

Shanghai Preschool Teachers' Developmentally Appropriate Beliefs and Practices

Bing-jie Zou^{1,*} and Rachele Kisst Hackett²

¹ *School of Primary Education, Shanghai Normal University Tianhua College, Shanghai, 201815, China*

² *Benerd College, University of the Pacific, Stockton, CA, 95211, USA*

*Corresponding author. Email: zbj2073@sth.edu.cn

ABSTRACT

This quantitative study applied a survey design to examine Shanghai preschool teachers' engagement in appropriate and inappropriate beliefs and practices of DAP. Altogether 182 respondents from 13 preschools in Shanghai completed the Teacher Beliefs and Practices Survey (three to five-year-olds) (including Teacher Beliefs Scale and Instructional Activities Scale). Findings suggested that teachers endorsed both appropriate and inappropriate beliefs and engaged in both appropriate and inappropriate practices (as defined by DAP principles), but with significantly higher levels of endorsement in appropriate (as compared to inappropriate) beliefs and engagement in appropriate (as compared to inappropriate) practices.

Keywords: *teacher beliefs, teacher practices, curriculum reform, DAP (Developmentally Appropriate Practice)*

1. INTRODUCTION

Teachers' beliefs are "a central concern of teaching and teacher education" [1]. Teachers' beliefs have a strong influence on teachers' classroom practice and in turn on students' learning outcomes as well as the overall quality of education [2]. In the large background of curriculum reform in China, the Shanghai preschool curriculum shows a great emphasis on play-based learning and aligns more with developmentally appropriate practice (DAP), a constructivist, child-centered learning and teaching approach developed by the National Association for the Education of Young Children (NAEYC) in the United States, which emphasizes age appropriateness, individual appropriateness and cultural appropriateness [3].

The purpose of this study was to develop a better understanding of preschool teachers' beliefs and practice of developmentally appropriate practice (DAP) in Shanghai in the context of curriculum reform, and to investigate the relationship between teachers' beliefs and their self-reported practice. The following research questions were addressed in the present study: 1. To what extent do preschool teachers in Shanghai endorse the importance of developmentally appropriate practices (DAP) and developmentally inappropriate practices (DIP)? 2. How frequently do preschool teachers in Shanghai self-report that they engage in DAP and DIP?

2. BACKGROUND

Developmentally appropriate practice refers to "applying child development knowledge in making thoughtful and appropriate decisions about early childhood program

practices" [4]. Based on "the research on child development and learning" and "the knowledge base regarding educational effectiveness," developmentally appropriate practice is "not a curriculum or rigid set of standards that dictate practice", but rather "a framework, a philosophy, or an approach" to guide early childhood teachers as they work with young children to promote young children's optimal learning and development [5]. Based on the guidelines of DAP, Hart, Burts, & Charlesworth interpreted the practice of teachers as a continuum with one extreme as developmentally appropriate practice (DAP) and the other extreme as developmentally inappropriate practice (DIP) [6]. On one extreme, DIP attempts to "pour in knowledge through lecture and other whole-group activities". Formal and direct instruction is applied as the major method to teach children basic academic skills in traditional content areas like literacy, math and science. Children are allowed little opportunities to move around the classroom, make free choice or explore actively. In contrast, DAP on the other extreme stresses children's needs as "the primary source of the curriculum". DAP teachers respect individual differences of children. They offer options for children to have a free choice rather than requiring every child to do the same thing at the same time. Teachers are flexible in applying multiple teaching approaches like "nondirective", "mediating" and "directive" approaches based on children's needs and interests to promote children's learning.

3. METHOD

3.1. Participants

A total of 182 full-time preschool teachers from 13 preschools in Shanghai participated in this study. Nearly 96% were female teachers and nearly 60% of them were young, falling in the 20 to 29 years of age category. About 50% were new teachers with only 1-5 years of teaching experience and over one quarter were very experienced with more than 10 years of teaching experience. Nearly 70% of all respondents hold bachelor's degree, and 13.7% had education beyond their bachelors' degree. As reported by 41.2% teachers, it was normal for a class to enroll 26-30 children, although one-third teach comparatively large classes with more than 30 children.

3.2. Procedures

The author randomly selected 13 preschools in a district in Shanghai to recruit enough willing participants. Once enough potential participants had been recruited, they did the *Teacher Beliefs and Practices Survey (three to five-year-olds)* and fill the demographic questionnaire individually through the websites set for the online survey. Both the survey and questionnaire were done anonymously, in order to protect participants' privacy and reduce the threat of subject effect to internal validity. The sampling process recruited altogether 182 preschool teachers to complete the survey and provided with valid data, the response rate was 67.4% (182/270).

3.3. Instruments

The instrument used in this study is the *Teacher Beliefs and Practices Survey (three to five-year-olds)* designed by Burts et al. (2000). The survey has two subscales: the Teacher Belief Scale (TBS) which measures teachers' beliefs, and the Instructional Activities Scale (IAS) which measures teachers' practice. This instrument has strong evidence of reliability and validity. It is "the best known and most frequently used quantitative measures of early childhood teachers' beliefs and practice" in the United States [7].

Since this study was conducted in Shanghai, China, the author chose an existing Chinese version of the instrument used by Wang et al. (2008). The Chinese version of TBS contains 37 items, including 1 ranking question, 23 items represent developmentally appropriate beliefs and 13 items represent inappropriate beliefs. Subjects are to evaluate each item using a 5-point Likert scale with the following anchors: 1 = not at all important, 2 = not very important, 3 = fairly important, 4 = very important, and 5 = extremely important. The Chinese version of the IAS

contains 34 items, consisting of 17 items of developmentally appropriate practices and 17 items of developmentally inappropriate practices for preschools. The anchors are: 1 = Almost never (less than monthly), 2 = Rarely (monthly), 3 = Sometimes (weekly), 4 = regularly (2 times a week), and 5 = Often (daily). Cronbach's alpha for TBS and IAS (Chinese version) were both 0.86 [8].

A demographic questionnaire was used to collect information about the participants, including their gender, age, educational background, teaching experience, school type and class size.

4. RESULTS

4.1. Teachers' Endorsement of Appropriate and Inappropriate Beliefs

The author applied one-tailed one-sample t-tests to examine whether teachers in Shanghai kindergartens thought DAB as important (i.e., the average DAB score is significantly more than 3) and DIB as less important (i.e., the average DIB score is significantly less than 3).

As reported in Table 1, there was evidence to suggest that the average score regarding developmentally appropriate beliefs (DAB) of teachers is significantly more than 3, meaning that the population of Shanghai kindergarten teachers think the developmentally appropriate beliefs are important, $t(181) = 17.376$, $p < .0005$ (one-tailed). We were 95% confident that the mean is at least 3.783 and at most 3.983, which fell closest to a response of "4" (very important).

There was evidence to suggest that the average score regarding developmentally inappropriate beliefs (DIB) of all teachers is significantly less than 3, $t(181) = -2.481$, $p = .007$ (one-tailed). However, based on the 95% confidence interval, the mean was at least 2.802 and at most 2.977, which falls closest to a response of "3" (fairly important). Thus, it meant that kindergarten teachers in Shanghai thought the developmentally inappropriate practice was close to fairly important but seemed to be less important than the appropriate beliefs.

To further check whether this difference was statistically significant, the author then assumed that teachers' beliefs about the extent of importance would be higher for appropriate beliefs than for inappropriate ones, on average. Thus, a paired-samples t-test was employed to test this directional alternative hypothesis.

Table 1. One-sample t-tests for teachers’ appropriate beliefs (DAB) and inappropriate beliefs (DIB) of DAP Principles (N=182).

	Test Value=3					
	t	df	Sig. (2-tailed)	Mean difference	95% confidence interval	
					Lower	Upper
appropriate beliefs (DAB)	17.376	181	.000*	.883	.783	.983
inappropriate beliefs (DIB)	-2.481	181	.014*	-.110	-.198	-.023

The mean belief for the appropriate practices exceeded that for the inappropriate practices, $t(181)= 18.80$, $p< .0005$ (one-tailed). The related 90% confidence interval for delta, the difference between the two related population means was (.906, 1.080) indicating that the mean belief response regarding the importance for the appropriate practices was about 1 unit more than that for the inappropriate practices. While the inappropriate practices ($M= 2.89$, $s= .60$) were believed to be “fairly important,” the appropriate practices ($M= 3.88$, $s= .69$) were believed to be “very important,” on average.

4.2. Teachers’ Engagement of Appropriate and Inappropriate Practices

Table 2 presented the results of the t-tests related to the frequency with which teachers engage in appropriate practices (DAP) and inappropriate practices (DIP). There

Table 2. One-sample t-tests of teachers’ appropriate practice (DAP) and inappropriate practices (DIP) of DAP principles.

	Test Value=3					
	t	df	Sig. (2-tailed)	Mean difference	95% confidence interval	
					Lower	Upper
appropriate practices (DAP)	14.309	181	.000*	.593	.511	.675
inappropriate practices (DIP)	-3.008	181	.003*	-.155	-.257	-.053

To further check whether the difference between teachers’ engagement in appropriate practices and inappropriate practices was statistically significant, the author then assumed that teachers’ engagement about the extent of frequency would be higher for appropriate practices than for inappropriate ones, on average. Thus, a paired-samples t-test was employed to test this directional alternative hypothesis.

The mean belief for the appropriate practices exceeded that for the inappropriate practices, $t(181)= 15.976$, $p< .0005$ (one-tailed). The related 90% confidence interval for delta, the difference between the two related population means was (.671, .825) indicating that the mean belief response regarding the importance for the appropriate practices was about .75 units more than that for the inappropriate practices. While the appropriate practices ($M= 3.59$, $s= .56$) were practiced “2-4 times a

was evidence to suggest that the average score of DAP of teachers is significantly larger than 3, $t(181) =14.309$, $p<.0005$ (one-tailed), meaning that they frequently engage in developmentally appropriate practices (at least weekly). We were 95% confident that the mean is at least 3.511 and at most 3.675, which fell closest to a response of “4” (2-4 times a week).

For teachers’ inappropriate practices (DIP), $t(181)= -3.008$, $p=.0015$ (one-tailed). The significant result showed that there is evidence to suggest that the average score of DIP of teachers is significantly smaller than 3. However, we were 95% confident that the mean is at least 2.743 and at most 2.947 which falls closest to a response of “3” (weekly). It should be remembered that the response options are not on a true interval scale of measurement, so the interpretations are imprecise. (Recall that a 2 is “monthly,” a 3 is “weekly,” and a 4 is “2-4 times a week.”)

week,” the inappropriate practices ($M= 2.85$, $s= .69$) were practiced less than “weekly,” on average.

5. DISCUSSION AND IMPLICATIONS

This study first examined Shanghai kindergarten teachers’ beliefs about the principles of Developmentally Appropriate Practice. Given the response option labels, the results suggest that Shanghai kindergarten teachers think the developmentally appropriate principles or practices are very important ($M= 3.88$), and the developmentally inappropriate principles or practices are close to fairly important ($M= 2.89$). In other words, this study showed that Shanghai kindergarten teachers’ endorsement of developmentally appropriate principles or practices is quite high, but they also accept some inappropriate principles and practices as well.

The results may initially not be expected, but actually, they coincide with the results of previous research done with Chinese teachers. In Hu's study done with kindergarten teachers in Beijing, China, the mean scores of teachers' appropriate and inappropriate beliefs both exceeded 3 (fairly important) [8]. Chan and Elliott also provided evidence that the two beliefs could co-occur as they found in their study on teachers in Hong Kong [9]. Chinese kindergarten teachers seem to endorse both the appropriate and inappropriate beliefs defined by the Developmentally Appropriate Practices (DAP) principles issued in the United States. The current study's results show a joint influence of both western and traditional Chinese cultures. On the one hand, Shanghai kindergarten teachers do share some common concepts and beliefs with American teachers by regarding the appropriate principles and beliefs as "very important." As the demographic information of the respondents indicated, Shanghai kindergarten teachers now in-service are mostly educated in college with early childhood education backgrounds and have related qualifications before they work. What they learned in college were mainly western theories, concepts and practices brought in by the reforms in Chinese education since four decades ago [10]. The recent curriculum reform in early childhood education in Shanghai starting from 2004 also largely aligns with the principles of Developmentally Appropriate Practice (DAP). It is then reasonable to find teachers have a high endorsement of the principles of developmentally appropriate beliefs (DAP). On the other hand, viewing the inappropriate principles and beliefs as "fairly important" shows a cultural difference between Chinese and American teachers. Chinese teachers were likely to endorse "teacher-directed" or "early school skill-oriented instructional" principles and beliefs [7] since they were taught in this way when they were young. This study supports this explanation by finding that Shanghai kindergarten teachers think it is "fairly important" or close to "fairly important" for "children to work quietly at desks or tables" ($M= 3.29$), to "color within pre-drawn forms" ($M= 2.87$), and "each curriculum area be taught as separate subjects at separate times" ($M= 2.89$), which are considered inappropriate according to the DAP principles. Still, compared with the inappropriate beliefs, teachers' appropriate beliefs have a significant higher mean score. This study's results show that, generally speaking, Shanghai kindergarten teachers have a higher endorsement of appropriate beliefs than inappropriate beliefs, defined by the framework of Developmentally Appropriate Practices (DAP) principles. The westernized education system from kindergarten to college and the curriculum reforms promoted by the Chinese government all contribute to this result.

This study then examined Shanghai kindergarten teachers' classroom practices of the principles of Developmentally Appropriate Practice (DAP). The results suggest that Shanghai kindergarten teachers engage in appropriate practices almost "regularly (2-4 times a week)," while they engage in inappropriate practices nearly to "sometimes (weekly)". In other words, Shanghai

kindergarten teachers engage in appropriate practices quite frequently and they also sometimes conduct inappropriate practices in the classroom. This result again is basically consistent with the findings of Hu [8]. In Hu's study, the mean score of teachers' appropriate and inappropriate practices both exceed 3. Similar to teachers' beliefs, Shanghai kindergarten teachers' engagement in both appropriate and inappropriate practices reflects a joint influence of both western and traditional Chinese cultures. The teachers try to practice in their classrooms the westernized early childhood education theories, concepts and methods they learned, but some of their understandings of DAP principles remain at the theoretical level which results in them not fully implementing the DAP principles in practice. The Chinese traditional culture has stressed children's learning of academic skills from a young age. Just as the way they were taught as children, teachers are more accustomed to direct instruction and taking control of the class rather than giving children much freedom or involving parents in classroom teaching. Leung in his study on Hong Kong teachers pointed out that teachers tend to conduct teacher-directed and teacher-planned activities because they think these activities are good for children's learning [8]. The class size of kindergartens in Shanghai, usually between 25 and 30 (41.2% in this study), and some even more than 30 (33.5%), also compels teachers to do more group activities than paying attention to each individual student. As the study shows, teachers "rarely" let parents "lead or prepare learning activities" ($M=2.02$) (which is considered appropriate practices by DAP principles), but "sometimes" ($M=3.14$) let children "sit and listen at desks more than 15 minutes" (which is inappropriate according to DAP principles).

Comparing the mean scores, there is a significant difference between the frequency of Shanghai kindergarten teachers' appropriate practices ($M=3.59$) and their inappropriate practices ($M=2.86$). Emphasizing developmental appropriateness of children, the Shanghai early childhood curriculum reform (2004) required teachers to reduce time spent doing collective learning activities and stressed free play. With more than 10 years of implementation, the government initiated reform may be helping to reduce the frequency of teachers' engagement in inappropriate practices.

6. CONCLUSION

By reporting a high level of endorsement of appropriate beliefs and a high frequency of engagement in appropriate practices, the study results suggest the Shanghai kindergarten curriculum reform, which aligns much with the DAP principles, has been, at least partially, effective. The coexistence of inappropriate beliefs and inappropriate practices found in this study shows the influence of Chinese traditional culture and values of education.

Qualitative studies may be done to further explore teachers' beliefs of early childhood education, their understanding of the curriculum reform and their problems and

difficulties in practices. Observations within teachers' actual classrooms can be used to collect more accurate information about their practice in future investigations of the belief-practice relationship.

REFERENCES

- [1] Levin, B. B. The development of teachers' beliefs. In Fives, H. & Gill, M. G. (Eds.), *International Handbook of Research on Teachers' Beliefs* (pp. 48-65). New York: Routledge, 2014.
- [2] Kagan, D. M. Implications for research on teacher beliefs. *Educational Psychologist*, 27(1992) 65-90.
- [3] Copple, C. & Bredekamp, S. *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, 2009.
- [4] Gestwicki, C. *Developmentally Appropriate Practice: Curriculum and Development in Early Education*. (4th ed.). Wadsworth, CA: Cengage Learning, 2010.
- [5] Bredekamp, S., & Rosegrant, T. (Eds.). *Reaching potentials: Appropriate curriculum and assessment for young children* (Vol. 1). Washington, DC: NAEYC, 1992.
- [6] Hart, C. H., Burts, D. C., & Charlesworth, C. *Integrated Curriculum and Developmentally Appropriate Practice: Birth to Age Eight*. Albany: State University of New York Press, 1997.
- [7] Wang, J., Elicker, J., McMullen, M., & Mao, S. Chinese and American preschool teachers' beliefs about early childhood curriculum. *Early Child Development and Care*, 178(3) (2008) 227-249.
- [8] Hu, B. Y. Exploring the cultural relevance of developmentally appropriate practices from the point of view of preschool teachers in Beijing. *CEDER Yearbook*, (2012)1-27.
- [9] Chan, K., & Elliott, R. G. Relational analysis of personal epistemology and conceptions about teaching and learning. *Teaching and Teacher Education*, 20(8) (2004) 817-831.
- [10] Zhang, F., & Liu, Y. A study of secondary school English teachers' beliefs in the context of curriculum reform in China. *Language Teaching Research*, 18(2) (2013)187-200.