Developmentally appropriate or developmentally inappropriate, that's the question: perception of early childhood pre-service teachers at The University of Jordan

Amy Betawi and Sinaria Jabbar

Curriculum and Instruction, The University of Jordan, Amman, Jordan

ABSTRACT
This study examined perceptions of pre-service teachers at the university of Jordan towards Developmentally Appropriate Practices DAP. It also examined the influence of the demographic characteristics on their perceptions of DAP or DIP. A total of 189 pre-service teachers completed a survey questionnaire describing their demographic information and perceptions regarding their DAP using the TBS scale. Results indicated that pre-service teachers have high perception of DAP on the TBS scale. In addition, there was a statistical significance in DAP due to pre-service teachers’ practicum experience in favor to students with less experience. On the other hand, there was no statistical significance in DAP due to pre-service teachers’ age, college year, GPA nor academic major. Final result indicated that there was a significant difference in DIP due to pre-service teachers’ college year in favour of freshmen year. In the light of the findings of this study, some recommendations are presented.

Introduction
Teachers' education is one of the most important indicators of high quality in early childhood education. Several research studies documented the role of teachers in developing the whole child in the early years (Cuenca, 2010; Darling-Hammond, 2010; Heisner & Sandvik, 2011; Raftery, 2016; Sandvik, van Daal, & Ade´r, 2014), setting the environment (Kim, 2011), developing appropriate ways of teaching children that match their developmental stage (Akin, 2013) and provide learning experiences that are meaningful, relevant, and respectful for each child (Copple & Bredekamp, 2009) that promote children in all developmental domains in early childhood settings. Therefore, teachers’ education and pre-service early childhood teachers’ training programs at universities are very important for children's well-being and development (Betawi, 2012; Kennedy & Heineke, 2014). When pre-service teachers’ master the knowledge and the skills they will provide a rich learning environment and experience for children that is developmentally appropriate for young children (Helm, Katz, & NAEYC, 2011).

It is important for all educators to have an understanding of cognitive learning theories, but it is particularly so for early childhood educators. An early childhood teacher who has a basic understanding of human development in general and child development in particular (Gauvain & Perez, 2015) is more likely to prepare, plan, and develop activities that are developmentally appropriate and best fit
children’s learning needs (Horowitz et al., 2005). The National Association for the Education of Young Children (NAEYC) uses the term ‘developmentally appropriate practice (DAP)’ (p. 1) to support this notion. The NAEYC (2009), proposed guidelines for Developmentally Appropriate Practice (DAP) for early childhood learning environments (NAEYC Position Statement, 2009). These guidelines have become the hallmark and approach to early childhood educators in preschools, Kindergartens and early grade school instruction that enhance student learning. It is the most widely and acceptable set of practices of teachers’ instruction of early childhood education (Kim, 2011).

**Early childhood education in Jordan**

For the past two decades Jordan has implemented several reform policies in early childhood education field (UNESCO, 2011, 2012). Therefore, the Jordanian government has invested resources to develop teachers’ educational and training programmes in order to enhance learning opportunities for young children (ALdarab’h, Abo Alrub, & Al-Mohtadi, 2015; Al-Hassana, Obeidata, & Lansford, 2010). The reforms started with the Ministry of Education MoE undergoing some improvements by completing some plans and projects concerning teachers’ education such as: Preparing training courses for all teachers in government preschools and Coordinating with the Jordanian universities to provide early childhood education majors in order to improve teachers (MoE, 2004, 2006).

In July 2003 the MoE launched a five-year project called Education Reform for the Knowledge Economy (ERfKE). The four components of ERfKE are: building the capacity of the institutions working in this field, professional development of kindergarten teachers, training opportunities, expanding kindergartens and raising awareness of early childhood education issues (MoE, 2010; UNESCO, 2006). Despite all the reforms and work put through the MoE, the challenges still exist. Therefore, Queen Rania established the ‘Teachers’ Academy’ for teacher training in 2008 as an independent institution to prepare and improve teachers as part of the implementation of educational policies in Jordan (ALdarab’h et al., 2015).

In UNESCO’s Country Programming Document (UCPD) 2012–2017, the document identified some critical points concerning early childhood sector and the related higher education in Jordan, such as, there are, ten public universities, twenty private universities and fifty-one community colleges (UNESCO, 2012). Although this large number of universities in Jordan gave the majority of the population Access to education. Yet there is a serious disconnect between the skills with which students graduate and those required by the labour market especially in early childhood major (UNESCO, 2011). Despite the large number of universities in Jordan only 13 public and private universities offer early childhood teachers’ training programs that lack conformity between universities (Betawi, 2012), lack practicum courses, as well as do not match the growing change of this field’s information globally nor the need of the work force market.

The UNESCO’s Country Programming Document (UCPD) 2012–2017 concerning this issue, stated that,

> Teacher professional development in Jordan suffers from the lack of clear and structured teacher pre- and in-service training programmes, particularly supporting teachers once they are in the classroom. Moreover, subject-matter expertise and general pedagogical techniques are not properly cultivated in new teachers. (UNESCO, 2012, p. 18)

To overcome these challenges, several governmental reforms were developed again, started in 2016 Her Majesty Queen Rania launched the National Strategy for Human Development where she delivered a speech that summarized and diagnosed the shocking reality of the quality of the education in Jordan (Nimah, 2016). Queen Rania enumerated several facts concerning this issue, the most important ones that related to teachers’ education were, ‘(1) Less than 10 per cent of the Ministry of Education’s budget is allocated to the development of the educational process, compared to 40 per cent in a country like Finland,’ (2) ‘Fifty per cent of our teachers chose this profession simply because it was the best or only available option to them,’ (3) ‘Only one-third of teachers in Jordan specialized in education. The rest are
leading classrooms today with degrees in science, mathematics or Arabic, but without any significant training in teaching methodologies.’ (Nimah, 2016).

In July, 2017, The Ministry of Education and UNICEF launched an eight-year executive plan (2017–2025) aimed at universalizing access to pre-primary education in the Kingdom. The plan aims to have all children accessing preprimary education, focusing on a stronger policy agenda, and a country-wide coverage of early childhood education (UNECIF, 2017). Also, the MoE on 7 February 2018 has launched a national program for empowerment and employment in the kindergarten service sector under the title: ‘Our partnership for the future of our children’ (Jordan Times, 2018), as a part of the the National Strategy for Human Development plan.

Despite all the efforts that have been made to strengthen the early childhood education field in Jordan, there are gaps that need to be addressed (UNESCO, 2011, 2012). The emphasis on teachers’ education and their instructional skills receives more attention than teachers’ beliefs and perceptions of developmentally appropriate practices and their abilities to implement it (Heisner & Lederberg, 2011).

Theoretical framework

Developmentally appropriate practice (DAP) supports the cognitive learning theories especially the work of Piaget and Vygotsky that later formed the concept of constructivism (Gauvain & Perez, 2015; Hausfather, 1996). Constructivist belief that the knowledge of learners is constructed through their interaction with the environment around them that stimulate and challenge their thinking (Hedges, 2000, Helm & Katz, 2011). DAP refers to using knowledge about child development, including age, individual, social and cultural appropriateness, children’s characteristics and experiences, to make the best decisions during teaching to promote children’s learning and development (NAEYC, 2009). In the absence of such knowledge, teachers may plan activities (Kemp, Kishida, Carter, & Sweller, 2013) for students that are developmentally inappropriate which it refers to as Developmentally inappropriate practice (DIP) that hinder their learning (Coppble & Bredekamp, 2009). Therefore, DAP is contrasted with developmentally inappropriate practice (DIP), which is seen as ‘rigidly academic and adult-controlled learning experiences’ (Gestwicki, 1999, p. 20). Examples of inappropriate practice include paper and pencil activities, rote learning, academically focused work, and large group directed teaching (Burts, Hart, Charlesworth, & Kirk, 1990).

The DAP model is one example of teachers’ training that many colleges adapt when working with early childhood pre-service teachers. Research calls for evidence-based training approaches that provide teachers with extensive background in child development and focused regular mentoring (Cuenca, 2010). It seems that a college degree in early childhood education specialization (Early et al., 2007) that emphasize DAP predict positive social competences, communication and cognitive skills among preschool children (Gestwicki, 1999).

In addition to the type of teachers’ education and training programs, it is also important to consider the content of such training (Darling-Hammond, 2006; 2010). Whereas many different types of courses and training models exist, most programs are guided by standards developed by professional associations, such as the National Association for the Education of Young Children (NAEYC). As mentioned before, The National Association for the Education of Young Children (NAEYC) (2009) developed guidelines for practices, known as DAP. The proposed guidelines have been widely used as the basis for content and courses for training early childhood pre-service teachers (Bredekamp & Copple, 1997; NAEYC, 2009, 2012). For the pre-service teachers to understand the DAP approach, it means that pre-service teachers should acquire knowledge and principles of child development, and the appropriate expectations for each age group (NAEYC, 2009). This knowledge can influence their perception about their practices in the classroom. In short, pre-service teachers’ perception about DAP will influence their future teaching that will certainly influence children’s development in all domains (Akin, 2013; File & Gullo, 2002; Kim, 2011; Maxwell, McWilliam, Hemmeter, Ault, & Schuster, 2001; McMullen et al., 2006; Rentzou & Sakellariou, 2011).
Pre-service teacher’s DAP perceptions and beliefs

The research on pre-service teachers’ DAP perception is relatively new, but there is already evidence about their beliefs that developmentally appropriate approaches are the best methods of teaching (Akin, 2013; Kim, 2011). There is a conviction that teachers’ perceptions about DAP serve as a useful source of information about teachers’ beliefs and values that may relate to their practice in preschool settings (Akin, 2013; Kim, 2011; Rentzou & Sakellariou, 2011). Past research has shown that attitudes, perceptions and values can be interpreted as beliefs (Rokeach, 1980). Accordingly, attitudes and perceptions may be expressed in different types of beliefs that in turn affect behaviors. Therefore, Teachers’ perception about DAP may influence children’s development. Moreover, teachers’ perception about DAP is reflected on their teaching style and strategy. Likewise, it will probably reflect their perception about child development, especially social and cognitive development (Akin, 2013; File & Gullo, 2002; Kim, 2011; Maxwell et al., 2001; McMullen et al., 2006). This is because teachers’ perception about DAP constitute a basic component of their values and their educational belief system that plays a major part in teachers’ cognition about what they do in class to help children develop (Raftery, 2016).

Reviewing the literature showed that much research has suggested that teachers’ perception and beliefs about DAP is linked to various child outcomes. Research studies in Jordan mostly investigated the quality of early childhood education in Jordan and its reforms (ALdarab’h et al., 2015; Al-Hassana et al., 2010). Only one study (Abu-Jaber, Al-Shawareb, & Ghieth, 2010), examined the beliefs of Jordanian kindergarten teachers toward developmentally appropriate practices (DAP). Despite the increased awareness of the importance of teacher’s education in Jordan, pre-service teachers’ beliefs and perception of DAP is still quite limited in Jordan. According to research in Jordan, there is a lack of research addressing teachers’ perception about DAP in general and perception of pre-service teachers’ in particular (Abu-Jaber et al., 2010). Therefore, the researchers found that it is very important to study pre-service teachers’ perception concerning DAP to enrich the Jordanian early childhood literature. Accordingly, the researchers attempt to examine the effect of the early childhood pre-service teachers’ training program at The University of Jordan (UJ) on pre-service teachers’ perceptions to be DAP or DIP. It also investigates the influence of teachers’ demographic characteristics on their beliefs. It is important to mention here that pre-service teachers’ perception of DAP on their future practice, is the first to address pre-service teachers’ beliefs from the perspective of pre-service teachers in Jordan. Finally, this study will encourage other researchers to investigate this issue from different angles.

Research questions

The current study is a preliminary study of pre-service early childhood teachers’ perception to be DAP or DIP at The Jordan University. Therefore, the following questions were generated:

1. What are the general perceptions and beliefs of early childhood pre-service teachers at UJ towards Developmentally appropriate practice (DAP)?
2. Is there a significant difference at ($\alpha = .05$) of DAP perception due to pre-service teachers’ age, college year, GPA, academic major and practicum experience at UJ?
3. Is there a significant difference at ($\alpha = .05$) of DIP perception due to pre-service teachers’ college year at UJ?

Research methodology

Population and sample

The population of the study consisted of 253 pre-service teachers who are enrolled in early childhood four-year-training program at the University of Jordan UJ in Amman. UJ was the first university to
implement an early childhood training program in Jordan. Five classes were purposely selected (convenience sample) to represent one college year (freshman, sophomores, juniors and seniors). Three classes were core early childhood courses, where early childhood student major attended. Two classes were departmental elective courses where pre-service teachers from different majors in education including early childhood major attended. A total of 189 student teachers in the five classes attending four-year-training program. In regard to pre-service teachers’ demographics (college year, academic major and practicum) are shown in Table 1.

| Instrumentation |
|-----------------|
| Demographic survey |
| A demographics survey was developed to assess characteristics of the participants that may impact beliefs and perception. The following demographic information was obtained: College year, academic major, practicum experience and GPA |

| Teacher beliefs and practices scale |
|-----------------------------------|
| The Teachers Beliefs and Practices Scale TBPS (Charlesworth et al., 1993) is a 72-item scale assessing one’s beliefs and activities related to teaching practices. There are two subscales within the TBPS, the Teacher’s Beliefs Scale (TBS), with 43 items, and the Instructional Activities Scale (IAS), with 30 items. TBS is designed to assess the beliefs about the importance of DAP methods, and the IAS measures how frequently teachers and future teachers practice DAP in their classrooms. For the purpose of this study the researcher used only the Teacher’s Beliefs Scale (TBS) to assess pre-service teachers’ perceptions and beliefs about DAP. All of the TBS items are rated on a 5-point Likert scale (1 = not at all important, 5 = extremely important). According to Charlesworth et al. (1993) the scale items are reflective of the NAEYC guidelines for DAP and takes concepts directly from the recommendations from NAEYC guidelines, so questionnaire reflect developmentally appropriate practices DAP and developmentally inappropriate practices DIP. One example of DAP from TBS scale is: ‘It is ____ for activities to be responsive to individual differences in children’s levels of development.’ It also has items that reflect developmentally inappropriate practices. An examples of DIP item from TBS scale is: ‘It is ____ that each curriculum area be taught as separate subjects at separate times’. |

**Table 1.** Demographic characteristics of the sample (age, college year, academic major practicum experience and GPA).

| Valid levels | Frequency | % | Valid % | Cumulative % |
|-------------|-----------|---|---------|--------------|
| Student age | Less than 20 | 72 | 38.1 | 38.1 | 38.1 |
| | Above 20 | 117 | 61.9 | 61.9 | 100.0 |
| College year | Freshmen | 41 | 21.7 | 21.7 | 21.7 |
| | Sophomore | 62 | 32.8 | 32.8 | 54.5 |
| | Junior | 44 | 23.3 | 23.3 | 77.8 |
| | Senior | 42 | 22.2 | 22.2 | 100.0 |
| Academic Major | ECE | 144 | 76.2 | 76.2 | 76.2 |
| | Elementary Ed | 38 | 20.1 | 20.1 | 96.3 |
| | Special Ed | 7 | 3.7 | 3.7 | 100.0 |
| Practicum experience | No exp. | 161 | 85.2 | 85.2 | 85.2 |
| | With exp. | 28 | 14.8 | 14.8 | 100.0 |
| GPA2 | Excellent | 13 | 6.9 | 7.3 | 7.3 |
| | Very good | 88 | 46.6 | 49.7 | 57.1 |
| | Good | 49 | 25.9 | 27.7 | 84.7 |
| | Satisfactory | 27 | 14.3 | 15.3 | 100.0 |
| | Missing | 12 | 6.3 | | |
| Total | 189 | 100.0 | | |
Data analysis

The data were analysed utilising the Statistical Package for the Social Sciences (SPSS-15). Descriptive analysis was used to answer question one with means, standard deviation, while One-way analysis of variance (ANOVA) was used to answer question two to determine the significance of DAP perception of early childhood pre-service teachers’ according to their college year. On the other hand, to measure early childhood pre-service teachers DIP One-way analysis of variance was used (ANOVA) to determine the significance of their DIP perception according to their GPA.

Results

Pre-service teachers’ DAP

To answer the first research question that address pre-service teachers’ perceptions towards DAP descriptive statistical analysis was conducted to provide information about their DAP perception. Means and standard deviations were computed. As shown in Table 2, the overall mean score for TBS scale that measures pre-service teachers’ DAP indicating high perception with (mean = 3.53, SD = .389). It also shows that the lowest two means were items 2, ‘It is ____ for teachers to regularly use punishments and/or reprimands when children aren’t participating.’ (mean = 1.85, SD = 1.028), and 10, ‘It is ____ to use one approach for reading and writing instruction’ (mean = 2.05, SD = 1.030). While the highest two means were items 5, ‘It is ____ for activities to be responsive to individual differences in children’s levels of development.’ (mean = 4.36, SD = .874), and 8, ‘It is ____ for teacher-child interactions to help develop children’s self-esteem and positive feelings toward learning’ (mean = 4.35, SD = .790).

Demographic variables and pre-service teachers’ DAP and DIP

Research question 2: Is there a significant difference of DAP perception due to pre-service teachers’ age, college year, GPA, academic major and practicum experience? To answer this question means and standard deviation of pre-service teachers were computed for each variable. Then, one-way ANOVA was found as shown in Table 3. Results indicated that there is a significant difference in DAP due to pre-service teachers’ practicum experience, in favour of the no practicum experience. There was no significant difference in terms of DAP due to pre-service teachers’ age, college year, GPA nor academic major.

Research question 3: Is there a significant difference at (α = .05) of DIP perception due to pre-service teachers’ college year at UJ? Also, on-way ANOVA was found to determine the difference between pre-service teachers’ DIP perceptions according to their college year as shown in Table 4. The results indicated that there is a significant difference in DIP due to pre-service teachers’ college year in favour of freshmen year.

Discussion

This study examined the effect of the early childhood pre-service teachers’ training program at The University of Jordan (UJ) on pre-service teachers’ perceptions to be DAP or DIP. It also investigates the influence of teachers’ demographic characteristics on their beliefs. The results of the study revealed that the mean value pre-service teachers’ DAP perception was 3.53, indicating high level of DAP perception. This is supported by the results of a number of research studies which indicated that pre-service teachers’ DAP perceptions and beliefs at higher level, and many aspects of their DAP beliefs are documented (Akin, 2013; Goble, Horm, Atanasov, Williamson, & Choi, 2015; Hedge, Sugita, Crane-Mitchell, & Averett, 2013; Kim, 2011; Raftery, 2016).

This result indicated that pre-service teachers’ at UJ recognized the importance of future practice of DAP that supports child-oriented approach. This is evident from the high mean (Mean = 4.36, 4.35, 4.06), score of the items (5, 8, 29, respectively) in the TBS scale that recognize children’s unique characteristics and viewing the child as the primary source of curriculum. The result is similar to the findings...
Table 2. Means, standard deviations of pre-service teachers’ TBS scale ascending order according to DAP mean.

| Question                                                                 | Mean  | Std. Deviation |
|-------------------------------------------------------------------------|-------|----------------|
| Q5. It is ____ for activities to be responsive to individual differences in children's levels of development | 4.36  | .874           |
| Q8. It is ____ for teacher-child interactions to help develop children's self-esteem and positive feelings toward learning | 4.35  | .790           |
| Q29. It is ____ to provide many daily opportunities for developing social skills (i.e. cooperating, helping, talking) with peers in the classroom | 4.06  | .935           |
| Q18. It is ____ for the teacher to move among groups and individuals, offering suggestions, asking questions, and facilitating children's involvement with materials, activities, and peers | 4.05  | .938           |
| Q36. It is ____ to establish a collaborative partnership/relationship with parents of all children, including parents of children with special needs and from different cultural groups | 4.02  | .881           |
| Q12. It is ____ for the teacher to provide a variety of learning areas with concrete materials (writing center, science center, math center, etc.) | 4.02  | .902           |
| Q25. It is ____ to read stories daily to children, individually and/or on a group basis | 3.96  | .964           |
| Q4. It is ____ for activities to be responsive to individual children's interests | 3.95  | 1.114          |
| Q39. It is ____ that teachers maintain a quiet environment | 3.94  | .976           |
| Q33. It is ____ for strategies like setting limits, problem solving, and redirection to be used to help guide children's behavior | 3.92  | .910           |
| Q27. It is ____ that teachers engage in on-going professional development in early childhood education (e.g. attend professional conferences, read professional literature) | 3.90  | 1.022          |
| Q37. It is ____ for the classroom teacher to modify, adapt, and accommodate specific indoor and outdoor learning experiences for the child with special needs as appropriate | 3.90  | .891           |
| Q6. It is ____ for activities to be responsive to the cultural diversity of students | 3.90  | .920           |
| Q35. It is ____ for teachers to solicit and incorporate parent's knowledge about their children for assessment, evaluation, placement, and planning | 3.89  | .956           |
| Q32. It is ____ for parents/guardians to be involved in ways that are comfortable for them | 3.87  | .942           |
| Q19. It is ____ for teachers to use treats, stickers, and/or stars to get children to do activities that they don't really want to do | 3.87  | 1.099          |
| Q13. It is ____ for children to create their own learning activities (e.g. cut their own shapes, decide on the steps to perform an experiment, plan their creative drama, art, and computer activities) | 3.84  | .954           |
| Q21. It is ____ for teachers to develop an individualized behavior plan for addressing severe behavior problems | 3.76  | .979           |
| Q9. It is ____ for teachers to provide opportunities for children to select many of their own activities | 3.76  | .884           |
| Q30. It is ____ that books, pictures, and materials in the classroom include people of different races, ages, and abilities and both genders in various roles | 3.70  | 1.020          |
| Q38. It is ____ that services (like speech therapy) be provided to children with special needs in the regular education classroom by specialist within the context of typical daily activities | 3.70  | 1.010          |
| Q31. It is ____ that outdoor time have planned activities | 3.68  | 1.084          |
| Q22. It is ____ for teachers to allocate extended periods of time for children to engage in play and projects | 3.67  | 1.041          |
| Q26. It is ____ for children to dictate stories to the teacher | 3.66  | .918           |
| Q24. It is ____ for children to color within pre-drawn forms | 3.54  | .931           |
| Q41. It is ____ to focus on teaching children isolated skills by using repetition and recitation (e.g. reciting ABCs) | 3.50  | 1.075          |
| Q3. To plan and evaluate the curriculum, teacher observation is ____ | 3.50  | .903           |
| Q34. It is ____ for teachers to integrate each child's home culture and language into the curriculum throughout the year | 3.47  | .976           |
| Q40. It is ____ to provide the same curriculum and environment for each group of children that comes through the program | 3.47  | .981           |
| Q11. Instruction in letter and word recognition is ____ in preschool | 3.43  | 1.032          |
| Q16. A structured reading or pre-reading program is ____ for all children | 3.41  | .869           |
| Q43. It is ____ to plan activities that are primarily just for fun without connection to program goals | 3.32  | 1.240          |
| Q28. It is ____ for children to see and use functional print (telephone book, magazines) and environmental print (cereal boxes, potato chip bags) | 3.23  | .972           |
| Q15. Workbooks and/or ditto sheets are ____ in my classroom. | 3.12  | .963           |
| Q2. As an evaluation of children's progress, readiness or achievement tests are ____ | 3.11  | .945           |
| Q23. It is ____ for children to write by inventing their own spelling | 3.06  | 1.037          |
| Q17. It is ____ for the teacher to talk to the whole group and for the children to do the same things at the same time | 2.91  | 1.071          |
| Q7. It is ____ that each curriculum area be taught as separate subjects at separate times | 2.75  | 1.095          |
| Q14. It is ____ for children to work individually at desks or tables most of the time | 2.56  | .991           |
| Q42. It is ____ to follow a prescribed curriculum plan without being distracted by children's interests or current circumstances | 2.24  | 1.261          |
| Q10. It is ____ to use one approach for reading and writing instruction | 2.05  | 1.030          |
| Q20. It is ____ for teachers to regularly use punishments and/or reprimands when children aren't participating | 1.85  | 1.028          |

TBS 3.5304 3.8988
of (Akin, 2013; Kim, 2011; Raftery, 2016) research that examined pre-service teachers DAP. Their research has shown that pre-service teachers in undergraduate training programs in early childhood education generally have developmentally appropriate beliefs that considers the child’s needs, individuality and characteristics.

The study also revealed there was a significant difference in DAP due to pre-service teachers’ practicum experience, in favour of the no practicum experience. This is due to the fact that when pre-service teachers get placed in the field they feel the gap between the traditional educational system in Jordanian schools and what they have been taught in their four-year training program at college. This finding is in agreement with Betawi (2012) research on pre and in-service teachers non-prenatal and educational beliefs in Jordanian universities. Betawi concluded that the educational system in Jordan still adopts an authoritarian non-parental and educational style that emphasises on traditional beliefs. As well as, teachers’ perception is affected by the cultural values in the Jordanian educational system that adopts a non-authoritative parental style. Additionally, pre-service teacher whom they are not in the field still affected by the early childhood training program and the knowledge that they possess from such program that adapts DAP model. This finding is in agreement with Kim (2011) research that indicated a relationship between beliefs about DAP and length of practicum experience. This implies stronger beliefs about DAP is related to longer field experiences. The pre-service teachers at JU had short period of practicum experience when they participated in the study. On the contrary, this study result contradicts with Raftery (2016) research about pre-service teachers’ DAP beliefs which indicated that the more DAP one’s beliefs, the more likely they were to indicate intended use of those practices.

The final result of the study revealed that there was a significant difference in DIP due to pre-service teachers’ college year in favour of freshmen year. This result is due to the fact that freshmen students have little knowledge about the DAP pedagogy and they are not exposed to DAP in their schools or culture nor having experience of working with young children in Jordan. This result is in agreement with Kim (2011) research on pre-service teachers’ beliefs about DAP and influences of teacher education and field experience. Kim found that the length of teacher education and amount of coursework has a positive effect on beliefs about DAP. According to these finding freshmen pre-service teacher DIP are expected as a developmental factor of professional requirement.
Conclusion and recommendation

Reviewing the literature, one recognizes the lack of pre-service teachers’ DAP research in Jordan. This pedagogy is very important to be addressed not only in research, also in lectures and workshops especially for in-service teachers and early childhood principals and parents to give them knowledge and information about the benefits of using such a model on young children's development and personality. Therefore, the researchers recommend to investigate: early childhood in-service teachers DAP in the classroom and how they utilize these practices in their daily activities. The barriers of using DAP in preschools and kindergarten. The effect of DAP and DIP perception of principals on teachers’ practices. The relationship between preschool teachers’ DAP on young children’s social skills.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Amy Betawi is an associate professor of Early Childhood Education at the faculty of educational sciences at The University of Jordan. She holds a master’s degree and PhD in Early Childhood Education from the University of Tennessee at Martin and Florida State University respectively. She supervises graduate students, teaches ECE courses and serves as an editor on the editorial board of several international journals such as: The International Journal of Adolescence and Youth, Journal of Teacher Education, World Journal of Educational Research. She served as an assistant dean for Quality Assurance at the faculty of educational sciences and Faculty of Graduate Studies for two consecutive years. She is an active individual. She has several research publications in preschool programs, young children's social development, early childhood teachers’ education, teachers’ beliefs, refugees and father involvement studies, written and translated books in early childhood education. She is a child advocate and active community member who participates in several activities in (lectures, radio and TV interviews) to spread awareness about several early childhood issues.

Sinaria Jabbar is an associate professor of education at the faculty of Educational Sciences at The University of Jordan. She holds a master's degree in Early Childhood Development and a PhD in Adult education and Human Resource Development from The University of Missouri-Saint Louis. She teaches early childhood education courses, supervises graduate students, and is an active member in various committees at the University. She has also held two administrative positions at the University as assistant to the director at the office of international relations and the director of quality assurance. She has over 10 publications and her research interests include refugee studies, conflict resolution, women empowerment, adult and youth education, and child development. She is very passionate about helping others, and strives to transform lives and contribute to her community.

ORCID

Amy Betawi http://orcid.org/0000-0001-6936-9912
Sinaria Jabbar http://orcid.org/0000-0002-2024-5350

References

Abu-Jaber, M., Al-Shawareb, S., & Ghieth, E. (2010). kindergarten teachers’ beliefs toward developmentally appropriate practice in Jordan. Early Childhood Education, 38, 65–74. doi:10.1007/s10643-010-0379
Akin, E. Z. (2013). Examining the beliefs of Turkish preservice early childhood teachers regarding early childhood curriculum. Journal of Research in Childhood Education, 27(3), 302–318. doi:10.1080/02568543.2013.796331
ALdarab’h, I., Abo Alrub, M., & Al-Mohtadi, R. M. (2015). What is the reality of preschool in Jordan? Journal of Education and Practice, 9, 180–187.
Al-Hassana, S. M., Obeidata, O. M., & Lansford, J. E. (2010). Education reform and the quality of kindergartens in Jordan. Early Child Development and Care, 180(9), 1203–1213. doi:10.1080/03004430902907640
Betawi, I. A. (2012). The effect of the educational system non-teacher parental and educational perceptions in Jordan: A comparison study between pre-service and in-service teachers. International Journal of Adolescence and Youth, 18(1), 32–44.
Bredekamp, S., & Copple, C. (1997). Developmentally appropriate practice in early childhood programs (rev. ed.). Washington, DC: National Association for the Education of Young Children (Eric Document 403 023).
Burts, D. C., Hart, C. H., Charlesworth, R., & Kirk, L. (1990). A comparison of frequencies of stress behaviours observed in kindergarten children in classrooms with developmentally appropriate versus developmentally inappropriate instructional practices. Early Childhood Research Quarterly, 5, 407–423.

Charlesworth, R., Hart, C. H., Burts, D. C., Thomasson, R. H., Mosley, J., & Fleeg, P. O. (1993). Measuring the developmentally appropriateness of kindergarten teachers’ beliefs and practices. Early Childhood Research Quarterly, 8, 255–276.

Copple, C., & Bredekamp, S. (2009). Developmentally appropriate practice in early childhood programs serving children from birth through age 8 (3rd ed.). Washington, DC: National Association for the Education of Young Children.

Cuenca, A. (2010). Care, thoughtfulness, and tact: A conceptual framework for university supervisors. Teaching Education, 21(3), 263–278. doi:10.1080/10476210903508807

Darling-Hammond, L. (2006). Powerful teacher education: Lessons from exemplary programs. San Francisco, CA: Jossey-Bass.

Darling-Hammond, L. (2010). Recognizing and developing effective teaching: What policy makers should know and do. Retrieved February 2, 2018, from http://www.nea.org/assets/docs/HE/Effective_Teaching__Linda_Darling-Hammond.pdf

Early, D. M., Maxwell, K. L., Burchinal, M., Alva, S., Bender, R. H., Bryant, D., … Zill, N. (2007). Teachers’ education, classroom quality, and young children’s academic skills: Results from seven studies of preschool programs. Child Development, 78(2), 558–580. doi:10.1111/j.1467-8624.2007.01014.x

File, N., & Gullo, D. (2002). A comparison of early childhood and elementary education students’ beliefs about primary classroom teaching practices. Early Childhood Research Quarterly, 17(1), 126–137. doi:10.1016/S0885-2006(02)00130-8

Gauvain, M., & Perez, S. M. (2015). Cognitive development in cultural context. In R. M. Lerner, L. Liben, & U. Müller (Eds.), Handbook of child psychology and developmental science, Vol. 2: Cognitive processes (pp. 854–896). Hoboken, NJ: Wiley.

Gestwicki, C. (1999). Developmentally appropriate practice: Curriculum and development in early education (2nd ed.). Albany, NY: Delmar.

Goble, C. B., Horm, D. M., Atanasov, A. M., Williamson, A. C., & Choi, J. Y. (2015). Cognitive development in cultural context. In R. M. Lerner, L. Liben, & U. Müller (Eds.), Handbook of child psychology and developmental science, Vol. 2: Cognitive processes (pp. 854–896). Hoboken, NJ: Wiley.

Hausfather, S. J. (1996). Vygotsky and schooling: Creating a social context for learning, Action in Teacher Education, 18(2), 1–10.

Hedge, A., Sugita, C., Crane-Mitchell, L., & Averett, P. (2013). Japanese nursery and kindergarten teachers’ beliefs and practices regarding developmentally appropriate practices. International Journal of Early Education, 22(4), 301–314. doi:10.1016/j.ecresq.2010.09.003

Hedges, H. (2000). Teaching in early childhood: Time to merge constructivist views so learning through play equals teaching through play. Australian Journal of Early Childhood, 25(4), 16–21.

Heisner, M. J., & Lederberg, A. R. (2011). The impact of child development associate training on the beliefs and practices of preschool teachers. Early Childhood Research Quarterly, 26(2), 227–236. doi:10.1016/j.ecresq.2010.09.003

Helm, J. H., & Katz, L. G., & National Association for the Education of Young Children (NAEYC) (2011). Young investigators: The project approach in the early years (2nd ed.). New York, NY: Teachers College Press.

Horowitz, F. D., Darling-Hammond, L., Bransford, J., Comer, J., Rosebrock, K., Austin, K., & Rust, F. (2005). Educating teachers for developmentally appropriate practice. In L. Darling-Hammond & J. Bransford (Eds.), Preparing teachers for a changing world: What teachers should learn and be able to do (pp. 88–125). San Francisco, CA: Jossey-Bass.

Jordan Times. (2018, February 7). National programme with focus on early childhood education launched. Retrieved from http://www.jordantimes.com/news/local/national-programme-focus-early-childhood-education-launched

Kemp, C., Kishida, Y., Carter, M., & Sweller, N. (2013). The effect of activity type on the engagement and interaction of young children with disabilities in inclusive childcare settings. Early Childhood Research Quarterly, 28, 134–143. doi:10.1016/j.ecresq.2012.03.003

Kennedy, A. S., & Heineke, A. (2014). Re-envisioning the role of universities in early childhood teacher education: Community partnerships for 21st-century learning. Journal of Early Childhood Teacher Education, 35(3), 226–243. doi:10.1080/10910127.2014.936072

Kim, H. (2011). Developmentally appropriate practice as defined and interpreted by early childhood preservice teachers: Beliefs about DAP and influences of teacher education and field experience. SRATE, 20(2), 12–22.

Maxwell, K., McWilliam, R., Hemmeter, M., Ault, M., & Schuster, J. (2001). Predictors of developmentally appropriate classroom practices in kindergarten through third grade. Early Childhood Research Quarterly, 16(4), 431–452. doi:10.1016/S0885-2006(01)00118-1

McMullen, M., Elicker, J., Goetzte, G., Huang, H., Lee, S., Mathers, C., … Yang, H. (2006). Using collaborative assessment to examine the relationship between self-reported beliefs and the documentable practices of preschool teachers. Early Childhood Education Journal, 34(1), 81–91. doi:10.1007/s10643-006-0081-3

Ministry of Education (MoE). (2004). September 8–11. Quality of education for all young people: Challenges, trends, and priorities. Paper presented at the 47th session of the International Conference on Education, Geneva.

Ministry of Education (MoE). (2006). The development of early childhood services in the Ministry of Education. Amman: The Ministry of Education Press.
National Association for the Education of Young Children (NAEYC). (2009). Developmentally appropriate practice in early childhood programs serving children from birth through age 8: A position statement of the National Association for the Education of Young Children. Retrieved February 8, 2018, from http://www.naeyc.org/positionstatements

National Association for the Education of Young Children (NAEYC). (2012). 2010 NAEYC standards for initial and advanced early childhood professional preparation programs. Retrieved February 4, 2018, from https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/our-work/higher-ed/NAEYC-Professional-Preparation-Standards.pdf

Nimah, H. (2016, September 6). The sad reality of our education system. The Jordan Times. Retrieved February 12, 2018, from http://www.jordantimes.com/opinion/hasan-abu-nimah/sad-reality-our-education-system

Raftery, B. (2016). Developmentally appropriate practice (DAP): An examination of preservice teachers (Master’s Thesis). Middle Tennessee State University. Retrieved February 1, 2018, from https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/our-work/higher-ed/NAEYC-Professional-Preparation-Standards.pdf

Rentzou, K. & Sakellariou, M. (2011). Greek pre-service kindergarten teachers' beliefs about and practices of developmentally appropriate practices in early childhood education. Early Child Development and Care, 181(8), 1047–1061. doi:10.1080/03004430.2010.509796

Rokeach, M. (1980). Some unresolved issues in theories of beliefs, attitudes, and values. In M. M. Page (Ed.), Nebraska Symposium on Motivation 1979; Beliefs, attitudes, and values (pp. 261–304). Lincoln, NE: University of Nebraska Press.

Sandvik, J., van Daal, V., & Ade’r, H. (2014). Emergent literacy: Preschool teachers’ beliefs and practices. Journal of Early Childhood Literacy, 14(1), 28–52.

UNECIF. (2017). Jordan’s Ministry of Education and UNICEF launches plan to universalize access to kindergarten (KG2) [10Jul2017]. Retrieved February 2, 2018, from https://www.unicef.org/jordan/media_12099.html

UNESCO International Bureau of Education (IBE). (2006). Early childhood care and education (ECCE) programs. Country profile prepared for the Education for All Global.

UNESCO. (2011). Education for all global monitoring report: The hidden crisis – Armed conflict and education (p. 264). Paris: Author.

UNESCO. (2012, April). Jordan: UNESCO country programming document (UCPD), 2012–2017 (2nd ed.). Amman: Author. Retrieved February 9, 2018, from http://unesdoc.unesco.org/images/0021/002166/216664e.pdf