Influence of family for preschoolers on approaches to learning (ATL)

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ABSTRACT

Approaches to learning (ATL) is a covering term that refers to learning disposition, attitudes, habits, and learning styles shown in the process of children's learning. Abundant studies have proved that ATL plays an important role in children's learning and development. In preschool, ATL is considered to be one of the most important predictors of school readiness., Children's positive approaches to learning are linked to better academic, social-emotional functioning in school, and other developmental aspects of children, while poor approaches to learning lead to learning problems and distress. According to the famous Bronfenbrenner's Ecological Systems Theory, family, as an important part of the microsystem, is significantly related to children's development. Whether family factors have a significant correlation with the development of children's approaches to learning (ATL) is this study's most concern. Therefore, this study will use the literature review method to collect, sort out, and review the relevant literature on the development characteristics of preschool children's ATL, the relationship between family as a factor, and children's ATL development to understand the development characteristics of preschool children's ATL at the age of 3-6, and the influence of family on children's ATL development. This will provide references and guidance for future research in the field of children's ATL development and its influencing factors.

Key words: Preschoolers; Approaches to learning (ATL); Family

1. Introduction

Early childhood development and education has received more attention as children are the potential driving force for the future development of a country. With the deepening of theoretical research on children's learning and development, policy makers and researchers have not only focused on children's learning outcomes and academic achievements, but also turned their attention to children's learning processes and learning abilities. It is to explore children's learning processes and the qualities of education they have acquired to cope with the rapidly changing world in the future. Therefore, the cultivation of children's approaches to learning (ATL) has become a brisance topic in current research. Approaches to learning refers to children's inclination, pattern, habit, and style towards learning (Kagan, Moore, Bredekamp,1995), which generally includes curiosity and interest, initiative, persistence and concentration, creation and imagination, reflection, and explanation (Yan,2009). Many researchers have found that positive approaches to learning (ATL) are the core of children's social, emotional and cognitive development. It enables children to better cope with difficulties and show stronger resilience (George& Greenfield,2005; McWayne, Fantuzzo & Mcdermott, 2004). It also plays a significant role in predicting children's learning, school readiness and future academic performance (Sung& Wickrama, 2018).

When discussing the influencing factors of ATL, the development of preschool children's ATL is not only restricted by innate genetic factors, such as gender, temperament or personality type, but also affected by their surroundings. According to Bronfenbrenner's Ecological Systems Theory, family, as an important part of the microsystem, is the most immediate environmental setting including the developing child (Bronfenbrenner,1977). Parents are the core subjects in the family, their parenting demeanors, interaction, attitude towards children, and relationship with children will inevitably have an impact on the development of children (Yang,2019). The family environment is significantly related to children's school readiness including ATL (Brooks-Gunn & Markman, 2005; Hair et al., 2006). Some researchers proposed that the development of persistence, curiosity, and learning strategy in learning in the preschool stage should be better if children have established a secure attachment relationship with parents (Waters et al., 1979; Fan & Li, 2022).

Since the family is an important initial micro-system context for the development of young children, scholars have conducted research on the development of children's ATL, and explored the important family factors that affect children's ATL.

1.1 Problem statement

In the 1990s, the United State government set children's "school readiness" as the primary goal of education in National Education Goals, and "approaches to learning" (ATL) was first proposed as one of the important dimensions of children's school readiness (Kagan et al., 1995). Since then, more countries, such as United Kingdom, Australia, China, and New Zealand, have begun to pay attention to young children's ATL and incorporate it into the early childhood development framework and standards as the goal and content of children's learning and development (Xu & Shi, 2018; Yang, 2019). Unlike other dimensions of school readiness, such

as physical and motor development, social and emotional development, language and literacy competence, cognition and common sense, approaches to learning does not emphasize what children have acquired, but a state of readiness for learning, qualities and abilities about how to learn. In other words, approaches to learning are an ability that points to children's future learning and development. Since then, scholars have gradually intensified their research on approaches to learning, which is manifested in the following ways: (1) the study of the definition, conceptualization, and components of approaches to learning. (2) research on the importance and value of approaches to learning. (3) the developmental status of approaches to learning for preschool children. (4) the influencing factors of children's approaches to learning. All these studies are beneficial to our better understanding of children's approaches to learning. However, most of the existing studies are conceptual studies and empirical studies, which are based on one perspective and specific samples and objects. There is a lack of systematic organization and overview studies of existing research.

Conducting literature reviews has been perceived as an avenue for understanding and assessing the existing undiscovered knowledge in a certain field (Tranfield et al., 2003; Weed, 2006). Dwivedi et al. (2011) and Kim et al. (2018) noted that insights can be gained by reviewing the historical development of a certain field. Therefore, a systematic review of the existing research on learning quality is needed to determine the characteristics of the existing research, the trends of future research on approaches to learning (ATL) and its family influencing factors, which aspects of the existing research are sufficient, and which are not, and whether there are new breakthrough points.

Specifically, there have been studies related to the nature of approaches to learning (ATL) and the developmental characteristics of children. How does existing research define children's approaches to learning？ What is its value and significance for children's development? What are the characteristics of research on children's approaches to learning?

With regard to family influencing factors of children's approaches to learning, existing research focused on which family factors, and what impact did they have on the development of children's ATL? What are the characteristics of these studies? These are the questions that this study intends to explore.

1.2 Research objectives of the study

In this study, National Knowledge Infrastructure (CNKI), EBSCO data, and web of science databases were used as retrieval databases for searching the journal papers and dissertation. The keywords are as follows: approaches to learning, ATL, preschool, preschooler, kindergarten children, parents and family. Relevant articles about the relationship between family factors and children's approaches to learning (ATL) development were retrieved. The researcher then adopts the method of literature review to systematically analyze the existing articles to understand the current status and development trend of the research about children's approaches to learning (ATL) and family factors.

The research objectives of this study are clarifying the definition, components of approaches to learning (ATL) and its importance, and value of approaches to learning (ATL).

2. Review of study on children's approaches to learning (ATL) structures.

Exploring the essence of approaches to learning (ATL) is a necessary task before reviewing empirical studies on ATL(Kagan, 1992). The concept of approaches to learning (ATL) can be traced back to the early 1990s in the United States. The first to use the concept of Approaches to Learning was LG Katz and Kagan's team (Kagan et al., 1995). There has been a tendency to examine ATL as an integrated concept. A clear definition was not explicitly presented in the report where ATL was first proposed, because the core members of the NEGP Goal 1 Technical Planning Group were not sure what ATL was, what it should include, and there was little research yet to demonstrate the importance of ATL (Hyson, 2008). However, the consensus among experts in preschool education is that ATL is distinct from both intellectual factors and learning content, and is an encompassing term that encompasses attitudes, habits, and learning styles (Kagan et al., 1995). Over the past three decades, especially in the last decade, the relative research has become increasingly rich and diverse, with researchers beginning to refer to ATL directly in the titles and keywords of their papers or books and conducting numerous theoretical and empirical studies on this independent core concept. Researchers generally agree that ATL is integrative rather than monolithic; reflecting children's attitudes, habits, and dispositions toward learning. For example, Claessens et al. (2008) defined ATL as a collection of student attitudes and behaviors in a study tracking the relationship between kindergarten skills and fifth-grade academic achievement. This definition clearly views ATL as a collection of learning attitudes and behaviors.

Although scholars have expressed the concept of ATL in different ways, there is a basic consensus as follows:

(1) ATL is learning-related behavior that is externally visible and observable (Fantuzzo, 2007; Lee, 2012).
(2) ATL refers to the learning process, i.e., children's tendency to enter, approach, and engage in learning or to perform in the process of completing learning tasks, and ATL focuses on the learning process rather than the learning outcome (Hyson, 2008; Razza et al., 2015).
(3) ATL is a set of behavioral, cognitive, or skill dispositions not a single factor (Bustamante, White et al., 2018; Bustamante, Whiteet al., 2017)
(4) ATL points to positive dispositions that promote children's engagement in or contribute to learning (Hyson, 2008).

The structure of approaches to learning and research on the framework of children's ATL began at the end of the 20th century by Western scholars（Suo,2019. Kagan's team identified five dimensions of ATL:

(1）openness to and curiosity about new tasks and challenges;

(2）initiative, task persistence and attentiveness;

(3）approach to reflection and interpretation;

(4）invention and imagination;

(5）cognitive styles (Kagan et al.,1995).

These five dimensions are "variables that affect how children attitudinally participate in the learning process". Then, there is a large body of empirical research that has explored and validated the structure of approaches to learning in western and eastern research, as shown in table 1 and table 2.

Table 1

Structure of Approaches to Learning in Western Research

	Researcher	Scales	Age	Factor and structure
1	McDermott, et al.,1999	Learning Behaviors Scale， LBS	5-17	4 factors: Competence Motivation, Attention/Persistence , Strategy/Flexibility, Attitude Toward Learning
2	Rikoon，2012	LBS （Test the dimensionality and validity of LBS）	5-7	4 factors: Competence Motivation, Discipline/Persistence, Cooperation, Emotional Control.
3	McDermott,et al., 2000	Preschool Learning Behaviors Scale ， PLBS	3-5.5	3 factors: Competence Motivation, Attention/Persistence, Attitude Toward Learning
4	McDermott, Rikoon, Waterman, Fantuzzo, 2012	PLBS (test Dimensionality and External Validity)	3-5	3 factors: Competence Motivation, Attention/ Persistence, and Learning Strategy
5	McDermott，Fantuzzo，Warley ，et al. ,	Learning-to-learn Scale(LTLS)	3-5	7 factors: Strategic Planning, Effectiveness Motivation, Interpersonal Responsiveness in Learning, Vocal

	2011[1]			Engagement in Learning, Sustained Focus in Learning, Acceptance of Novelty and Risk, and Group Learning.
6	Rock,Pollack,2002	ECLS-K (Approaches to Learning Scale)	Kindergarten-grade 1	6 factors: concentration, persistence, independence, flexibility, organization, and innovation
7	Heroman, Burts, Berke, & Bickart, 2010	Teaching Strategies GOLD®	Birth through kindergarten	5 factors: attention, curiosity, initiative, flexibility, problem solving
8	Hyson,2008		Kindergarten	Two dimensions: 1.Enthusiasm (interest, happiness and learning motivation); 2.Engagement (concentration, persistence, flexibility and self-regulation)

Table 2
Structure of Approaches to Learning in Chinese Research

	Researcher	Scales	Age	Factor and structure
1	Rao,et al.,2014	the East Asia-Pacific Early Child Development Scales(EAP-ECDS)	3-5	3 factors: executive functions, persistence, interest
2	Li Jimei, Yan Chaoyun, 2013	A Guide to Learning and Development for Children Aged 3-6	3-6	5 factors: curiosity and interest, initiative, persistence and concentration, imagination and creation,

[1] McDermott, P.A., Fantuzzo, J.W.,Warley, H.P.,Waterman,C., Angelo, L.E., Gadsden, V.L., Sekino, Y. (2011). Multidimensionality ofteachers' graded responses for preschoolers' stylistic learning behavior: The Learning-to-Learn Scales. Educational and Psychological Measurement, 71, 148-169. doi: 10.1177/0013164410387351

				introspection and explanation
3	Wang Baohua,2010	Children's Approaches to Learning Observation Scale	6-7	factors: initiative, goal consciousness, persistence, frustration resistance, imagination and creativity, concentration, curiosity, independence
4	Qian Zhiliang, Ding Panpan, 2010	Diagnostic Scale on the Maturity of the Children Entering School	6-7	5 factors: curiosity, persistence, initiative, learning attitude, interest in learning
5	Li Fang, 2016	Early Childhood Approaches to Learning Development (Teacher Rating Questionnaire)	3-6	5 factors: reflection, initiative, concentration, curiosity, creativity
6	Zhao J.,2017	Children's Approaches to Learning Observation Scale for 3-6-year-olds	3-6	4 factors: persistence and concentration, imagination and creativity, curiosity and interest, independence
7	Wen Hebo, 2018	Approaches to Learning Development of 3-6-Year-Olds (Teacher Rating Questionnaire)	3-6	7 factors: imagination and creativity, problem solving, curiosity and exploration, initiative and participation, communication and cooperation, reflection and review, focus and persistence
8	Xu Xian,2018	Early Childhood Approaches to Learning(Teacher-Rated Questionnaire)	5-6	5 factors: includes curiosity, focus, initiative, creativity, reflection

The table shows that since the end of the 20th century, western scholars have explored and continuously tested the structure of the factors of children's ATL, and the obtained factors in descending order of frequency are as follows: competence motivation/intrinsic motivation, concentration, persistence, flexibility, innovation and creativity, learning strategies, emotional

control/self-control (including self-regulation), engagement in learning, learning attitude, curiosity, cooperation, planning, interactions, risk-taking, problem solving, interest, independence, organization, and so forth, which bring to a total of 18 factors. In recent Chinese studies, the factors of ATL of young children are listed in descending order of frequency as follows: curiosity, concentration, initiative, imagination, creativity, persistence, reflection, independence, interest, goal consciousness, problem solving, communication and cooperation, learning attitude, and frustration resistance, which brings to a total of 13 factors. The high-frequency factors that emerged from both Western and Chinese studies are: attention, persistence, innovation and creativity. Other high-frequency factors derived from Western studies are competence motivation, and flexibility. The other high-frequency factors derived from Chinese studies are curiosity, initiative. In addition, the results of the Western studies were mostly tested on large samples, but the data used were relatively old. Whereas in China, because of the late start of the study on ATL, many of the studies are from recent years, but the reliability tests for the ATL constructs are based on smaller sample sizes.

In short, through the continuous exploration of almost three decades, research on the structure of ATL has basically matured, helping us to clarify what does "approaches to learning" included and laying a foundation for subsequent researchers to continue to study ATL in depth.

2.1 Importance and value of approaches to learning (ATL)

Substantial number of studies have proved that ATL plays an important role in children's learning and development (McClelland et al. 2006; Li-Grining et al. 2010; Morgan et al. 2011; McDermott et al., 2014; Lin & Ye, 2020; Suo et al., 2021; Amber et al., 2022).

First, numerous studies have demonstrated the importance of early childhood ATL on children's learning and school readiness. McDermott et al. (2014) found that ATL (based on PLBS measures) and general abilities (including emergent cognitive, motor, and social abilities) were the two most significant contributors to children's early academic achievement (based on standardized screening), after controlling for child demographic variables and family background characteristics (Mcwayne et al., 2004), with ATL independently explaining 10.89% of the variance in children's early school success. All dimensions of ATL (based on PLBS) in preschool children (3-5 years old) showed significant correlations with their academic achievement (based on standardized measures and teacher ratings) at older ages (5-6 years old), with attention and competence motivation predicting academic achievement one year later (Mcdermott et al.,2012). Preschoolers' positive learning attitudes and persistence were significantly associated with higher vocabulary use, and children who exhibited more positive ATL developed better language skills (Fantuzzo et al., 2004; Fantuzzo et al., 2004). Other studies have also found that ATL (interest, attention, and persistence) significantly predicted children's achievement in mathematics after controlling for other predictor variables (e.g., maternal age, maternal educational attainment, and family income) (Dobbs-Oates, Robinson,2012). Preschoolers' ATL (based on the LTLS measure) was significantly associated with learning outcomes in science (Bustamante et al., 2017). Early childhood ATL were significantly associated with children's school readiness, such that ATL significantly predicts children's school readiness in mathematics, language (Vitiello et al., 2011; Vitiello &

Greenfield, 2017), science (Bustamante et al., 2018; Bustamante et al., 2017), and reading (Sung & Wickrama, 2018). Studies in China have also demonstrated significant predictive effects of ATL on children's early language and mathematical abilities (Zhang Li & Zhou Jing, 2018; Xu,2014).

Second, from the long-term perspective, several studies have longitudinally tracked the long-term learning effects of children's early ATL. After controlling for children's family background and personal characteristics, children's attentional skills prior to school entry still significantly predicted their academic achievement in third grade, fifth grade, and even eighth grade. The longitudinal predictive effect of attentional skills was further validated by later studies (Romano, Babchishin, Pagani, et al..2010; Pagani，Fitzpatrick，Archambault，et al.,2010). Rikoon et al.(2012) found that ATL (based on LBS measures) of children ages 5 to 6 years old significantly predicted their academic achievement (including math, science, social studies, reading, language, and habits) at the end of the kindergarten and in grades one and ~~grade~~ two, each sub-dimension achieved significant effects in predicting academic achievement in all domains. Compared with the knowledge one person has mastered, learning to learn, active development, continuously exploring, self-renewing, applying what is learned, and optimizing knowledge of good interests and habits are more important, in this era of information explosion. It appears that these interests, habits, attitudes, and inclinations are known as ATL. Children must acquire the key and approach to learn, which are the mechanisms underlying how children initiate, engage in, and complete learning tasks (McDermott, Mordell, & Stoltzfus, 2001) , to pursue the goal of lifelong learning and development.

2.2 Review of study on the development characteristics of preschool children's ATL

Both Chinese and Western scholars have done many research on the development of children's ATL. We have analyzed the existing research and found that the current research mainly focuses on several types.

2.2.1 Current state analysis

Many research investigate the development level of children's ATL and analyze its characteristics. The targeted groups of children in existing studies include urban children, rural children, school-age children, preschool children, special children, children of different races such as Caucasians, Asian Americans, African Americans, and so on. There are also studies involving different classes, especially focusing on the development of ATL of low-income children (Fantuzzo, Perry, & McDermott,2004; Razza, Martin & Brooks-Gunn,2015). The commonly used method is to carry out descriptive statistics and difference comparison to understand its development level and characteristics.

2.2.2 Comparative studies

In recent years, comparative studies based on demographic variables has emerged，such as comparative studies on rural and urban children, children of different gender and age, children of different ethnic groups, to understand the development differences in different context. For

example, in terms of residency, a study compared the development of ATL between urban and rural children in Shanxi province, China, observing and assessing children's ATL in constructive play, found that urban children performed better than rural children in the dimensions of curiosity and interest, and imagination and creativity. However, they scored lower than rural children in the dimension of independence (Liu & Zhang, 2019). In terms of age, some studies have found that children's ATL tend to improve with age, and that ATL of children over the age of 5 are higher than those of children ages 4-5 years and 3-4 years, and ATL of children ages 4-5 years are higher than those of children ages 3-4 year (Feng, 2020). In terms of gender, a number of studies have documented poorer self-regulation, executive functioning, and learning behaviors in boys compared with girls (Matthews, Ponitz, & Morrison, 2009; McCabe, Cunnington, & Brooks-Gunn, 2004; Ponitz et al., 2008; Ready, LoGerfo, Burkam, & Lee, 2005). In terms of other demographic variables including race, in a nationally representative sample of children ages 5–17 years, Schaefer (2004) found that males and students in special education were more likely to display maladaptive learning behaviors, as were children with parents who did not complete high school, African-American children, and children residing in urban areas. McDermott et al. (2018) obtained similar findings in their examination of longitudinal trajectories of ATL. Boys and children who had received special needs services were at greater risk for poorer ATL growth, whereas Hispanic and older children were at reduced risk.

2.2.3 Longitudinal research

Longitudinal research has also become a new trend in the field of ATL. There is a study that examined the growth of children's ATL over six occasions spanning kindergarten through second grade in the Early Childhood Longitudinal Survey (ECLS-K) class of 2010–2011, as predicted by parenting and family characteristics. Latent classes of ATL growth were identified through growth mixture modeling and regressed onto explanatory covariates to uncover patterns and sources of variation in children's ATL (Katharine,2018). Longitudinal research is helpful for people to better track and understand the development and change of children's ATL, and can determine the continuous influence of different influencing factors.

2.3 Review of study on family influencing factors of children's ATL

2.3.1 Family SES

Family socioeconomic status (SES) is an economic and sociological combined total measure of a person's work experience and of an individual's or family's economic access to resources and social position in relation to others (Oakes & Rossi, 2003). Family income, parents' educational levels and occupational prestige are important indicators of family socioeconomic status (SES) and have been consistently documented to relate to children's learning and development (Perry & Mcconney, 2010; Conger & Donnellan, 2007) Previous research suggests that children's ATL varies across diverse socioeconomic status (SES) families (Buek, 2019). Family socioeconomic status significantly influences the ATL of young children, and the level of young children' ATL from high socioeconomic status families is significantly better than that of young children from low socioeconomic status families (Fantuzzo et al., 2011;

Wang et al., 2010). Family investment theory suggests that high socioeconomic status families can establish a conducive learning environment that helps foster interest and engagement in learning and prepares young children for the classroom environment (Landry et al., 2003).

2.3.2 Learning environment

Stimulating home learning environments as defined by providing opportunities for a child to participate in cognitive activities in the home (e.g., reading to child) have been linked positively to school readiness and academic achievement (Christian, et al.,1998; Judge, 2005).

Studies have measured the home learning environment using three indicators: family learning activities, life enrichment experiences, and family learning resources. Specifically, family learning activities refers to parent-child activities with learning opportunities in the home (e.g., reading stories to children). Life enrichment experiences refers to parent-child daily activities that parents take their children outdoors (e.g., going to museums). And family learning resources refers to learning resources that parents provide for their children (e.g., toys, children's books). It has been shown that children's ATL is closely related to home learning environment, and the explanatory power of the three variables of home learning environment on ATL is 33.2% after controlling for individual factors such as gender, age, and temperament type and home parenting environment (e.g., parental income, parental education, and whether the child is an only child) (Wang, 2020). Children who experience cognitively stimulating home environments have better approaches to learning (e.g., task persistence, motivation, etc.) (Judge, 2005) compared with children who experience less cognitively stimulating environments.

2.3.3 Parent involvement

Parent involvement in school has been described in some of the research as a set of specific behaviors that parents exhibit (Arnold et al., 2008; Fantuzzo et al., 2004;Marcon, 1999). These behaviors could include attending conferences, volunteering, and following through with activities suggested by the teacher. Research in both the preschool and school age arenas suggests that parent involvement should be considered multidimensional in order to truly understand the effects of parent involvement on children's education (Fan & Chen,2001; Fantuzzo, et al., 2004; Grolnick & Slowiaczek, 1994). Three dimensions of parent involvement: Home-Based Involvement, School-Based Involvement, and Home-School Conferencing were identified and studied by Fantuzzo, et al. (2004) at the preschool level.

Previous research indicated that family involvement is significantly associated with children's competence, motivation, concentration, and perseverance, while family activities such as parent-child play and reading are helpful for children's ATL development (Wang, 2020; Fantuzzo, et al., 2004).

As mentioned earlier, Family SES, Parent involvement, and Learning environment constitute family capital. Bourdieu distinguished three forms of capital, that is economic, social, and cultural made a significant theoretical contribution to the study of the influence of family environment on school readiness and the analysis of the intergenerational transmission

mechanism of inequality (Bourdieu,1986; Zeng,Xiao,Liu, 2013). The family economic capital, which refers to family economic status, especially family income generally affects children's ATL by influencing the family financial investment in education and family physical environment. The family social capital, mainly refers to the interpersonal network of the family, and its level can usually be reflected by measuring parental involvement. The family cultural capital refers to the sum of knowledge, skills, and cultural resources of family members, and usually includes the educational level of parents and the home learning environment. It has been demonstrated that family capital is closely related to children's approaches to learning (Zeng, Xiao, Liu, 2013; Huang, Cheng, 2011). However, most of the existing studies have explored the effects of variables such as family income, parental education, and parental involvement separately, and less in an integrated manner, considering the effects of various types of family capital on children's ATL, and their interactions.

2.3.4 Parenting style

Parenting style refers to the sum of the concepts, emotions and behaviors expressed by parents in the process of raising their children. It is a relatively stable behavior pattern (Lin & Ye, 2020). From the perspective of social constructivism, parents' attitudes towards children's upbringing, the learning environment they provide, and the way they negotiate with children all affect the learning process of children（He, 1997). Many studies have shown that parental parenting styles have a non-negligible impact on children's social and cognitive development (Zhou, 2011). Moreover, the significant correlation between parenting styles and children's learning behavior has also been proved in previous studies (Feng, & Wu, 2018; Lin, & Ye, 2020; Ika Sri Wahyuningsih, & Diah Krisnatuti, 2017).

Specific to different types of parenting styles, research has indicated that the corporal punishment and authoritarian parenting behaviors can destroy children's learning motivation (Klebanov & Brooks ,2008). Meanwhile research found that there is a positive correlation between the positive parenting behavior and ATL of children's learning, such as children's creativity (Abad, Taheri, & Yakhdani, 2013), academic motivation (Rahman, Begum, & Nahar, 2021).

As to which parenting style is most advantageous, many studies have reinforced the idea that the authoritative parent was the optimal parental style (Lamborn et al.,1991; Steinberg et al.,1994), this warm and strict parenting style is closely linked to the positive development of children，such as psychological well-being, school integration, self-enhancing attributions, and adaptive achievement strategies (Aunola, Stattin, & Nurmi, 2000; Checa & Abundis, 2018; Suo & Wang, 2020). However, there are still studies that came to different conclusions. For example, there are research that showed that children of authoritarian parents obtained better academic results than children of authoritative parents for Chinese American children (Chao, 1994,1996; Chao, 2001). Meanwhile research with Arab adolescents found that in Arab societies children's mental health was not harmed by authoritarian parenting as it did in Western societies (Dwairy, Achoui, Abouserie, & Farah,2006).

Therefore, what is the impact of the four types of parenting styles on children's ATL development and whether the authoritative parenting style is ~~in~~ an absolute dominant position is still an issue.

2.3.5 Parent-child relationship

Numerous studies demonstrate the important role that the parent-child relationship plays in predicting academic performance during the early school years (e.g., Barth & Parke, 1993; Ruiter & Van Ijzendoorn, 1993; Greenberg & Speltz,1988; Pianta, 1997). Huang (2007). Research indicated that a good parent-child relationship is related to children's development of positive non-intellectual learning qualities.

Reviewing the previous literature, some relevant studies have shown that there is a correlation between parent-child relationship and some components of children's ATL, such as executive function (Goldstein, 2016), cognitive attention (Goldstein, 2016), persistence (Huang,2007) and so forth. The relationship between parent-child relationship and preschoolers' ATL has not been comprehensively and thoroughly studied.

3. Discussion and Conclusion

Reviewing the existing research, there are still some gaps, like most of the existing studies on approaches to learning focus on children in primary and secondary schools, but not enough attention is paid to preschool children. Regarding the role of family factors, such as parenting styles, parental involvement, and parent-child relationships, most of the existing studies have examined the role of parents in general, but there are not enough studies that focus on the differences in the roles of fathers and mothers separately. It has been demonstrated that fathers and mothers differ in the roles they play in the family and in their influence on child development, so further research is needed to determine whether father and mother have different effects on children's ATL development. In terms of research design and research methods, most of the existing studies are mainly quantitative studies. Quantitative studies help to understand the relationship between variables and the predictive role of family factors on children's ATL through data analysis. However, qualitative studies are relatively weak, and they do not dig deeply enough into the specific behavioral manifestations of children's ATL, the further reasons behind the influence of family factors on children's ATL, and the difficulties and problems parents faced in raising their children.

4. Prospects for future research

4.1 For the research on the characteristics of children's ATL

More comparative research methods can be used to understand the development characteristics of different groups of children's ATL. At the same time, potential profile analysis can be used to classify the heterogeneous population of variables. The potential profile analysis method can

judge the potential feature classification of individuals based on all data, and fully explore the heterogeneous classification within the group based on the probability model. The classification effect is significantly better than the traditional clustering method. Therefore, we call for more research on the types of children's ATL using potential profile analysis, so as to have a more comprehensive and in-depth understanding of the characteristics of rural children's ATL. Meanwhile, the longitudinal tracking research design is helpful for us to better understand the long-term development and change of children's ATL.

4.2 For the family influencing factors on children's ATL

It is suggested that more family factors should be included to examine the contribution and role of different factors. It also needs to examine the internal influence mechanism of multiple factors on the development of children's ATL and constructs a comprehensive explanatory model of family factors as a guidance for follow-up research and educational practice. Besides, more qualitative research design and mixed methods research are necessary.

In addition, where the research subjects are concerned, more studies are needed to focus on the approaches to learning of special groups and the influence of their family factors, such as left-behind children, migrant children, children from low-income families, minority children, and special children.

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