017a)). Due to its positive role on increasing the partnership between the school environment and social environment, the Ministry distributes evidences, files, and documents that deal with the development of reading and math skills among early stage students, both on paper and electronically, by allocating a portion of evaluation tools for each reading and math skills.

Researchers addressed the topic of reading and math education through several studies. Ankeetal (2007) conducted a study that aimed to evaluate the flexibility level of using intellectual calculation strategies among basic second graders; in the mental calculations field up to number (100). The study sample consisted of (600) Danish students who participated through the numerical and verbal calculations program by following the descriptive approach and preparing a questionnaire of (40) items. Results showed that students' utilization of a class and multiplier gentle numbers strategy increased after the introduction of this strategy into math curriculum, and they also showed a greater tendency to resolve questions, in this way in comparison with the paper and pen method.

Tawalbeh (2007) conducted a study to investigate the impact of using educational games strategies, mental calculation, and approximate assessment in mathematical analysis and thinking among early basic stage students in Jordan. Study sample consisted of (135) male and female students from the fifth basic grade who were distributed into

two experimental and controlled groups, and researcher used tools of fifth grade educational material represented in multiplying-and-dividing-fractions, adding-and-subtracting decimal fractures, as well as preparing an achievement test that consisted of two parts; where each part contained (25) items that measured one of the two educational units, with multiple choice questions. Results revealed that there were statistically significant differences in favor of the experimental group with regard to the achievement test. [Lynn et al. \(2008\)](#) conducted a study that evaluated the effectiveness of an individual educational program to solve verbal mathematics problems of third graders who suffered from difficulties in calculations and reading skills. The study sample consisted of (511) male and female students who had been pre-diagnosed as having difficulties in learning mathematics and reading. Results indicated the effectiveness of educational plan in improving reading performance and resolving verbal arithmetic questions. The study also recommended that equations in mathematics should be presented early to third graders with severe learning difficulties in reading and math to help them in reading and solving verbal math problems.

[Kotaman \(2008\)](#) investigated the impact of parents reading stories to their children on developing their vocabulary and reading trends. The study sample included (40) preschool children and their parents who were randomly divided into two experimental and controlled groups, where parents in the experimental group received training on reading children's story books while parents in the controlled group didn't receive training on reading story books. Study results showed that children of the experimental group achieved a remarkable development in the new vocabulary and their reading trends increased more than their peers who didn't receive any training.

[Justice, Kaderavek, Fan, Sofka, and Hunt \(2009\)](#) surveyed the effect of kindergarten teachers' recruitment of printed materials during reading children's story books on developing early reading and writing skills, where study sample included (106) children enrolled in (25) pre-school classes. Children were divided into two groups, an experimental group of (14) classes where their story books were read by employing the method of referring to printed materials, while researchers in the controlled group read children's story books to their students; at the normal way without employing printed materials while reading. Results indicated that children of the experimental group who read the stories to them using printed materials by referring to them showed higher marks than their counterpart children in the controlled group, particularly regarding knowledge of printed materials' terms, alphabets, and names' writing. [Lynne and Hall-Kenyon \(2011\)](#) study showed the need to seek best ways to give children required readiness skills to learn reading and writing skills, because taking care of children's readiness skills to learn reading and writing; at this stage consider necessary and very important, where with reading and writing skills people can differentiate between the learner and illiterate, therefore those who don't master skills are illiterate, regardless of their level of education. [Harris and Sass \(2011\)](#) study aimed to reveal the impact of different education and training types on teachers' capability to enhance student productivity, and results indicated that content-focused professional development positively linked to productivity in the middle and secondary mathematics, and also dictated that more experienced teachers are more effective in teaching math at primary school and reading and math in middle schools, while results didn't show impact of pre-service training at university stage or the educational competence of teachers in their ability to increase students' achievement. In a lengthy study conducted in Finland, [Silinskas et al. \(2012\)](#) investigated the relationship between parental reading activities for their children from home story books and children's reading skills during the transition from kindergarten to first grade on a study sample of (6,521) children between the ages of 1 and 4, as well as their parents. Results showed that kindergarten children developed the skill of reading words whenever their parents shared reading story books with them more than children in the first grade. Results also indicated that male children had achieved better results than females.

The [Jordan Economic & Social Council \(2016\)](#) conducted a study to identify the learning and education reality of first three basic grades in Jordan; in light of some international and regional countries' experiences. The study adopted the descriptive approach on a study sample of (2,500) male and female teachers from public schools in all regions of the Kingdom who were selected in a stratified random sampling (SRS) and distributed a questionnaire that

considered as a reference and consisted of (33) questions. Results showed for reading and math skills that study members' estimates of the learning and education reality; in the first three basic grades were high.

Hamadneh (2017) also conducted a study to identify factors that influence the success of reading and math initiative; from the standpoint of male and female teachers and principals of basic schools in Bani Kanana department/ Jordan, and to achieve study objectives researcher designed a questionnaire and distribute it on a study sample of (146) individuals using the random method and used the descriptive approach by preparing a questionnaire of (42) items. Results showed that study members' estimates of reading and math initiative's success factors were high; in all areas except for the initiative's activities and objectives where their estimates were moderate. Results also showed statistically significant differences in study members' estimates of reading and math initiative's success factors; attributable to gender, in favor of female, experience, and experienced teachers (5-10) years.

Bouanani and Kriemah (2018) conducted a study to identify the reasons for low educational achievement in math and reading among fourth and fifth grade school students from teachers' standpoint. Researchers prepared a 30 item questionnaire and distributed it on a research sample (150) male and female teachers of fourth and fifth grade students, where study results showed high estimates of study members on the causes of low educational achievement in reading and math, and the existence of statistically significant differences between the arithmetic means of teachers' estimates on low achievement reasons in mathematics and reading among primary school students, due to gender variable and in favor of males. It is noticed from previous studies related to the topic of language and math skills education among early school students the diversity of variables it addressed and their agreement on the need to teach these skills in creative ways among this age group, despite the existence of some variation in the findings of those studies. The study is an attempt to determine the evaluation of reading and math education initiative and its effectiveness; implemented in Jordan on the language skills development of early basic education students within several areas: vocal awareness skill, vocabulary skill, writing skill, letter sounds' reading skill, and reading absorption skill. The study also identified effectiveness of this initiative in developing computational skills within the following aspects: problem solving skill, standard counting skill, numbers' manipulation skill, and sensory counting skill; from the standpoint of teachers who are in charge of their implementation, considering gender variable.

1.1. Study Problems & Questions

Language and math skills consider necessary academic skills to succeed in working and academic life, where the national survey of reading, writing, and math conducted by USAID in Jordan (2012) showed that majority of early basic classes' students in public schools have a deficit in reading and math skills. Based on results of the survey, Ministry of Education in Jordan designed the reading and math initiative for early classes to establish methodologies, policies, and practices of reading and math education, and develop reading with absorption and math with understanding, at the school and community level. Based on the theoretical background of study introduction about the importance of language and math skills, and factors that influence their development among early basic students, researchers identify study problem in answering the following questions:

Q.1: What is the effectiveness of reading initiative on developing language skills among early basic stage students; from the standpoint of teachers in charge?

Q.2: What is the effectiveness of math initiative on developing computational skills among early basic stage students; from the standpoint of teachers in charge?

Q.3: Are there statistically significant differences in teachers' estimates of the reading and math initiative's effectiveness; due to gender?

1.2. Study Importance

The study has theoretical and practical importance. Theoretically, the study addresses two important topics: learning of language skills and computational skills, where this study pursued to reveal the effectiveness level of

reading and math initiative on the development of language and math skills among early basic stage students. The study aimed to reach an objective assessment of the effectiveness of this initiative, due to its direct impact on the academic and practical future of students at the study stage. Practically, this study would provide decision makers in educational and academic institutions with objective information about the impact level of this initiative on language and math skills' development among early basic stage students. This will help them take the findings of this study into account whenever formulating policies related to the development of this initiative to reach the highest level of effectiveness in addressing the deficit of language and math skills among students at this study stage. It would also help them achieve the proper academic progress. Studies that aimed to evaluate this initiative are relatively limited, and it is hoped that this study would be the enrichment to research in this area.

2. METHOD AND PROCEDURES

2.1. Procedural Definitions

Reading & Math Initiative: A national initiative adopted by the Jordanian Ministry of Education and launched by her Majesty Queen Rania Al-Abdullah in April 2015. The initiative is concerned with training early-stage teachers on educational strategies that aimed to develop reading skills with an absorption, and math with an understanding among students of this stage. The impact of reading and math initiative on students' achievement was measured through the study sample members' responses on developed instrument.

Early basic grades: School stage that education considers compulsory in it and includes grades 1 to 3.

Language skills: language-related skill set, which includes reading, writing, listening, and speaking.

Computational skills: The math-related skills represented in four basic calculations (addition, subtraction, multiplication, and division).

2.2. Study Limitations

The implementation of the study was limited to public schools of university department in the Capital of Amman during the second semester of (2017/2018), by implementing the study on early basic stage teachers who received training; in accordance with the initiative's requirements. Therefore, researchers will identify the generalization of current study results on the study population and similar societies, and results' generalization will be determined in light of available validity and reliability indications of study instrument.

2.3. Study Population

The study population consisted of all (725) early basic classes' male and female teachers in public schools of university department in Amman registered in the Ministry of Education databases during the second semester of (2017/2018) school year.

2.4. Study Sample

Researchers used the random cluster sampling method to select the study sample of (180) male and female teachers, distributed in (150) female teachers and (30) male teachers, where the percentage of study sample amounted to about (25%) of study population.

2.5. Study Instrument

Researchers prepared a study tool that consisted of two areas suitable for the nature and objectives of study topic, after examining the related available theoretical and educational literature, where the first area of study tool aimed to identify the effectiveness of reading initiative and its reflection on the language skills achievement. It contained (26) items divided into (5) aspects: vocal awareness skill, letters' sounds reading skill, vocabulary skill, reading absorption skill, and writing skill. The second area of study tool aimed to identify the effectiveness of math initiative and its

reflection on the mathematical skills achievement. It contained (20) items divided into (4) aspects: standard counting skill, sensory counting skill, numbers' manipulation skill, and problem-solving skill. Researchers used the Likert 5-scale for each item and adopted the following weights for each part of the scale: strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). Researchers also identified the arithmetic means that indicated the study sample members' responses; as follows: a low response degree (1-2.33), a medium response degree (2.34-3.67), and a high response degree of (3.68-5).

To confirm the face validity of study tool, researchers presented it in its initial form to (9) competent arbitrators and experts in the field of educational psychology, measurement and evaluation, and curriculum and education to judge the appropriateness level of items; in term of its validity and affiliation with the area to be measured and propose necessary adjustments. Researchers made changes according to arbitrators' opinions, selected appropriate items after reviewing the overall opinions of arbitrators, and adjusted the phrasing of some items that arbitrators agreed to make changes to it by (80%), and the study tool was formed in its final form from (46) items.

Researchers also confirmed the face structure validity of the study tool through calculating Pearson Correlation Coefficient for items and its dimensions, and the overall degree. The items correlation coefficient values with its dimension of first area ranged from (0.56-0.73) and the items correlation coefficient values with the overall degree of first area ranged from (0.53-0.74), while the items correlation coefficient values with its dimension of second area ranged from (0.51-0.70) and the items correlation coefficient values with the overall degree of second domain ranged from (0.52-0.71), which all consider statistically significant values and these results confirm the face validity structure of study instrument and confirm that its items measure things that has been intended to measure. To verify the reliability of study tool, researchers implemented it on (50) male and female teachers from outside the study sample and calculated the internal consistency using the Cronbach Alpha Coefficient for items of all tool dimensions, where reliability coefficient values for the first area ranged from (0.66-0.84) while values for the second area ranged from (0.63-0.82). Researchers also calculated the reliability coefficient through the test and retest method, where values ranged from (0.81-0.85) for the first area while values ranged from (0.80-0.83) for the second area, which is considered acceptable for study purposes.

2.6. Study Procedures

For the study purposes, the researchers used the following steps:

- Provide the necessary scales, confirm their validity and reliability, and prepare them electronically.
- Accurately identify the study sample members.
- Implement study instrument on (180) sample members of male and female teachers.
- Enter data and analyze results according to study questions.

2.7. Study Design & Statistical Analysis

Researchers adopted the descriptive approach in this study, where study contained one independent variable represented in the male and female genders and one dependent variable represented in teachers' estimates. Researchers used arithmetic means and standard deviations to detect the estimates' level, as well as T-test to identify the existence of statistically significant differences in estimates, due to gender.

3. RESULTS AND DISCUSSION

3.1. Study Results

Q.1: What is the effectiveness of reading initiative on developing language skills among early basic stage students; from the standpoint of teachers in charge?

To answer this question, researchers calculated the arithmetic means and standard deviations of teachers' estimates about the effectiveness of reading initiative on developing the sub areas and overall degree of language skills; in a descending order according to means, as shown in Table 1.

Table 1 shows that teachers' estimates for the effectiveness of reading initiative on language skills among early basic stage students came high on the sub areas and overall degrees, where vocal awareness skill ranked first with a mean of (4.21), followed by vocabulary skill at second place with a mean of (4.05), then the writing skill came third with a mean of (3.99), while letters' sounds reading skill came fourth with a mean of (3.87), but the reading absorption skill came fifth at last place with a mean of (3.82).

Table 1. Arithmetic means and standard deviations of teachers' estimates about the effectiveness of reading initiative on developing the sub areas and overall degree of language skills.

Area	Means	SD	Rank	Degree
Vocal awareness skill	4.21	0.85	1	High
Vocabulary skill	4.05	0.81	2	High
Writing skill	3.99	0.88	3	High
Letters' sounds reading skill	3.87	0.83	4	High
Reading absorption skill	3.82	0.87	5	High
Overall	3.97	0.86		High

Q.2: What is the effectiveness of math initiative on developing computational skills among early basic stage students; from the standpoint of teachers in charge?

To answer this question, researchers calculated the arithmetic means and standard deviations of teachers' estimates about the effectiveness of math initiative on developing the sub areas and overall degree of computational skills; in a descending order according to means, as shown in Table 2.

Table 2. Arithmetic means and standard deviations of teachers' estimates about the effectiveness of math initiative on developing the sub areas and overall degree of computational skills.

Area	Means	SD	Rank	Degree
Problem solving skill	4.00	0.88	1	High
Standard counting skill	3.99	0.91	2	High
Numbers' manipulation skill	3.95	0.88	3	High
Sensory counting skill	3.90	0.85	4	High
Overall	3.96	0.88		High

It is shown in Table 2 that teachers' estimates for the effectiveness of math initiative on computational skills among early basic stage students came high on the sub areas and overall degrees, where problem solving skill ranked first with a mean of (4.00), followed by standard counting skill at the second place with a mean of (3.99), then the numbers' manipulation skill came third with a mean of (3.95), but the sensory counting skill came fourth at last place with a mean of (3.90).

Q.3: Are there statistically significant differences in teachers' estimates of the reading and math initiative's effectiveness; due to gender?

To answer this question, researchers calculated the arithmetic means and standard deviations of male and female teachers' estimates, and conducted a T-test to detect if any statistically significant differences exist in the estimates of reading and math initiative's effectiveness, due to gender as shown in Table 3.

Table 3. Arithmetic means and standard deviations of male and female teachers' estimates about reading and math initiative's effectiveness, and t-test results, in light of gender variable.

Gender	Means	SD	Calculated-T	Sig.
Male	100.42	12.47	-1.57	0.117
Female	103.18	12.28		

Table 3 shows that the existence of apparent differences in teachers' estimates of reading and math initiative's effectiveness between male and female, and in favor of female where means for female's estimates amounted to (103.18) while means for male's estimates amounted to (100.42). Researchers also conducted the T-test analysis to determine whether these differences in means were statistically significant. It also showed from Table 3 a nonexistence of statistically significant differences in teachers' estimates of reading and math initiative's effectiveness on the development of language and computational skills among early basic stage students, due to their gender.

3.2. Discussion

Discussion of first question's results: The results of this study indicated that teachers' estimates of the reading initiative's effectiveness on language skills among early basic stage students were high in the sub areas and overall degrees, which may be explained in light of the structured design of this initiative to teach language skills in alignment with the developmental characteristics of students of this stage. It can also be explained in light of teachers' training on the implementation of this initiative, within a well-defined strategy based on the combination of complementary and structural orientation in the education of language skills. This is aligned with Obeid (2009), who also found reading in early educational stages influenced by multiple factors such as the selection of the most appropriate reading educational method, the ways to train learners on its sub-skills, and to link them with other language skills; such as writing, listening, and speaking.

This finding is consistent with Sadler's (2003) findings in the need to diversify reading education strategies and its accompanying analytical and structural analysis, and also performance tasks and trainings that allow learners to practice language skills in an orderly and effective natural context. The initiative's establishment on non-traditional education methods has also triggered students' motivation for learning and teachers' motivation for education, which has significantly reflected the performance of students in different language skills; therefore, teachers' estimates of the initiative's effectiveness came high. This finding is also consistent with results of Hamadneh's (2017) study which showed that study members' estimates of the reading and math initiative's success factors were high in all areas. It is also consistent with the study results of Jordan Economic & Social Council (2016) which showed that study members' estimates of learning and education reality for the first three basic grades were high.

Discussion of second question's results: The results of this study indicated that teachers' estimates of the math initiative's effectiveness on computational skills among early basic stage students were high in the sub areas and overall degrees, which may be explained in light of the initiative's teaching design based on the principle of hierarchy in teaching computational skills, according to structured strategies that ensure participatory work between the school and parents. The initiative also stands on a variety of teaching methods; in consistent with the cognitive development characteristics among early basic stage students, and the training of teachers on these methods in a way that ensures the highest level of mastery to basic computational skills of students at this stage. This agrees with Harrop and Swinson (2003) study results that called for teaching computational skills in early primary grades in the following order: addition, subtraction, multiplication, and division, by doing it through games, time tests, and exercises.

These findings are also consistent with Hamadneh (2017) study which showed that study members' estimates of reading and math initiative's success factors were high in all areas. It is also consistent with the study results of Jordan Economic & Social Council (2016) which showed that study members' estimates of the learning and education reality in the first three basic grades were high. This finding is also consistent with the study results of Ankeetal (2007) which showed that using non-traditional strategies in teaching computational skills leads to better performance in learning those skills.

Discussion of third question's results: The results of this study indicate nonexistence of statistically significant differences in teachers' estimates of the reading and math initiative's effectiveness on the development of language and math computational skills among early basic stage students due to gender. This may be attributed to a high level of organizing initiative that ensures equal implementation of teaching strategies and methods among male and female

teachers alike. This made initiative's effectiveness on the development of language and computational skills close, regardless of gender, therefore differences between male and female teachers in the initiative's effectiveness estimates aren't statistically significant. These results disagree with the findings of Bouanani and Kriemah (2018) study which showed statistically significant differences between the arithmetic means of teachers' estimates; due to the low achievement in mathematics and reading among primary school pupils, according to gender variable and in favor of males. It also disagrees with Hamadneh (2017) study results which showed statistically significant differences in the study members' estimates of reading and math initiative's success factors, due to gender and in favor of females.

3.3. Recommendations

Based on the study's findings, the researchers recommend the following:

- Generalize reading and math initiative on teachers of early basic classes, due to its positive role on improving students' reading and math achievement.
- Conduct similar studies to identify the effectiveness of reading and math initiative on performance, from the standpoint of educational supervisors and principals.
- Conduct continuous training courses for teachers of early basic classes to increase their skills and improve their performance.

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