



## Jordanian early childhood teachers' beliefs regarding best practices utilizing developmentally appropriate/inappropriate practices as a benchmark

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### ABSTRACT

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The main objective of this study is to investigate the beliefs of early childhood teachers in Jordan regarding best practices using the Developmentally Appropriate Practice (DAP) and Developmentally Inappropriate Practice (DIP) frameworks. Additionally, the study aims to determine the influence of certain variables on teachers' beliefs regarding best practices. To achieve this objective, a questionnaire was developed and administered to 101 early childhood teachers in Jordan. The data collected was analyzed descriptively using means and standard deviations. The results of the study showed that early childhood teachers' beliefs about best practices were consistent with the DAP construct outlined by the National Association for the Education of Young Children (NAEYC). Similarly, their beliefs about lower-quality practices were in line with the DIP construct. However, the study also revealed that teachers still held positive beliefs about some traditional practices despite their potential to be developmentally inappropriate. Furthermore, the statistical analysis showed that there were no statistically significant differences in the beliefs of teachers regarding best practices based on their education level or teaching experience. Based on the results of the study, recommendations are made for decision makers and researchers to help them make informed decisions and develop effective professional development plans, which could help early childhood teachers in Jordan to implement DAP effectively. Overall, the findings of this study provide valuable insights that can be used to enhance early childhood education and improve the quality of teaching practices in Jordan.

**Contribution/Originality:** This study is one of the few studies that focuses on teachers' beliefs about best practices in early childhood settings in Jordan. The study outlines the importance of integrating the Developmentally Appropriate Practice (DAP) construct in both pre-service and in-service professional development programs for teachers.

### 1. INTRODUCTION

Best practices that characterize instructional decisions related to learning are considered a core component of high-quality education programs for young children. These practices encompass many areas, such as teacher-child relationships, curriculums, classroom activities, assessments, and classroom management practices (Bigras et al., 2010).

Research has shown that effective and informed educational practices, combined with high-quality structural components that pertain to policy regulations, such as class size, qualifications of the workforce, and other issues

related to children's well-being, positively impact children's learning and development (Piasta, 2016; Rawlings et al., 2023).

It is widely acknowledged that teachers are key to implementing high-quality educational reforms and practices (Infurna, 2020; Kirk & MacDonald, 2001) yet teachers may have varied beliefs about what they consider best practice (Farley, Brock, & Winterbottom, 2018). As a result, efforts have been made to help teachers develop a shared understanding of high-quality practices in early childhood settings. In the United States, for example, key practices of high-quality programs for young children have been defined through the guidelines of Developmentally Appropriate/Inappropriate Practice (DAP/DIP), which was introduced by the National Association for the Education of Young Children (NAEYC) in 1987 (Copple & Bredekamp, 2009). Bredekamp and Copple (1997) published these guidelines in response to a rising emphasis on core academic subjects. These guidelines were also meant to serve as a resource for programs seeking accreditation in the United States.

The basic drive of DAP is to help professionals working with young children develop a shared understanding and make decisions regarding the best practices in terms of activities, curriculum, and assessment. These decisions are informed by the child's age, individual level of development, and the cultural context in which he is situated (Copple & Bredekamp, 2009). DAP provides practitioners with a unique framework for making pedagogical decisions, different from those developed in traditional classrooms. The construct of DAP incorporates notions such as progressive teaching, child-centered instruction, active learning, and instruction through play as opposed to notions such as didactic or teacher-directed instruction, rote learning, whole group instruction, and a focus on drilling and exercising, which denote contrasting teaching practices or developmentally inappropriate practice (DIP) (Copple & Bredekamp, 2009).

Since its publication, developmentally appropriate practices have become a widely recognized framework and have been endorsed by professionals in different cultures. The wide spread of the DAP tenets could be due to the documented positive influence of DAP on the academic performance and active involvement of young children in learning (Alford, Rollins, Padrón, & Waxman, 2016; Frede & Barnett, 1992; Montie, Xiang, & Schweinhart, 2006) and on their socio-emotional and personal growth (Hyson, Hirsh-Pasek, & Rescorla, 1990; Ruckman, Burts, & Pierce, 1999).

However, despite the rapid cross-cultural spread of DAP as a construct that characterizes best practices in early childhood classrooms, educators and researchers (e.g., (Jambunathan, 2005; Liu, 2007; Ruto-Korir, 2010; Szente & Hoot, 2002)) have questioned the appropriateness of transferring the DAP tenets to other non-western cultures or even considering it as the only frame for best practice.

Therefore, there has been a call to continuously examine educators' beliefs and attitudes toward best practices relative to the US construct of DAP (e.g., McMullen et al. (2005)). Understanding teachers' beliefs is crucial to understanding their instructional decisions. For example, it was found that when teachers' beliefs align with the tenets and philosophy of DAP, they are more likely to engage in instructional activities and practices based on them (Kintner, 2008; McMullen et al., 2005; McMullen, 1999; Zou, 2022).

## 2. LITERATURE REVIEW

Many studies sought to gather evidence about how people of different ethnicities and cultures perceive and view best practices using DAP as a benchmark. For instance, McMullen et al. (2005) examined the similarities in beliefs and practices of DAP among teachers from several countries and found similarities among professionals in several belief dimensions, such as delivering concrete materials and integrating play into children's experiences.

Clarke-Stewart, Lee, Allhusen, Kim, and McDowell (2006) conducted a study to compare two classroom environments: one in the US and the other in Korea. The results of their study indicated that in the US, the ratios of adults to children were lower and teachers provided extra playing opportunities and were more individually involved. Even though both countries were guided by ideas about DAP, classrooms in Korea were influenced by

Asian values and held traditional attitudes and practices that emphasized skills and drilling. Liu (2007) compared the DAP beliefs and practices of early childhood professionals in the US and Taiwan. The findings of his study indicated that teachers in both countries highly embraced beliefs about DAP and DIP together.

In a recent research study, Zou and Hackett (2020) examined the DAP beliefs and practices of preschool teachers in Shanghai and found that they adopted both DAP and DIP beliefs. However, their endorsement of appropriate beliefs and practices was higher than their endorsement of inappropriate beliefs.

In another study, Mohamed and Al-Qaryouti (2016) examined the beliefs and practices of 264 preschool teachers toward DAP in Oman and found that teachers believed in child-initiated learning and integrated curriculum. Similarly, Cobanoglu, Capa-Aydin, and Yildirim (2023) examined the beliefs of Turkish teachers regarding DAP and found that they endorsed the tenets of developmentally appropriate practice to a high extent.

Several similar studies in the US and other countries have investigated the beliefs and practices of DAP among early childhood professionals (e.g., (Doliopoulou, 1996; Kim & Buchanan, 2009; McMullen & Alat, 2002; Rentzou & Sakellariou, 2010)). Most of these studies, however, came to conclude that teachers' attitudes toward what constitutes best practice are context-laden and culturally oriented. Thus, there is a constant need to examine teachers' beliefs regarding best practices in light of the US construct of DAP.

Studies have also sought to understand how some variables influence the perceptions and beliefs of teachers of young children regarding DAP. Some studies have examined how teachers' experience and education level affect their beliefs regarding DAP (e.g., (Abu-Jaber, Al-Shawareb, & Gheith, 2010; Vartuli, 1999)). These studies identified many consistencies and contradictions regarding the effect of these variables on teachers' beliefs about DAP, making it vital for researchers to continue investigating their effects.

Within the Jordanian context, very few studies have been conducted to determine whether teachers agree with the tenets of DAP or not. For example, an earlier study by Abu-Jaber et al. (2010) explored the attitudes of 285 kindergarten teachers in Amman toward DAP and found overall positive beliefs. To understand the effect of a university teacher preparation program, Betawi and Jabbar (2019) examined the beliefs of 189 student teachers regarding DAP and found that student teachers held positive perceptions of developmentally appropriate practices.

It is worth mentioning that earlier studies conducted in the Jordanian context regarding teachers' beliefs about best practices emanating from DAP/DIP are still inadequate (Betawi & Jabbar, 2019; Rababah, 2015). Furthermore, most of these studies were conducted in the capital city, Amman. To the knowledge of the researcher, no such studies have been conducted on early childhood teachers in Zarqa, a densely populated city in Jordan. Moreover, early childhood education has gained increased concern and interest over the last decades. Early childhood teachers' preparation and professional development programs have widely accepted the DAP/DIP guidelines as a definition of best practice and have been placed at the core of educational reforms.

In light of the rapid endorsement of DAP in teacher preparation and training in Jordan as an operational definition of best practice, this study employed a quantitative method to explore and reveal teachers' beliefs regarding best practice in early childhood using the DAP/DIP guidelines. This study is deemed important since it is expected to contribute to existing national and international research on teachers' beliefs regarding best practices and is anticipated to provide insight into the pre-service and in-service teacher preparation programs implemented in Jordan.

### 2.1. Research Questions

This research study intends to answer the following two questions:

1. What are the beliefs of teachers of young children in Jordan regarding best practices relative to the DAP/DIP construct?
2. Are there significant differences in teachers' beliefs toward best practices that can be attributed to their qualification level and years of teaching experience?

### 3. METHODOLOGY

#### 3.1. Research Design

The current study aims to investigate early childhood teachers' beliefs regarding best practices utilizing DAP/DIP guidelines. To accomplish this, a quantitative approach was followed utilizing a descriptive research design. The data for this study was collected through questionnaires and analyzed descriptively using means and percentages.

#### 3.2. Population and Sample

The study population consisted of all early childhood teachers teaching prekindergarten and kindergarten in Zarqa city. The subjects for this study were drawn through cluster random sampling based on the geographical location of the schools (i.e., first directorate, second directorate, and Al-Russeifa). One hundred and sixty questionnaires were disseminated, and 101 questionnaires were returned, constituting a return rate of 63%. Table 1 presents the details and characteristics of the study sample.

**Table 1.** Distribution of the sample based on level of education, years of teaching experience, children's grade, major, and educational directorate.

Criteria	Characteristic	Number	Valid percentage
Level of education	Secondary	1	1
	Diploma	67	67
	University	32	32
Years of experience in teaching	1–3 years	36	37.1
	4–6 years	20	20.6
	7–10 years	12	12.4
	11 years and more	29	29.9
Children's grade	Prekindergarten	21	20.8
	Kindergarten	80	79.2
Major	Child related	46	47.9
	General education	42	43.8
	Not related	8	8.3
Educational directorate	First directorate	62	63.9
	Second directorate	26	25.8
	Al-Russeifa	10	10.3

#### 3.3. Data Collection Tool

The current research utilized a questionnaire that was specifically developed by the researcher to examine teachers' beliefs regarding best practices measured through the DAP/DIP construct. The questionnaire items were constructed by reviewing related literature, and validity and reliability were established through the specific procedures outlined below.

#### 3.4. Validity

To establish the validity of the data collection tool, a group of specialists in the field, including Ph.D. holders, experienced supervisors, and teachers, were asked to review it. The experts were requested to provide feedback on the suitability of the items for the study questions and to suggest any additional items that could be included in the questionnaire.

#### 3.5. Reliability

The Cronbach's  $\alpha$  was computed for the instrument after conducting a pilot test on 35 teachers. The reliability index for the DAP scale was 0.72, and for the DIP scale, it was 0.82. These results indicate satisfactory levels of reliability. In its final form, the instrument was divided into two sections. The first section collects information on teachers' demographics, including their education level, major, and years of experience, and the second section asks

teachers to state to what extent they agree that the questionnaire items represent best practices. The questionnaire consists of 33 items, 16 of which represent practices defined through the DAP construct and 17 items represent practices defined through the DIP/traditional practices construct. A Likert scale with five points ranging from strongly agree to strongly disagree was used, with corresponding scores from 1 to 5. All 17 items representing practices defined through DIP or traditional practices construct were reverse coded. The questionnaire items were scored by calculating the mean scores and the standard deviations.

### 3.6. Statistical Analysis

The data concerning teachers' beliefs regarding best practices was analyzed descriptively and involved computing means and standard deviations. Furthermore, a one-way analysis of variance (ANOVA) was conducted to determine if there were any significant differences in teachers' beliefs based on their educational qualifications and teaching experience.

## 4. RESULTS

Results of question 1: What are the beliefs of Jordanian early childhood teachers regarding best practices relative to the DAP/DIP construct?

To address the initial research question, the means and standard deviations for all the items of the questionnaire were computed. Table 2 represents the results of the 16 items that measure teachers' beliefs regarding DAP.

**Table 2.** Means and standard deviations of teachers' beliefs regarding best practices relative to the DAP construct.

Number	Item	Mean	S.D.
1.	Learning through active involvement with real objects and materials (e.g., sand, water, clay)	4.73	0.53
2.	Preparing learning experiences to match children's interests and preferences	4.4	0.65
3.	Encouraging children to explore and solve problems on their own	4.40	0.75
4.	Learning songs and listening to music	4.58	0.72
5.	Stimulating creativity and intellectual exploration	4.63	0.54
6.	Having children take part in setting classroom rules and regulations	4.06	0.85
7.	Dividing the classroom into "learning centers," such as a reading center, a math center...	4.21	0.91
8.	Arranging the classroom to allow children to discuss and work in groups	4.47	0.61
9.	Emphasizing the different ways of finding the answer to a given question	4.39	0.64
10.	Providing a safe and rich environment for learning	4.77	0.44
11.	Planning activities for children of different learning levels and ages	4.58	0.53
12.	Encouraging parents to work with their children at home and school	4.58	0.55
13.	Permitting children to choose activities freely	4.17	0.74
14.	Planning for an integrated curriculum and activities	4.44	0.74
15.	Encouraging children to draw and color their portraits	4.70	0.50
16.	Using direct observation in children's assessments	4.12	0.90
Total		4.45	0.30

As shown in the table, the total mean score for the DAP subscale is 4.44, which indicates that most early childhood professionals in this study hold strong beliefs about the tenets of DAP. The items that had the highest mean scores were 'learning through active involvement with real objects and materials (e.g., sand, water, clay...)' with a mean score of 4.73, 'providing a safe and rich environment for learning' with a mean score of 4.77, and 'encouraging children to draw and color their portrait' with a mean score of 4.70. Whereas, 'having children take part in setting classroom rules and regulations' (4.06), and 'using direct observation in children's assessment' (4.12), obtained the lowest mean scores, representing the items that the participants were least positive about.

As mentioned earlier, the second subscale contained 17 items that measure early childhood teachers' beliefs regarding traditional practice as opposed to DAP. Table 3 presents the results of these 17 items.

**Table 3.** Means and standard deviations of teachers' beliefs regarding best practices relative to the DIP construct.

Number	Item	Mean	S.D.
1.	Learning to memorize the alphabet	1.55	0.72
2.	Coloring and cutting ready-made forms	1.57	0.58
3.	Learning to count and recognize numerals	1.48	0.65
4.	Diagnosing spelling mistakes and correcting them	1.78	0.78
5.	Having children learn through memorizing facts and knowledge	1.89	0.82
6.	Having all children learn one thing simultaneously	2.38	1.18
7.	Arranging the chairs and table in rows	3.49	1.12
8.	Having children sit quietly and following the teachers' directions	1.72	0.83
9.	Having children learn reading and writing by filling out worksheets	1.86	0.92
10.	Implementing textbooks and teachers as the main source of knowledge	2.34	1.15
11.	Informing parents about their children's skills and academic status	1.41	0.51
12.	Giving children the correct answer to questions asked	1.72	0.87
13.	Assessing children's academic performance through grades	2.84	1.23
14.	Encouraging children to compete with their classmates	1.48	0.70
15.	Communicating with parents based on predetermined dates and schedules	1.51	0.66
16.	Having children with special needs in separate classrooms	2.16	1.24
17.	Learning single subjects separately, such as writing or history	2.35	1.25
Total		1.97	0.45

As shown in Table 3, the subscale obtained a total mean score of 1.97, which shows that the teachers did not agree that traditional instructional practices represent best practice within early childhood settings.

Some traditional practices, however, obtained higher means scores than others, indicating that teachers still agree with certain practices represented through the DIP construct. The highest mean results were obtained for the items 'arranging chairs and tables in rows' with a mean of 3.49, and 'assessing children's academic performance through grades' with a mean of 2.84. These items represent developmentally inappropriate or traditional practices that early childhood teachers still hold positive beliefs toward.

Results of question 2: Are there significant differences in teachers' beliefs toward best practices relative to the DAP/DIP construct that can be attributed to their level of education and years of teaching experience?

This research sought to understand the effect of two independent variables (i.e., teacher's qualifications and teaching experience) on beliefs regarding best practices relative to the DAP/DIP construct. According to the one-way ANOVA test of the teachers' qualifications and teaching experience, no statistically significant differences were found in their beliefs regarding best practices at  $\alpha = 0.05$ .

## 5. DISCUSSION

Understanding the practices that early childhood practitioners consider to be high-quality is central to comprehending their educational decisions in the classroom. This research investigated Jordanian early childhood teachers' beliefs about best practices using DAP/DIP as a benchmark. The findings suggest that many of the practices that teachers consider to be high quality are rooted in DAP principles; among these are encouraging children to explore and solve problems on their own, stimulating children's creativity and exploration, permitting children to choose activities freely, and dividing the classroom into learning centers. Some teaching practices, on the other hand, are considered by Jordanian early childhood teachers to be of low quality and are deemed inappropriate or traditional. These practices include having students memorize the alphabet, simply coloring and cutting out pre-made templates, teaching through rote memorization, and instructing students to read and write by filling out worksheets. This finding is consistent with the results of many international studies (e.g., (Alghamdi & Ernest, 2019; Liu, 2007)). It is also in harmony with the study of Abu-Jaber et al. (2010) conducted in Jordan which

indicated that there is general agreement among early childhood teachers in defining best practices as those in the DAP framework. This result can be used to substantiate the appropriateness of transferring the NAEYC's DAP framework to classrooms in different cultures.

The prevalence of the DAP as a philosophical framework in pre-service and in-service programs may explain the consistency of teachers' beliefs. DAP practices are rooted in child development theories which shape teachers' views about the nature of teaching and learning. Multiple studies have demonstrated that developmentally appropriate practices are successful in improving children's learning outcomes. (e.g., (Alford et al., 2016; Frede & Barnett, 1992; Hyson et al., 1990; Montie et al., 2006; Ruckman et al., 1999)). These practices include encouraging active involvement in learning and problem solving, promoting intellectual creativity and exploration, and other approaches that follow a child-centered approach to education.

Within the past 30 years, Jordan has implemented various reforms and initiatives to improve the education of young children (Al-Hassan, 2018; Al-Hassan, Obeidat, & Lansford, 2010). The National Plan of Action for Children, the National Interactive Curriculum, and the National Education Strategy 2006 are among many other reform initiatives that were developed. One important aspect of educational reforms is the shift from traditional teacher-centered approaches to active and student-centered learning (Roggemann & Shukri, 2010). Research has shown that early childhood teachers in Jordan welcomed this shift and were eager to implement active learning and child-centered practices in early childhood settings. According to Roggemann and Shukri (2010) Jordanian teachers who have been trained to use active learning have used terms such as "learning by doing" and "learning through play" to describe their beliefs about active learning. The findings of Roggemann and Shukri's study support and explain the positive beliefs that teachers in this study hold toward many practices stemming from the DAP guidelines.

It is worth noting, however, that some beliefs emanating from traditional practices are still widely endorsed by Jordanian teachers. For example, many teachers still agree with using textbooks and relying on teachers as the primary source of knowledge, assessing the academic performance of young children, and learning single subjects separately. This result is in harmony with the findings of previous research (e.g., (Clarke-Stewart et al., 2006; Hegde & Cassidy, 2009)) which found that teachers may endorse a combination of DAP and DIP. Similarly, Abu-Jaber et al. (2010) pointed out that Jordanian early childhood teachers were DAP-oriented in almost all the domains of teaching except for building a two-way relationship with parents, making it hard to conclude that teachers are only oriented by the DAP beliefs. Therefore, many educators and researchers (e.g., (Jambunathan, 2005; Liu, 2007; Ruto-Korir, 2010; Szente & Hoot, 2002)) recommend caution when transferring the DAP framework into different cultures as it may not be the only framework that shapes teachers' beliefs.

The variations in the beliefs of Jordanian early childhood teachers regarding best practices may reflect a variation in their understanding of NAEYC's guidelines, with some teachers holding a mixture of DAP- and DIP-rooted beliefs. Therefore, deliberate efforts to introduce teachers to the DAP Guidelines can enhance the developmental appropriateness of their beliefs and reduce their opposing or inappropriate beliefs (Cassidy, Buell, Pugh-Hoese, & Russell, 1995; Heisner & Lederberg, 2011). From a different angle, educators have indicated that effective professional development programs must be well designed to create a complete paradigm shift in teachers' beliefs, knowledge, and skills (Saracho & Spodek, 2007). For example, Lee (2005) suggested designing professional development training based on teachers' needs to capitalize on the benefits of professional development programs. The programs they suggested included hands-on activities, inquiry-based lessons, reflection on practice, and many other activities. Another proposal for professional development enhancement is to embrace principles of practice-based education (Vartuli, Snider, & Holley, 2016) where teachers from the start of their career preparation are allowed to understand how to integrate the knowledge of the theories behind the DAP beliefs into their everyday teaching.

From a different angle, this study found no statistically significant differences in teachers' views of best practices that can be attributed to their qualification or their teaching experience. While international studies have

found mixed results regarding the influence of educational qualifications and teaching experience (e.g., (McMullen, 1999; Vartuli, 1999; Wong, 2019)), this result is comparable with the results of the study conducted by Abu-Jaber et al. (2010) in the Jordanian context.

This might indicate that the early childhood teachers' exposure to the tenets of DAP is similar regardless of their education level. Moreover, early childhood teachers in this study seemed to experience similar school cultures regardless of how many years they've been teaching. As part of educational reforms in Jordan, early childhood teachers, for example, have been mandated to use the National Interactive Curriculum since 2004. They have also been required to use similar practice books with young children and attend professional workshops and training that might have similar pedagogical content.

## 6. CONCLUSION

Teachers of young children play a crucial role in providing children with rich and meaningful educational experiences. What they consider to be high-quality practices may define and guide their actual teaching practices. This research found that teachers of young children in Jordan are influenced by the DAP framework in how they define best practices and regard traditional practices defined by DIP to be of lower quality. Furthermore, the results of this study showed that Jordanian early childhood teachers still hold positive convictions toward some traditional or DIP practices.

## 7. RESEARCH IMPLICATIONS

The association between the abstract beliefs of teachers and their actual practices is an ongoing discussion. Therefore, future research studies that make a clear connection between the convictions of teachers of young children regarding DAP/DIP and their actual classroom practices are encouraged.

Furthermore, delving into the actual meanings that teachers make of their practices can enlighten both researchers and policymakers in Jordan. Thus, researchers are encouraged to conduct qualitative studies to investigate the contextual meanings that teachers make of their everyday classroom practices within the DAP/DIP framework.

From a different angle, if policy and decision makers wish to embrace and implement DAP, they should enhance and incorporate the DAP/DIP framework in the ongoing pre-service and in-service professional development of Jordanian teachers. According to Cassidy et al. (1995) a well-designed teacher coursework program can benefit teachers in endorsing more DAP beliefs and practices. Investigating the impact of teacher preparation and training programs conducted in Jordan on teachers' convictions and practices of DAP can also be the core of future research.

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**Transparency:** The author states that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Competing Interests:** The author declares that there are no conflicts of interests regarding the publication of this paper.

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