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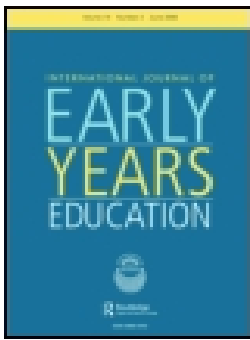**72** PUBLICATIONS **450** CITATIONS

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The importance of and barriers to using a reading pictures strategy in the kindergarten curriculum: Jordanian teachers' perspectives

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ABSTRACT

This study examines the perceptions of kindergarten (KG) teachers in Jordan about the importance of using a reading pictures strategy and the barriers to doing so. A descriptive design was employed and 192 teachers were surveyed to rank their perceptions. The results showed that teachers perceived a moderate level of importance about using reading pictures and almost a quarter indicated a low level of importance. There was no significant effect of specialisation, while there was a significant effect of qualification and years of experience. The results also revealed that using a reading pictures strategy is currently constrained by different factors including low parental involvement and lack of administration interest. A number of recommendations are presented for enhancing teachers' perceptions regarding a reading pictures strategy and combating constraints.

Introduction

In Jordan, Kindergarten (KG) is a preschool phase which includes children aged 3 years 8 months to 5 years 8 months (Ahmad, Fayez, and Al-Zboon 2015). In this phase, reading is considered a major skill to be learned, which determines future academic success and affects a child's development and learning (Whitehurst and Longian 1998). The refinement of reading skills is considered a trend in the contemporary world (Hsiao and Chang 2016). Caron and Ponder (2014) indicate that reading is incorporated into all content areas. An early exposure to reading before entering school can significantly enhance literacy development. Furthermore, children's performance in school tends to be better if they have good reading skills, more advanced vocabularies and reading comprehension skills.

Reading is a vital tool to build and expand children's knowledge, enabling them to spend their recreation time usefully and supporting the individual's special interests (Chard et al. 2009). Morrow and Gambrell (2004) report that reading enhances the emotional relationship between reader and listener. Reading also helps in achieving

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personal and social adaptation as it may clarify for the child the differences between negative attitudes and accepted behaviours (Lankshear and Noble 2003).

Grolig et al. (2019) indicates that children's exposure to reading activities in early years will positively affect language acquisition and improve positive attitudes towards reading. Teachers should thus employ a reading pictures strategy. In this study, 'reading pictures strategy' refers to the strategy used to develop children's reading skills by using pictures. Literature has documented that this strategy contributes to literacy development. First, it encourages children to read in the early years stage and improves the reading habit (Wu 2005), so it increases child motivation, attention and engagement in the learning process. Additionally, picture books are considered vital and can significantly affect a child's interest in reading (Hsiao and Chang 2016). Second, some children are visual learners who learn to read by connecting a picture with the word itself, which helps these learners grow literacy skills and recognise the word's meaning (Daniels 2001). Visual literacy can also stimulate children's imaginations and comprehension. It could also support their appreciation of the complexities of narrative structure such as the shape of a story narrative, its narrators, opinion and tone (Tulk 2005). Clark and Lyons (2004) report that visual memory is considered better than word memory. Using pictures has great effects on comprehension, memory and the reception of the text (Zwaan, Stanfield, and Yaxley 2002).

Fourth, literature has reported that using environmental print (e.g. McDonald's, Wal-Mart, Shell) and functional print (e.g. classroom materials, men/women bathroom signs) helps children in distinguishing usages of print and enhances literacy in familiar environments (Xu and Rutledge 2003). Pictures that exemplify gross motor skills, for instance, 'sit' and 'jump', serve as an active way to achieve word recognition (Brereton 2010), while pictures that represent warning signs such as 'fire' and 'poison' help increase children's awareness of safety issues (Ahmad, Al-Zboon, and Dababneh 2016). Overall, pictures represent 'visual language which could tell part of a story that the words don't tell' (Browne 1994, 186). Consequently, the fourth contribution of picture reading is building oral language/vocabulary, as it helps to improve the language teaching and simplify the meaning of words and messages, which aids in memorising vocabularies. Previous research has reported that integrating pictures into literacy development helps in teaching reading and writing in an attractive way during the early years (Al-Kandari 2011). Reading pictures is considered an active process, as the reader of the a picture is an active participant rather than a spectator (Benton 2000). The narrators of picture books are oral storytellers, 'with the path of the narrative picked out but with freedom of diversions to explore new tracks or revisit other vistas' (Rowe 1996, 231).

Available theories support using a picture reading strategy to enhance child reading and learning. Paivio (1991) offered the dual-coding theory, which proposes that cognition splits into visual and verbal processing systems. This theory suggest that words are usually coded verbally rather than visually, whereas pictures are probably coded both visually and verbally. Menendez (1994) reported that educational thinkers such as Piaget, Pestalozzi, Froebel, Montessori and Dewey all thought that learning should be built on the child's interest, should be active and should use sensory materials such as pictures.

Vygostky's theory (1978) suggests that literacy acquisition happens by mediation between the child (learner) and teacher (expert). Teachers have to introduce

material (such as picture and sensory material) to children in ways that assure the child's success.

Using a reading pictures strategy in KG is important; however, there is a lack of research in this area in Jordan. Ahmad, Al-Zboon, and Dababneh (2016) examined kindergarten children's recognition of signs in pictures and found a lack of knowledge about common public signs. Al-Zboon (2016a, 2016b) emphasises the importance of using pictures with children with hearing disabilities in KG as they provide visual stimulus. Al-Zboon (2016b) highlights using picture books and picture cards with children with hearing impairments as a key element of the KG curriculum. A study by Rashaideh (2018) revealed that using a picture book enhanced the understanding and comprehension of KG children; additionally, picture books can be used in many topics (e.g. languages, social studies, religious studies, math, science, art). Rashaideh also reported that this approach is considered an attractive and interesting way to teach reading, as it motivates the child's imagination, corrects his/her wrong concepts, and increases his/her artistic sense.

However, there is more research worldwide which has examined using reading pictures. One study explored using picture books in teaching literacy to students in primary school and focuses on how drawing pictures shows pupils' understanding of complex ideas (Tulk 2005). For early childhood teachers, Shen (2014) reported that reading pictures is a key skill and easy to implement. Anglin, Vaez and Cunningham (2004) reported the efficiency of visual materials such as pictures as they can develop the child's learning.

Apperly, Williams, and Williams (2004) highlight that pictures-based learning is suitable for children with learning disabilities as pictures are more easily understandable than words. Hsiao and Pei-Yu (2015) document the effect of using picture books when teaching environmental concepts to KG children. Toriyama reports that most activities and information in science education are reliant on visual materials such as pictures and therefore accessible to children with hearing impairments. Arif and Hashim (2009) report that pictures increase childrens' attention more than words and are the key clue in understanding the meanings of words.

From another angle, some research has investigated teachers' perceptions and knowledge regarding a picture reading strategy. Hsiao and Chang (2016) found that early childhood teachers ranked the level of picture book selection and the application of picture book teaching strategies as moderate to high. Antilla (2013) reported a lack of competences in teachers regarding using children's picture books. Another study indicated that teachers' perceptions are one of the main factors in the success of educational programmes and affect their practice (Al-Zboon and Hatmel 2015). Teachers' attitudes ease or restrain the application of controversial policies, thereby affecting improvement and educational policies (Avramidis, Bayliss, and Burden 2000).

This study sought to explore KG teachers' perceptions as regards reading pictures strategy, by asking:

(1) What are KG teachers' perceptions regarding the importance of using reading pictures strategy?
(2) Do teacher perceptions differ due to the teacher's education levels, type of specialisation and experiences?
(3) What are the constraints that teachers encounter using reading pictures strategy?

Jordan

Jordanian preschool education is non-compulsory and applies the National Interactive Kindergarten Curriculum (NIKC), which is based on developmental standards for Jordanian children. The implementation of this curriculum began in 2007 in response to the improvement of preschool education as Jordan adopted an improvement programme called Educational Reforms for Knowledge Economy (ERFKE). Arabic is considered the basic domain of this curriculum, which contains four subdomains: reading, writing, speaking and listening.

The NIKC includes a general framework and outcomes document, two children's textbooks in Arabic and English, a practical activities book for teachers, a teacher textbook and attached learning resources. This last item includes a speaking board, word flashcards, letter flashcards, word pictures, syllable flashcards, a picture book, an alphabetic learning board, a number learning board and a CD.

Methodology

Participants

A quantitative survey was implemented in Zarqa, Jordan, using a simple random sample of 192 KG female teachers (a predominance of female teachers is a feature of the KG field in Jordan). Participants were asked to complete a questionnaire. Table 1 represents the demographics of the participants.

Instrument

A survey was developed to measure the teachers' perceptions regarding reading pictures strategy; it consisted of 48 items divided into 2 sections using a 3-point Likert-type scale. Section one was the importance section with 35 items. Teachers were requested to rate their perception of each item in 4 domains: educational importance, recreational importance, social importance and self-development importance. The following are samples of the scale items: 'I think a reading pictures strategy increases children's communication skills'; 'I think a reading pictures strategy instils a love of cooperation in the child'; 'I suggest that a reading pictures strategy is a way for the child to have fun and spend free time'; 'I think that picture reading contributes in developing the child's

Table 1. Demographics of the participants.

Variable	N(%)
Years of experience	
5 years and less	54(28.1%)
6–10 years	96(50 %)
More than 10 years	42(21.9%)
Qualification	
Diploma	41(21.4%)
Bachelor's degree	137(71.4%)
Master's degree	14(7.3%)
Specialisation	
Educational specialisation	151(78.6%)
Non-educational specialisation	41(21.4%)

language skills'; 'I consider that picture reading is a vital way to develop a child's person-ality'. The second section was the constraints section, with 13 items such as, 'There is no effective family involvement in the picture reading activities'; 'The KG administration do not encourage picture reading' (Table 2).

To check the internal consistency validity of every item of the scale, a Pearson corre-lation matrix was used to assure the correlation between each item and the total score. The correlation among all the domains of scale and the total score was significant at 0.05. Reliability indicators were identified using Cronbach's alpha, the coefficient alpha statistic was 0.86, representing acceptable levels of internal consistency. The reliability of the scale was identified using Cronbach's alpha as 0.925, representing an acceptable level of internal consistency (Table 3).

Data analysis

The Statistical Package for the Social Sciences (SPSS) was used for data entry and analysis. Means, standard deviations and percentages were derived. Statistical analysis was an independent sample t-test, a one-way ANOVA and post hoc comparison by chefiee test to test for any significant mean difference to the study variables. The Pearson correlation and Cronbach's alpha were used for validity and reliability of scale respectively (Table 4).

Ethical considerations

The study was done under the ethical principles of the International Review Board (IRB). Official approval was obtained from the Ministry of Education (MoE). Teachers were first asked to participate; they knew the purposes of the study and consent was obtained prior to starting the study. Anonymity and confidentiality were guaranteed for participants (Table 5).

Results

Importance of using a reading pictures strategy in kindergarten

Means and standard deviation were calculated to identify the teachers' perceptions about the importance of using a reading pictures strategy in kindergarten. The scale adopted to measure the sample responses was categorised into three levels of importance: low with mean ranging from 1.00 to 1.66, average with means ranging from 1.67 to 2.33 and high with means ranging from 2.34 to 3.00. The findings showed an average level with

Table 2. Reliability Score for Each Sub-Scale.

Sub-Scale	Reliability Score	Number of Items
Educational importance	0.919	12
Recreational importance	0.936	6
Social importance	0.718	8
self-development importance	0.756	5
Total	0.925	31
Constraints	0.808	12

Table 3. Means and Standard Deviations of Teachers' Perceptions.

Sub-Scale	M(SD)	Rank
Educational importance	1.88(0.66)	4
Recreational importance	2.14(0.77)	3
Social importance	2.19(0.42)	2
self-development importance	2.23(0.49)	1
Total	2.07(0.47)	–

Table 4. Mean and Standard Deviation of Teachers' Perceptions according to type of specialisation.

Subscale	Type of specialisation	N	Mean	SD	T-	Df	Sig.
Educational importance	Educational	151	1.92	0.69	0.878	190	0.381
	Non-educational	41	1.81	0.57			
Recreational importance	Educational	151	2.15	0.80	0.371	190	0.711
	Non-educational	41	2.10	0.67			
Social importance	Educational	151	*2.33*	*0.39*	*2.331*	*190*	*0.021**
	Non-educational	41	*2.16*	*0.42*			
Self-development importance	Educational	151	2.37	0.52	2.038	190	0.43**
	Non-educational	41	2.19	0.47			
Total	Educational	151	2.07	0.50	0.268	190	0.789
	Non-educational	41	2.09	0.38			

* The mean difference is significant at the 0.05 level.

a mean total score of 2.07. For each item, the mean score was between 1.6 and 4.8, and 26% reported a low level of importance perceptions (Table 6).

Teachers rated 'self-development' as high importance (mean score 2.23) with 15% of teachers reporting a low level of importance, followed by 'social' (mean score 2.19) with 14% of teachers reporting a low level of importance, followed by 'recreation' (mean score 2.14) with 31.8% reporting low importance. The teachers rated 'educational' as the lowest domain of the importance scale with a mean score of 1.88 and with 42% of teachers reporting a low level of importance (Table 7).

Barriers to using a reading pictures strategy that teachers encounter

The findings of the questionnaire regarding teachers' perceptions of barriers to using a reading pictures strategy showed an average level (mean total score 2.04). Teachers rated 'low level of parents' partnership in activities based on reading pictures' as a high barrier with a mean score of 2.41 followed by 'administration interest' with a mean score of 2.39. Teachers rated 'I have no competences in reading pictures strategies' as the lowest item of the constraints sections with a mean score of 1.47, followed by 'I have not enough time to use a reading pictures strategy' with a mean score of 1.55 (Table 8).

Differences in importance

Differences in mean scores for importance revealed significant differences between educational and non-educational specialisation in the self- and social domains in favour of the educational specialisation ($t = 2.33$, 2.038 respectively $p = 0.05$, t-test), while there was no significant difference in importance based on specialisation in educational

Table 5. Mean and Standard Deviation of Teachers' Perceptions According to Education Level.

Subscale	Type of specialisation	N	Mean	SD
Educational importance	Diploma	41	1.83	0.72
	Bachelor's degree	137	1.86	0.64
	Master's degree	14	2.42	0.51
Recreational importance	Diploma	41	2.00	0.81
	Bachelor's degree	137	2.14	0.78
	Master's degree	14	2.56	0.48
Social importance	Diploma	41	*2.13*	*0.43*
	Bachelor's degree	137	*2.19*	*0.42*
	Master's degree	14	*2.43*	*0.31*
Self-development importance	Diploma	41	2.20	0.45
	Bachelor's degree	137	2.25	0.50
	Master's degree	14	2.11	0.51
Total	Diploma	41	2.00	0.53
	Bachelor's degree	137	2.06	0.46
	Master's degree	14	2.40	0.29

* The mean difference is significant at the 0.05 level.

Table 6. F-test of the Effect of Education Level on Teachers' Perceptions

Differences	Sum of Squares	Df	Mean of Squares	F-Value	p-Value
Between groups	1.759	2	0.879	4.014	0.020*
Non-educational	41.396	189	0.219		
Total	43.155	191			

* The mean difference is significant at the 0.05 level.

importance, recreation importance domains and total score ($t = 0.878, 0.371, 0.268$ respectively, $p = 0.05$, t-test) (Table 9).

A one-way ANOVA was used to determine the influence of education level on the total teacher perception score. The omnibus ANOVA statistic for this analysis showed statistically significant differences in level of education on the total scale and educational importance domain ($F = 5.063$ and 4.014 respectively) at $p = 0.05$. To determine the source of these differences, the Scheffé test for post hoc comparisons was used, which showed that difference between the first (diploma degree) and third (graduate studies) levels of educational importance was significant and difference between the second (bachelor degree) and third level of education (graduate studies) was significant on the total scale and educational importance domain in favour of graduate studies (Table 10).

A one-way ANOVA was used to determine the effect of years of experience on the total teacher perception score. The omnibus ANOVA statistic for this analysis showed

Table 7. Post Hoc Tests Multiple Comparisons.

Education Level	Education Level	Mean differences	p-Value
Diploma	Bachelor's degree	−0.063	0.749
	Master's degree	−0.403	0.022*
Bachelor's degree	Diploma	0.063	0.749
	Master's degree	−0.340	0.037*
Master's degree	Diploma	0.403	0.022*
	Bachelor's degree	0.340	0.037*

* The mean difference is significant at the 0.05 level.

Table 8. Mean and Standard Deviation of Teachers' Perceptions According to Years of Experience.

Subscale	Years of experience	N	Mean	SD
Educational importance	5 years and less	54	2.00	0.63
	6–10 years	96	1.74	0.63
	More than 10 years	42	2.10	0.70
Recreational importance	5 years and less	54	2.29	0.78
	6–10 years	96	2.03	0.79
	More than 10 years	42	2.20	0.70
Social importance	5 years and less	54	*2.24*	*0.39*
	6–10 years	96	*2.14*	*0.46*
	More than 10 years	42	*2.25*	*0.34*
Self-development importance	5 years and less	54	2.24	0.52
	6–10 years	96	2.24	0.43
	More than 10 years	42	2.20	0.58
Total	5 years and less	54	2.16	0.46
	6–10 years	96	1.98	0.47
	More than 10 years	42	2.17	0.47

Table 9. *F*-test of the Effect of years of experiences on Teachers' Perceptions.

Differences	Sum of Squares	Df	Mean differences	*F*-Value	*p*-Value
Between groups	1.587	2	0.794	3.608	0.029*
Non-educational	41.568	189	0.220		
Total	43.155	191			

* The mean difference is significant at the 0.05 level.

Table 10. Post Hoc Tests Multiple Comparisons.

Years of experience	Years of experience	Mean of Squares	*p*-Value
5 years and less	6–10 years	0.175	0.093
	More than 10 years	−0.015	0.988
6–10 years	5 years and less	0.175-	0.093
	More than 10 years	−0.290	0.042*
More than 10 years	5 years and less	0.091	0.793
	6–10 years	0.290	0.042*

* The mean difference is significant at the 0.05 level.

statistically significant differences that could be attributed to experience on the total scale and educational importance domain ($F = 5.421$, 3.608 respectively) at 0.05. To identify the source of these differences, the Scheffé test for post hoc comparisons was calculated. The results revealed that differences between 6 and 10 years and more than 10 years were significant on the total scale and educational importance domains in favour of more than 10 years.

Discussion

The quantitative results indicate average perceptions among teachers regarding the importance of using a reading pictures strategy in KG. This finding is consistent with those of Ching-Yuan and Yang-Mei (2016). This can be attributed to two explanations: first, the awareness level of teachers about the topic, which is reflected in their educational level, as Jordanian teacher preparation programmes have focused on this topic and the Jordanian curriculum contains picture material which teachers are required to use as as their

reading pictures strategy. This presented a challenge for the current study. The results reveal that almost a quarter of the sample reported a low level of importance regarding using a reading pictures strategy in KG, which could affect its use in practice. This highlights the significance of teachers' awareness of the importance of using a reading pictures strategy, as integrating picture books into teaching is now considered a key skill for all early childhood educators (Hsiao and Chang 2016).

Teachers ranked the self-development and social domains as of high importance. This is consistent with related literature, which reported high importance of reading in these domains (e.g. Lankshear and Noble 2003; Chard et al. 2009; Ahmad, Al-Zboon, and Dababneh 2016). They rated the recreation and educational domains as moderate, which reflected that these domains were not priorities for the teachers. This is not in line with related literature, which reported high importance of reading in these domains (e.g. Grolig et al. 2019; Whitehurst and Longian 1998; Daniels 2001; Tulk 2005; Wu 2005; Chard et al. 2009; Brereton 2010).

The teachers reported the overall average level of barriers to the effective use of a reading pictures strategy. They identified these barriers as parents' partnership in activities based on reading pictures and administration interest. The literature reports that parental partnership and administration support are vital to the success of any technique in child learning and development (Wilson 2005; Santrock 2011; Retnowati, Salim, and Saleh 2018). Hsiao and Chang (2016) report that it is important to use a reading pictures strategy at school, and teachers should encourage parents to share in parent–child picture reading schemes and organise activities which are appropriate for all ages, pleasurable to all and easy to implement. The literature also emphasises the vital role of administration in the learning environment (e.g. Al-Zboon 2016c).

The results of this study indicated that there was no significant effect of specialisation; this could be because all teachers work in the same circumstances, teach the same curriculum and receive similar in-service training. So, the type of specialisation is marginal in perceiving the importance of a reading pictures strategy, especially because picture books are easy to use (Shen 2014).

There was a significant effect of qualification and experience. This could be expected, as these two variables give teachers more knowledge, skills and experience of early years learning and its requirements, which makes these variables relevant.

Conclusions

This study reveals that almost a quarter of teachers reported a low level of importance regarding using a reading pictures strategy in KG, which could affect the use of this tool in practice. This highlights the significance of the enhancement of teachers' attitudes towards the importance of picture reading in the early years. There was no significant effect of specialisation, but there was a significant effect of qualification and of experience. The results also showed that low parental involvement and administration interest constrained the use of pictures for reading.

The findings of this study can be used by decision-makers to improve teachers' attitudes and competencies in using pictures, especially senior teachers and those who have a low level of qualification. Curriculum planners and designers and educational supervisors have to emphasise the reading pictures strategy in KG. Improvements may include enhancing

parental involvement by adopting a programmed model of parental engagement and increasing awareness among teachers and administrators.

Limitations

Some limitations to the current study should be noted. The current study was limited by its sample size, which derived from one directory during the academic year of 2017/2018. Future studies could deal with this limitation by gathering extra data from samples from other settings (other directories) and populations (parents) in Jordan. It is also self-reported, and future studies could use qualitative methods such as individual interviews, focus groups or observation to obtain in-depth knowledge.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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