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Teachers' beliefs about developmentally appropriate practices in Saudi Arabia

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Abstract

Since the first release of NAEYC's guidelines, DAP has received a lot of attention from childhood professionals in the United States. Internationally, many countries have also shown a growing interest regarding DAP, yet interest in DAP is new to the Saudi educators. Thus, the purpose of this study was to explore preschool teachers' subjective beliefs toward NAEYC's guidelines of DAP in Saudi Arabia, one of the most conservative Middle Eastern countries. Q Methodology, as a mixed methods approach, was used to study 37 preschool teachers randomly selected from five preschools in Mecca city. The participants sorted 50 cards with examples of DAP and developmentally inappropriate practice (DIP) or "In Contrast" statements which represented perceived importance of the practice to the sorter. To analyze the data, a Principal Component Analysis (PCA) with Varimax rotation indicated four main components regarding the beliefs of Saudi preschool teachers as they relate to DAP's guidelines. Each component represents a unique perspective (viewpoint) on how Saudi preschool teachers view DAP and contrasting items based on their subjective points of view. The four main perspectives that emerged from the analysis show a dominance consensus among perspectives that fit equitably within the DAP framework regarding the best practice of early childhood education. Findings from this study provide evidence that many aspects of developmentally appropriate practice can be appropriate in different cultures and countries.

Background

There has been a widespread interest in the National Association for the Education of Young Children (NAEYC) framework for Developmentally Appropriate Practice (DAP). Since the release of DAP in 1987, the framework was quickly criticized with reference to DAP ignoring the importance of children's social and cultural backgrounds and a focus on development as a universal goal (Delpit 1988; Jipson 1991; Kessler 1991). Although Bredekamp (1993) stated that some of the criticism (e.g., Fowell and Lawton 1993) of DAP are based on misinterpretations of the statement, changes to the second and third position statements have been seen by many to address major issues concerning diversity and cultural background, second-language learners, and special needs children (Copple and Bredekamp 2009).

More recently, variations in cultural practices have been shown to be consistent with DAP and researchers have explored how teachers respond to DAP when there are clear contrasts with their own beliefs and values. For example, Sanders et al. (2007) have explored African American teacher's perceptions of DAP in the 'hood;

Adair and Bhaskaran (2010) have discussed meditation and eating on the floor; Carlson and Harwood (2010) have explored cultural patterns for Anglo and Puerto Rican mother–infant pairs; with a more thorough qualitative meta-analysis of the consistencies and contradictions to cultural beliefs provided by Brown and Lan (2015). The debate about whether DAP should be the framework in early childhood education is not likely to be solved anytime soon, or to everyone's liking, as no single framework is going to be valued by people with diverse philosophical worldviews (Ernest 2011). Therefore, Elkind (2015) provided a more pragmatic perspective and reminds us that when compared to other frameworks or programs, DAP is better grounded in philosophy, theory, research, and practice. Elkind also believes DAP is the best integrated framework for socialization, individualization, work, and play; and offers the most expansive variety of learning experiences for a child. Perhaps more importantly, many countries' governments, ministries' of education, and regional, state, and local programs are exploring the role of DAP in spite of the well-developed concerns. Research continues to explore the role of DAP across the world.

Gathering broad global perspective regarding DAP shows the influence of culture and people's traditions on education. In general, individual nations have varied somewhat in what they consider appropriate/inappropriate practices (e.g., Kim 2008, Kim et al. 2005, and McMullen et al. 2005). Research studies conducted in countries that include China, Ecuador, England, Finland, Greece, Hungary, India, Jordan, South Korea, Taiwan, Singapore, and Turkey elucidate worldwide perspectives regarding teachers' beliefs toward DAP and have shown relationships between varied sociocultural aspects and educational systems in different nations and how teachers and educators may view DAP (Erdiller Akin and McMullen 2003; Hoot et al. 1996; Hedge and Cassidy 2009; Hsieh 2004; Lin 2004; Liu 2007; Ting Tan and Rao 2017). Concomitant with the need to expand DAP research worldwide, a few studies have been conducted in the Middle East, particularly in Jordan (e.g., Abu-Jaber et al. 2010, Haroun and Weshah 2009, and Rababah 2012), Lebanon (Faour 2003), and Oman (Mohamed and Al-Qaryouti 2016). Factors such as culture, religion, traditions, shared values, and beliefs shape teachers' perceptions about what are considered appropriate or inappropriate practices in how they teach in the classroom (Goldstein 2008; McMullen et al. 2005; Pajares 1992; Penn 1998; Rababah 2012; Stephenson 1986). These variations in cultural beliefs affect an educational system to different degrees. For example, with a Turkish population consisting of 98% Muslims, Islam is impacting the traditions and society, yet there is strict separation between religion and education (Hefner and Zaman 2007). The Turkish Educational Constitution is consistent with the philosophy of DAP and a child-centered teaching style (Erdiller Akin and McMullen 2003; McMullen et al. 2005).

Exploring teachers' beliefs in a Middle Eastern country like Saudi Arabia has the potential to add another dimension to our knowledge of how developmentally appropriate is defined in one of the most conservative and religious societies in the world. As the Saudi education system has lately witnessed a remarkable shift to a more Western style of educating young children in its reforms, knowing how Saudi teachers' view DAP is important.

Cultural influences on education in Saudi Arabia

Saudi Arabia is known as the most culturally and religiously conservative society of the Middle Eastern countries. The unique religious characteristics of Saudi society influence all aspects of life, especially education (Al-Otaibi and Al-Swailm 2002). Religion and culture are indivisible parts of Saudi education that can be seen clearly in the way the statement of education policy was formed. The spirit of Islam is viewed as culture, heritage, and history, which shape the philosophy of education (Al Alhareth et al. 2013).

Saudi education policy primarily emanates from Islam and seeks to promote loyalty to Islam in all aspects and levels of the educational system. The comprehensive document "Educational Policy in Saudi Arabia" was written in 1970 by the Higher Committee of Educational Policy and serves as a main reference for the principals of education (Ministry of Education 1995). The principals represent and emphasize all the characteristics of Muslims' lives as learners and stress the religious role of Islamic-based education (Al-Sunbul et al. 2008). Religious education is intentionally incorporated in all grades and serves as the essence of the curriculum, objectives, aims, and teachings (Al Salloom 1995); the Islamic foundation starts as early as preschool education and continue to higher education (Al-Otaibi and Al-Swailm 2002). Islamic teaching based on Qur'an recitations, Hadith legislation (the Prophet Muhammad's legacy and teachings), and ideals in Islam are presented in the daily program of all preschools in the kingdom.

Preschool education in Saudi Arabia

In Saudi Arabia, elementary school starts at age 6 years, with preschool education for children 3–5-year old called the kindergarten. Kindergarten is the earliest stage of education and considered a preparation for formal schooling. The main goals of kindergarten education in the Kingdom of Saudi Arabia are "supervising the development of the kids' mental, psychological, and social skills, religious education, familiarizing the kids with atmosphere of the elementary school, teaching basic ethics, and encouraging creativity" (Megren 2003, pp. 72–73).

The increasing awareness of the importance of providing early education prior to elementary school has increased the need for qualified and well-prepared teachers. As teachers are individuals and have their own beliefs toward their role in the classroom, varying levels of education among Saudi preschool teachers are likely to influence the way they view appropriate/inappropriate educational practices in preschool settings. The qualifications for preschool teachers in the Kingdom of Saudi Arabia vary broadly and even though 56% of preschool teachers hold bachelor's degrees, 76% of these teachers do not hold degrees in early childhood education; in private schools, 78% of private preschool teachers hold 2-year diplomas (Gahwaji 2013).

Since the late 1980s, DAP has received local and global interest among researchers and educators in the field of early childhood education. Nevertheless, interest in DAP is new to the Saudi education system. Many have studied teachers' beliefs regarding developmentally appropriate practices in the USA and more globally (e.g., Caner et al. 2010, Erdiller Akin 2013, Han and Neuharth-Pritchett 2010, Hoot et al. 1996, Liu 2007; McCaslin 2004, McMullen et al. 2005, Parker and Neuharth-Pritchett 2006, and Zeng and Zeng 2005), yet studies conducted in Middle Eastern countries are still quite limited (Abu-Jaber et al. 2010; Haroun and Weshah 2009; Rababah 2012; Faour 2003).

Furthermore, there is a dearth of literature that explores the cultural relevance of DAP in a diverse location, but steeped in religious history. Mecca as a city is well known for the Islamic Hajj pilgrimage but is less well known as the most diverse city in the Muslim world (Fattah 2005). Although a person must be Muslim to live or even visit the city, over 100 ethnicities reside there and Meccans are typically proud of their openness (Fattah 2005). No other study has explored DAP in a culture as religiously prominent but diverse a Muslim city as Mecca. Therefore, the purpose of this study was to explore preschool teachers' beliefs toward NAEYC's developmentally appropriate practices in Saudi Arabia in one of the most religiously yet diverse Middle Eastern and Muslim countries.

Methods

Q Methodology

Q Methodology can be used to scientifically study aspects of human subjectivity that include beliefs, opinions, thoughts, and feelings (Brown 1993; Teddlie and Tashakkori 2010). Using this methodology, the degree to which teachers' pedagogical practices reflect the appropriateness with their beliefs was measured along a continuum providing narratives of the nature of early childhood education in the Kingdom Saudi Arabia. A strength of the method is that it is considered complementary and supplementary to both the qualitative and quantitative traditions in human sciences (Ellingsena et al. 2010). Fundamentally, Q Methodology uses a sorting process so that a participant differentiates a number of items (usually statements) about an issue across a normal distribution. Participants are then grouped together using Principal Components Analysis (PCA) in relation to how each person places the statements, in relation to all other statements. The analysis provides a way for the researcher to examine the relevance of each statement for each group's viewpoint. This is followed by the researcher making connections between the statements to create multiple narratives about the topic in question.

As this study sought to explore Saudi teacher's views about DAP, statements were adapted from the latest revised position statement of NAEYC's guidelines *Examples to Consider* chapter for the preschool years (Copple and Bredekamp 2009, pp. 149–183). For Q Methodology, a study often uses between 50 and 60 statements (Smith 2001) to represent a topic of interest. In our sample, 25 statements were chosen to represent developmentally appropriate practices and another 25 statements were chosen to represent the "In Contrast" examples. To create the 50 DAP and in contrast statements, five statements were developed to represent each of the five areas important to the teacher's role: (1) creating a caring community of learners; (2) teaching to enhance development and learning; (3) planning curriculum to achieve important goals; 4) assessing children's development and learning; and (5) establishing reciprocal relationships with families. For example, from the creating a caring community of learners category, a DAP statement was *Teachers are warm, caring, and responsive. They make it a priority to know every child and family well and build a relationship with each of them.* An example of a contrast statement in the Planning Curriculum to Achieve Important Goals area was *A teacher's primary responsibility is to maintain discipline, give directions, respond to requests for help, and mediate disputes.*

In this study, we used an a priori 5 (statements) \times 5 (NAEYC areas) \times 2 (DAP vs. in contrast) Fisherian design (Brown 1993) to develop the statement. Five statements

from each of the five NAEYC areas were chosen to provide a representative selection of DAP and contrasting statement examples from the NAEYC guidelines (Copple and Bredekamp 2009). Although the NAEYC guidelines provide more DAP and in contrast statements for some areas than others (e.g., more items for the *Planning Curriculum* area than the *Teaching to Enhance Development and Learning* area), the Fisherian design provided a diverse and balanced array of statements about teaching practices for the sort, rather than a proportional representation where one area might be considered more important or comprehensive than another. Face and content validity feedback for understanding and representativeness were provided by three professors of early childhood education and this feedback was used to refine the statements.

It is important to note that it is how each person sorts the cards using their own subjective and culturally bound beliefs about the relative appropriateness of the statements than it is explored here. In this way, Q Methodology helps to provide beliefs about practices that are socio-culturally situated that may or may not be consistent with the NAEYC examples. As Copple and Bredekamp (2009) noted, the examples of DAP and in contrast statements are context dependent and the post hoc interpretation of where statements are placed in a Q sort can provide culturally shared views of teacher practices. Finally, due to the homogeneity of Saudi society with regard to its social, religious, and cultural structure, statements related to cultural and linguistic diversity were excluded. Once the statements were chosen, they were printed onto cards to allow the participants to sort.

Study participants

As we were interested in studying the relative agreement or disagreement with statements that have been associated with the Western worldview, our participants were purposefully recruited from one of the most religious conservative areas of the world: Mecca city, Saudi Arabia. Prior research has indicated that with a Q Methodological study (Sexton et al. 1998), the number of participants should be roughly half the number of items and carefully selected to represent the teachers in question. For our study, the goal was to select between 35 and 40 female teachers who would be representative of preschool teachers in Mecca, as only female teachers can serve in preschools in Saudi Arabia. Five schools were randomly selected from all public preschools in Mecca. From these five preschools, teachers were invited to participate in the study. Follow-up requests were sent until 40 teachers had agreed to participate. However, due to missing data (e.g., not completing the sorting process), the final sample was 37 preschool teachers where the majority of the teachers had a bachelor's degree, were between the ages of 30 and 40 years, and had more than 10 years of teaching (see Table 1).

Prior to sorting cards, each participant signed a letter of consent that communicated the purpose of the study, the procedures, and issues of confidentiality. Informed consent was obtained from all individual participants included in the study and the participants were informed that their participation in the study was completely voluntary and they were able to withdraw from the study with no penalty at any time. This study was approved by a University Institutional Review Boards for Human Use and the Office for Human Research Protections.

Table 1 Demographics for the 37 participants in the study

	<i>N</i>	%
Degree		
Associates	14	38
Bachelors	21	57
Bachelors in non-ECE area	2	5
Age		
30–40	18	49
40+	19	51
Years of experience teaching		
Less than 5 years	5	13
5–9 years	7	19
More than 10 years	25	68
Years of experience teaching ECE		
Less than 10 years	14	38
More than 10 years	23	62

Data collection procedure

Each participant was asked to sort the 50 cards into a quasi-normal distribution from -5 to $+5$, where -5 was anchored with the words “The Most Inappropriate” and $+5$ was anchored “The Most Appropriate”. To provide a context for the study, the preschool teachers were asked to sort the cards according to their own beliefs about the relative appropriateness of the teaching practices. The choice of anchors was intentional as it directs the sorter to explore their own beliefs vs an alternate approach using anchors similar to agree/disagree where the research would explore consensus with NAEYC values. The 0 point in the middle is a neutral area where the participants place the statements that have relatively less value in terms of perceived importance to the sorter. Initially, participants sort into three general piles (agree, disagree, neutral) and then refine their sorts to fit the prescribed distribution: The participants were instructed to place only two cards under the -5 , three cards under -4 , three cards under -2 , seven cards under -1 , and ten cards under 0. The same pattern was used to place cards under the positive area of the distribution so that the 50 cards are placed into a normal distribution. The cards were collected and the raw data entered into a digital form for later analysis. As there were 11 possible places to put each card, items placed under the descriptor “The Most Inappropriate” were given a score of 1, with items considered the most appropriate given a score of 11. All items were given a score from 1 to 11 based on their respective position in the sort.

Data analysis

The numerical data gathered from the participants through the Q-sorting process were analyzed using a Q methodology software package known as PQMethod (Schmolck 2014). The authors used PCA with Varimax rotation to reduce the dimensionality of the phenomenon into a set of components that can be interpreted in a meaningful way (Smith 2001). As there were 37 teachers sorting the cards, there are a possible 37 dimensions or viewpoints regarding DAP. A researcher can use PQMethod (or other statistical

software) to reduce the number of dimensions or viewpoints to a smaller number where a single viewpoint may be shared by multiple people (Stainton Rogers and Stainton Rogers 1990). In our study, participants that sorted the statements in a similar pattern share a viewpoint and group together as PCA components. The criterion used to retain the final number of components was having an eigenvalue greater than 1.00 as well as the teacher having an individual association of .40 or higher with a specific component. Additionally, the analysis calculates a weight for statements in the Q grid, and Z-scores are calculated. The statements positioned at the far ends of the Q grid are weighted as the largest positive and largest negative Z-scores based on the respondents (Ramlo and Newman 2011; Watts and Stenner 2013). The highest positive Z-scores represent the most appropriate practices, and the highest negative Z-scores represent the statements in contrast to appropriate practices (Van Exel and de Graaf 2005).

Results

The choice to examine four components was made based on inspection of the PCA results, using traditional factor analysis criteria of a component having an eigenvalue greater than one, and a visual inspection of the scree plot (Watts and Stenner 2013). Interpretation of the data suggested four main components regarding the beliefs of Saudi preschool teachers as they relate to DAP's guidelines and accounted for 67% of the total variance. Each component represents a unique perspective or viewpoint on how Saudi preschool teachers view DAP and provide a set of contrasting items based on their subjective points of view. These contrasting items are statements that one group of teachers agree—or disagree—with that they share as a group, but are valued differently to the other teachers in the other groups. The four different perspectives that emerged from the analysis are summarized in Fig. 1. In Q Methodology, the choice to use a PCA provides a mathematical solution with components that are theoretically unique from the other components. In our study, 13 participants did not associate purely with any one of the four components and, therefore, their sorts were not used to help construct the viewpoints. However, of these 13 participants, eight shared multiple points of view to a statistically significant degree.

Items with scores of +5, +4, and +3 represent the most appropriate practices for a particular group. Similarly, items with ranking scores of -5, -4, and -3 represent the contrasting practices where the -5 represents a level on the scale farthest from the concept of appropriate. Reviewing the items identified as the *Most Developmentally Appropriate*, the *In Contrast* items, and the distinguishing items for each perspective, four main sets of beliefs among Saudi preschool teachers regarding developmentally appropriate practices were found. Once the items are ordered for each unique perspective, a qualitative approach is used to create a narrative or story about what the component represents. In Q Methodology, the researcher looks through the items that were valued the most and the least, looking for themes within and between the items (Smith 2001). These themes can then be examined to provide shared and contrasting views about a topic.

Visual analysis of how the demographics (Table 1) varied by perspectives indicate no clear relationship between age, years of experience teaching, degree level of teacher, and inservice training. Across all participants, roughly two-thirds of the teachers had a

<p>Perspective A: <u>Developmentally Oriented Approach to Learning (6 Teachers)</u></p> <p>Children encouraged to express themselves (DAP+5)</p> <p>Considering children’s age/life/culture (DAP+4)</p> <p>Fostering children’s initiative (DAP+3)</p> <p><i>Covering the curriculum better than focus on children’s interests (DIP-5)</i></p> <p><i>Keeping classroom controlled more than focus on children as individuals (DIP-5)</i></p> <p><i>Teaching children math & science separately (DIP-4)</i></p> <p><i>Assessing children on math and literacy (DIP-3)</i></p>	<p>Perspective B: <u>Socially and Relationship Based Approach to Children Learning (8 Teachers)</u></p> <p>Children’s Social and cultural contexts (DAP+5)</p> <p>Encourage children to maintain friendship (DAP+4)</p> <p>Promote social relationship (DAP+3)</p> <p><i>Keeping classroom controlled more than focus on children as individuals (DIP-5)</i></p> <p><i>Communicating with parents only when problems or conflicts arise (DIP-4)</i></p> <p><i>Teachers should be responsive to the parent’s wishes even if those wishes go against the teacher’s beliefs (DIP-3)</i></p>
<p>Perspective C: <u>Pedagogical Approach to Learning and Assessment (3 Teachers)</u></p> <p>Integrate multiple learning contents (DAP+5)</p> <p>Assess children with different strategies (DAP+4)</p> <p>Assess children as individuals, peers, and groups (DAP+3)</p> <p><i>Follow a prescribed curriculum without attention to children’s interests, needs, prior knowledge (DIP-5)</i></p> <p><i>A teacher’s primary responsibility is to maintain discipline, give directions, respond to requests for help (DIP-4)</i></p> <p><i>Teachers always solve problems for children and give any help children request (DIP-3)</i></p>	<p>Perspective D: <u>Child Initiated and Centered Approach to Learning (7 Teachers)</u></p> <p>Assessments include all development domains physical, social, emotional, cognitive (DAP+5)</p> <p>Teachers are responsive to individual children and give children time to express themselves (DAP+4)</p> <p>Active learning in small and big groups (DAP+3)</p> <p><i>Cover the curriculum than focus on children’s interests (DIP-5)</i></p> <p><i>Developing children’s academic skills more than meeting children’s needs as physically active learners (DIP-4)</i></p> <p><i>Children are assessed as individuals. It is not a good use to time to know how children work in groups solving problems together (DIP-3)</i></p>

Numbers represent the placement, with a range from -5 to +5, on the significant perspective.

Fig. 1 Preschool teachers’ perspectives on children’s learning

bachelor’s degree, with a third holding an associate’s degree: this ratio remained consistent across all four perspectives. All teachers were above the age of 30 years and the ratio of older to younger teachers was consistent across perspectives. As the age of the teachers is older than in many studies, the years of experience in this study are disproportionately high with the majority of teachers (68%) having more than 10 years of experience teaching in ECE classrooms.

Perspective A: developmentally oriented approach to learning

Six participants were associated with this perspective and loaded to a statistically significant degree (correlated with this viewpoint > .40). The first narrative (see Fig. 1) can be described as having a developmentally oriented approach to children’s learning. Teachers that shared this view value a broad view of children’s learning that requires teachers to have a great deal of knowledge about children’s development in all areas of human

functioning: physical, social, emotional, and cognitive. The teachers that shared Perspective A placed a greater value, compared to other teachers, for children to establish positive relationships with peers, and to play and work together in small and large group. The participants that loaded on this perspective valued recognizing children's interest in the world, fostering children's initiative, and encouraging children to express themselves. As teachers, they valued knowing the child's age, life, and culture, and meeting children's needs as physically active learners as preschoolers.

Perspective B: socially and relationship-based approach to children learning

Eight participants shared a second perspective and loaded to a statistically significant degree on this component (Perspective B). The second narrative (see Fig. 1) can be described as teachers having a socially oriented approach to children's learning. The participants that shared this perspective viewed children as socially active learners in the classroom and community environments. These teachers shared common beliefs about children as social beings with a growing sense of self in relation to others. Understanding children's social and cultural contexts, as well as sharing information about children's learning with families, was considered important by this group of preschool teachers. The teachers believed in encouraging children to sustain close relationships with others, forming of friendships, having teacher–parent conferences, recognizing community-building opportunities during daily activities, and embracing a caring community of learners. Furthermore, the teachers aim to build nurturing and responsive relationship with every child and family. They believed strongly in ensuring blocks of time for children to work and play together in sociodramatic play and in planned movement activities that promote a positive attitude to become socially competent individuals in later years.

Perspective C: pedagogical approach to learning and assessment

Only three participants shared this perspective and loaded to a statistically significant degree on this component (Perspective C). The third narrative (see Fig. 1) can be categorized as having a more holistic approach to children's learning. This approach focused on educating multiple aspects of children development rather than focusing solely on academic progress or those aspects of development valued by many teachers as children get older. Participants associated with Perspective C had shared beliefs in the comprehensiveness and interrelatedness of children's needs in all domains of children's development. Preschool teachers who helped to define this perspective placed a priority on an interdisciplinary teaching style that integrated multiple subjects and made connections across content areas. Preschool teachers also emphasized on children's social skills development through fostering a positive atmosphere to establish constructive relationships with others through group work, in addition to communicating with mutual respect when children display challenging behaviors. Participants also have shown a preference to plan and implement learning experiences for children based on the knowledge of the characteristics of preschool age and cultural context. Teachers also preferred a holistic style of assessment that is comprehensive to address key goals in all domains of physical, social, emotional, and cognitive development. In addition, teachers' responsiveness to the diverse learning styles requires diverse assessment strategies to assess

what children can do independently and collaboratively. Lastly, teachers' holistic view of children learning in this perspective reflected on documentation of children's learning and development in various ways and on an ongoing basis.

Perspective D: child initiated and centered approach to learning

The fourth perspective was based on seven participants that loaded to a statistically significant degree on this component (Perspective D). The themes when pulled together can be described as a child-centered approach to learning that focuses on children as active learners in the classroom. The teachers associated with this perspective put much value in rejecting a conventional style of teaching young children that focuses on academic content. Participants with this perspective placed high value on the importance of evaluating children in all development domains and not focusing mostly on math and science academics, preferring strategies that are varied to suit individual children's needs. These teachers valued engaging children in planning and encouraging them to reflect on their own experiences. These teachers prefer children to present their work in different ways (e.g., drawing, writing and dictating, making pictures) and recognized the importance of communicating with children with respect to their speech capabilities as preschoolers and responding to them attentively. Moreover, Perspective D teachers believed in the superiority of creating a sense of cohesive community in various parts of the day, such as mealtimes, cleanup, and whole-group times, as well as having children work cooperatively in groups they formed themselves or in small teacher-created groups. These teachers valued making thoughtful use of technology in the classroom to expand the range of children's learning tools and at the same time promote child-child interaction through shared learning experiences. Finally, teachers associated with Perspective D see physical activities as integral to the preschool curriculum, and they emphasized children's need for vigorous movement and outdoor play.

Discussion and conclusions

Data from this study identified four unique perspectives on how Saudi preschool teachers view NAEYC's DAP guidelines based on their subjective points of view. The four components or views accounted for 67% or two-thirds of the variance in beliefs among the 37 teachers. In this study, 24 teachers associated with a single viewpoint and a further eight teachers shared multiple views to a significant degree. Therefore, the four main perspectives that emerged from the analysis show a general consensus of values that fit well within the DAP framework of recommended practice in early childhood education. Almost all the items that were sorted as the most developmentally appropriate and the most developmentally inappropriate by the participants are consistent with NAEYC guidelines. This finding from the majority of the preschool teachers of this study in Mecca, Saudi Arabia provides support for a general agreement with the universality of developmentally appropriate practice and encourages the tentative extension of DAP philosophy to different cultures and countries (Abu-Jaber et al. 2010; McMullen et al. 2005; Haroun and Weshah 2009; Liu 2007; Erdiller Akin 2013).

Based on the findings from this particular group of Saudi teachers in Mecca city, the DAP framework is consistent with the majority of Saudi preschool teacher's beliefs about the relative appropriateness of practices that are recommended by NAEYC. All

four perspectives were consistent with NAEYC's view of DAP, with different groups of teachers having diverse values. An important caveat to the following discussion is that not all teachers shared one of the four viewpoints, as there were five teachers who's sort did not associate significantly with any of the four perspectives. As Stainton Rogers and Stainton Rogers (1990) have noted, using a method like PCA helps to find shared views that represent a majority of participants, but do not reflect more diverse views held by a smaller group of participants. Future quantitative studies might explore the prevalence of alternate views in a larger population and qualitative studies might explore how the value and implications of teachers that hold more diverse views of what makes a practice appropriate from their personal set of beliefs.

Even though there was a general consensus with DAP, there are important differences in the relative value placed on various aspects of DAP. Examination of the first narrative, Perspective A, was shared by teachers with a clear focus on the developmental principles of DAP. The six teachers shared a set of beliefs about how all aspects of children's development in all areas of human functioning: physical, social, emotional, and cognitive are must be considered by the teacher and is consistent with much of the theoretical underpinning of DAP. The reliance upon the knowledge of child development theories of how young children develop and learn was the base of all the three versions of DAP (Bredekamp 1987; Bredekamp and Copple 1997; Copple and Bredekamp 2009). Since the first issue of the position statement in 1987, DAP has received many criticisms claims that DAP is overstated child development (e.g., Spodek 1988; Spodek 1991). In response, Bredekamp (1992) has justified that "child development is a large part (though not all) of our definition of a quality program for children, and NAEYC has assumed the responsibility for setting standards for our own practice" (p. 207). With this group of Saudi teachers, there is value associated with play for the sake of play, fostering inquisitiveness, having children express themselves: all activities linked to the active orientation associated with DAP. In contrast, the only other group of teachers to value a play item, when compared to other items, were the pedagogical teachers defining Perspective C. The teachers that formed Perspective C value play, but as a pedagogical tool. In much the same way that the pedagogues value assessment, knowledge about the children, and value integrating activities, the value of the teachers in Perspective C is adult oriented: those things that a teacher can do. In contrast, teachers that valued the items identified in Perspective A value the abilities of young children, without a teacher's intervention.

In contrast to the first viewpoint, eight participants who were associated with Perspective B viewed children as socially active learners and sorted items that refer to supporting children and their social network as a priority (see Fig. 1). Similar findings (e.g., Rababah 2012) have been found in comparative studies where middle eastern teachers tend to value practices that created a caring community for children through bounding social relationships in the classroom. Similar to many studies that have raised concerns about how some aspects of DAP are reinterpreted within varied cultural contexts (e.g., Goldstein 2008, Hedge and Cassidy 2009, Hoot et al. 1996, Rababah 2012, and Zeng and Zeng 2005), the seven teachers that combined to share this viewpoint value the social and cultural values of early childhood. As Copple and Bredekamp (2009) have noted, "many cultures emphasize collective or group worth rather than worth based on individual accomplishment" (p. 123). The second perspective can be characterized as teachers

placing a greater priority on social and relationship-based teaching activities. The teachers prioritized activities that teachers and children engage in so that parents, family, and the community are the focus of an early childhood education. Teachers that share a similar perspective are less likely to be focused on activities, play, assessment, or other pedagogical issues. Similar to each of the other viewpoints, identifying these types of teachers and their values can help with personnel and program development. For example, if an initiative is being funded to support the expansion of high-quality early childhood education, and relies on developmental outcomes to justify the expense, then conversations with these teachers to discuss the use of formal and informal assessments and developing child-initiated activities (Perspective D) might be warranted. In addition, knowing that teachers value promoting social relationship and work to support the family can identify this teacher as a lead teacher for home/school/community initiatives.

The third narrative can be understood as teachers prioritizing pedagogical processes rather than child development (Perspective A), social values (Perspective B), or child initiated values (Perspective D). The three teachers valued DAP statements that mimic the pedagogical process of assessment, planning, teaching, and assessing progress of the children in their care. There was a holistic belief in how we assess and educate young children: the teachers prioritized multiple aspects of child development rather than focusing more intentionally on academic progress. The teachers shared valuing ongoing assessments during activities and playtime, using authentic methods; valuing individualized as well as abilities as children work in a zone of proximal development, with multiple forms of data collection; and valuing assessments across all developmental domains. These teachers also put a greater value than the other teachers on planning for instruction across multiple domains of learning, using projects and play opportunities as pedagogical activities. There is an underlying belief in a teacher's own role as the change agent and compares, for example, to the teachers that combine for Perspective D, where the focus is on child-choice and child-initiated view. The teachers that combine for the third narrative align closely with concerns that warn of the consequence of pushing down academics to children's early years (Elkind 2001; Zigler and Bishop-Josef 2006). These teachers place less value on a child's interest to guide instruction (scored as an inappropriate item) and thought the DAP of assessing children to help teachers understand their effectiveness to be relatively inappropriate. In a similar vein, these teachers thought it inappropriate to create partnerships with families, to work with parents to create mutually agreed upon strategies for working with children, or to value a parent's personal or cultural preferences. Although just a few of the teachers (3 out of 37) associated with this it is still important to recognize the existence of this teacher led pedagogical perspective within our sample of conservative Saudi teachers.

In contrast to the other viewpoints, the seven teachers that combine to form Perspective D share beliefs in educational practices with a greater value associated with a child-centered approach to ECE. Items valued by the participants of Perspective D prioritized the role of the teacher as a responsive agent to the child as the originator and center of learning practices. The three items that were sorted the most appropriate are indicative of a teaching style that is guided by a child's interests, needs, and individual requirements. This perspective is consonant with DAP as valuing child-centered and play-based learning styles that assigns more weight to the appropriateness of educational practices

developmentally, individually, and culturally (Copple and Bredekamp 2009). The teachers value their role as responsive to a child's developmental needs, valuing children developing at their own pace over a need to cover the curriculum or follow a prescribed curriculum. Interestingly, and in contrast to social and relationship-based Perspective B, these teachers believed it relatively inappropriate to allow parents to visit at any time.

Additional findings from this study found several practices that emerged as consensus beliefs across the four perspectives and showed a consensus appreciation for social values. These include valuing group work and supporting children to form friendships. These results support prior findings from McMullen et al. (2005) who reported commonalities among five nations—United States (US), China, Korea, Turkey, and Taiwan—regarding promoting social/emotional development and allowing play/choice in the curriculum. Furthermore, a common value found across the nations in the McMullen et al. (2005) study, and among child care professionals in China, Korea, and Taiwan particularly, was “being socially reinforced” (p. 462). The common value for the three cultures in particular was attributed to a belief system of Confucianism that undergirds all three cultures. Likewise, the current study reported that within the Saudi culture, a commitment to religious values that appreciate the building of a caring and unified Muslim community early in a child's preschool years was found to be buttressed by Saudi preschool teachers.

Another practice that achieved consensus beliefs among all perspectives was the preference to use of play as a tool for active learning. For example, the following statement “*Teachers provide many opportunities for children to play and work together, both in groups they form themselves and in small teacher created groups*” showed an agreement across the four perspectives. As mentioned by Holmes (2013), play is both a cultural universal and culture-specific activity. It is a free platform where children practice language, behaviors, and cultural values in their social context. In Saudi early childhood education, play also can be a tool for culture transmission as children acquire social and cultural values. For example, pretend play in the Dramatic Play center is the most common form of play where children confront traditionally valued behaviors. In the Saudi Early Learning Standards (SELS) position statement that the Ministry of Education issued with cooperation with NAEYC in 2015, a notable presence is for play to be used as a tool to promote Saudi traditions and customs. In the SELS, teachers are encouraged to engage in meaningful and relevant cultural practices that foster children's imitative play as well as develop children's self-identity and social belonging. Practices such as “show an interest in some traditional games and sports, dress up in traditional clothing, role-play about Prince Sultan's space trip in the dramatic play center.” are all practices that express a playful grounding that gives children enjoyment and celebrate Saudi culture and heritage (SELS 2015, pp. 128–129).

Finally, it is important to recognize the strengths and limitations of this study, and Q Methodology in particular as an approach to studying subjective phenomenon (Watts and Stenner 2013). The analytical technique can be used in a powerful way to represent a diversity of possible views about a topic within a smaller set of Q viewpoints (Brown 1993; Smith 2001; Ramlo and Newman 2011). As Pajares (1992, p. 308) noted, “Clearly, when specific beliefs are carefully operationalized, appropriate methodology chosen, and design thoughtfully constructed, their study becomes viable and rewarding”. Even though Q Methodology

and the principal components analysis provided four viewpoints that represented two-thirds of the variation in beliefs among 37 teachers, the results do not represent all potential views about DAP. Thirty-six of the 37 teachers either had pure associations with a single or multiple views. Further research might explore the one teacher that did not associate with any of the four perspectives to a statistically significant degree, and how their perspective about DAP vary from these viewpoints in more depth.

Due to the purpose of the study, the methodology used, and the small sample sizes, caution should be applied to the degree that the results would generalize to other teachers. In contrast, the nature of Q Methodology is to evidence that unique and shared views about a topic like DAP exist within what we may assume is a homogenous group of people. The study identified varied viewpoints about the relevance of DAP for teachers in Mecca, Saudi Arabia. Knowing that these viewpoints exist allow teacher educators to consider varied beliefs that teachers may have toward DAP in religious and conservative cultures. Moreover, as similar descriptions of viewpoints exist in prior research but with teachers of different background and cultural heritage (e.g., Abu-Jaber et al. 2010, Haroun and Weshah 2009, and Szente et al. 2002), our results add to the evidence that fundamental aspects of DAP apply across the field of ECE.

The usual and well-stated limitations of NAEYC's choice of statements that represent *Developmentally Appropriate* and *In Contrast* items apply. The results of this study are limited to a selection of DAP and DIP items from the latest revised position statement of NAEYC's guidelines for DAP (Copple and Bredekamp 2009). Although the selected statement for the *q*-sample provided a representation of possible of views related to teachers' instructional practices, there is always a sense that a *q*-sample can never be complete, as there is always something with potential to be said (Watts and Stenner 2005). Further research may explore these potentials as our understanding of the global use of DAP continues.

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Authors' contributions

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Ethics approval and consent to participate

This study has been approved by the Institutional Review Board at the University of Alabama at Birmingham. All the participants received a consent form letter before participating in the current study.

Competing interests

The authors declare that they have no competing interests.

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