



Designing an Information Technology Platform for Imparting Entrepreneurship Values in Social-Emotional Learning for Kindergarten Children Using EFA and CFA

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Abstract—Kindergarten is crucial for today's education. Kindergarten helps kids develop in all areas. Students work in groups on a simple project task in this study. The work includes topic-related activities. Kids should learn early on that being an entrepreneur will shape their identity & future. This condition makes someone realize that their long-term desire to be an entrepreneur comes from their academic success. This study investigated how the 35 questions are assembled & what improves them. 195 kindergarten teachers participated in the study. The sample was analyzed using EFA & CFA. Exploratory factor analysis revealed twelve unknown variables. The above variables explained 80% of the variation. Various factors explained the remaining 20%. All Cronbach's alpha values exceed requirements. $CR > .7$ & $AVE > .5$, indicating credible & tested constructs. The EFA showed that 195 research samples were sufficient because the KMO was above 0.50. This allowed more research. Six-factor solutions explained over 80.71% of the variation, so the EFA liked them. These factors kept the results consistent with those of previous studies. These traits facilitate legislator-educator dialogue rather than kindergarten teacher business observation. Researchers can use these properties for cluster analysis or multivariate linear regression. This subject requires more research because students develop a structured approach. Furthermore, experts should examine the research on what is making kindergarten entrepreneurship instruction popular.

Keywords— Project learning; information technology platform; entrepreneurship values; social-emotional children; kindergarten.

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I. INTRODUCTION

Today's educational outcomes depend on early education, including kindergarten. Kindergarten is education that promotes the overall development of children or all areas of their personalities [1]. Of the several aspects of development that exist in children, one of which is the social-emotional aspect which needs to be a particular concern for parents & teachers because this is significantly related to the daily life that children will live [2].

The implementation of the learning process in kindergarten needs learning innovation through learning models that are expected to stimulate children by developing learning models that suit children's needs so that learning can be carried out systematically & continuously [3], [4]. The quality of learning can be determined by the extent to which learning models & learning activities can change children's behavior toward following predetermined competency objectives [5]. Learning models commonly used in kindergarten are tailored to school

needs, such as center learning models, classical learning models, & area learning models [6], however, educators should be able to create learning models to improve learning quality & optimize children's development [7]. Innovation in learning quality is intended to boost children's growth. Thus, it is essential to develop a Learning Model [8], [9], including the Learning Model in Kindergarten [10]. One of them is the development of the Project Learning Model of entrepreneurial values in kindergarten. Learning activities with the concept of learning while playing allow entrepreneurial values to be implemented [11]. Early planting of entrepreneurial values is a brilliant alternative to stimulating the character of entrepreneurial values in children [12].

Introduce children to the value of entrepreneurship from an early age to give them a character that will affect their future [13]. This condition emphasizes that a person with an entrepreneurial spirit is a long-term result arising from achievement and cognitive abilities during childhood [14]. Thus, learning activities for entrepreneurial values projects are

critical because they prepare children to be better when they become adults in meeting economic challenges [15].

Some socio-emotional entrepreneurial values in early childhood can be developed through project learning: 1) Cooperation: Project learning can involve children working with their peers. This can help children develop social skills & adaptability in interacting with others. 2) Responsibility: children are taught to accept responsibility for actions & results. Children are taught to understand their social responsibilities within their environment and encouraged to take positive actions to help others. 3) Communicative: children are taught to communicate well with peers and adults to convey their ideas and feelings. 4) Creativity: The value of creativity teaches children to think on their feet, find new solutions, and use their imagination freely. Developing creativity in children will help them become innovative individuals who can find new ways to solve problems. 5) Tenacity: The value of tenacity or perseverance teaches children not to give up quickly in the face of challenges or difficulties. Developing tenacity in children will help them face obstacles with passion & determination to achieve their goals. The project model in this study is to provide a simple project task in the form of work to students consisting of a series of activities related to the topic in groups [16].

II. MATERIALS AND METHOD

A. Research Design

Quantitative research was used to understand kindergarten teachers' willingness to teach entrepreneurship. In particular, exploratory factor analysis (EFA) extracted latent factors from the questions. EFA is used in research to find hidden patterns in data [17] It condenses several variables into a smaller set while maintaining most information, making it a dimension-reduction approach. Confirmatory factor analysis will validate the factors found [17].

B. Data Collection

According to the research conducted by Burns and Grove [18], a thorough research documentation process encompasses several components, including the research environment, participants and population, constraints in examining trust, & techniques for data collection & analysis in the research undertaking. The present study employed purposive sampling to select a sample that accurately represented the research objectives and facilitated the collection of precise student data. The survey encompassed a sample of 195 kindergarten teachers from Padang City. The participants had prior experience in teaching kindergarten. The participants in this study were recruited online and were requested to complete a questionnaire on a predetermined platform. Before the survey, participants were informed about the study's objective, data type, storage and management, and their right to decline participation. The survey consisted of two sections: one focusing on the demographic characteristics of the participants, & another utilizing a Likert scale [19] to assess the level of readiness for entrepreneurship in kindergartens. The scale is from 1 (Strongly Disagree) to 5 (Strongly Agree).

C. Data Analysis

Addressing the questionnaire is essential to research because it helps researchers determine what factors are critical to the study. A questionnaire based on the Likert Scale was used to rate the measurement items in this study. Each item can be rated at one point on a scale from one to five points. One point means strong disagreement & five points mean strong agreement. Once we had the data, we used IBM SPSS to list all the answers. Once we finished that, we moved on to the next step. There are 195 observations for each of the 35 items in the sample, meaning there are 5.5 observations for each variable. Based on what has been written, academics can use several criteria to pick EFA samples. Hair et al. [17] say that the sample sizes of 5:1, 10:1, and 20:1 are good, average, and great, in that order. According to Bujang et al. [20], the sample size should be fifty, one hundred, five hundred, or more than one thousand. It meets the standard of Hair et al. [17] rules.

The EFA method relies on the idea that factors are related, so it needs to be tested. In this study, two signs are used. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is the first way to measure the strength of a partial association. They say that a KMO level close to 1.0 is ideal & less than 0.5 is not good enough [17], [21]. The second sign is Bartlett's Roundness Test, which looks for links between things. A significant Bartlett's Test of Roundness (sig. <0.05) shows that the factors are related enough for progress to be made [17].

IBM SPSS was used to analyze the data. We used the Principal Components extraction method and the Varimax rotation method. The writers were not limited by assumptions about how many factors they could keep. Still, with 14 variables to study, it made sense to keep four to six factors so that there would be many accurate measures for each factor (at least two, preferably three) [17]. Kaiser, the scree plot, and variation show the criteria for keeping factors.

After the EFA, a CFA was done to make sure the factors were correct. Before CFA, Average Variance Extracted (AVE) and Construct Reliability (CR) were used to check the validity and reliability of scales. These methods are thought to work well with Cronbach's Alpha in CFA. AVE and CR should be greater than 0.7 and 0.5. To look at CFA data, we use the Goodness of Fit Index (GFI), the Adjusted GFI, the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), and PCLOSE. A CMIN/DF value less than 3 means that the sample data and the suggested model fit well enough, while a value higher than 5 does not fit as well. For GFI, AGFI, NFI, and CFI. Hu and Bentler [22] say that scores ≥ 0.9 are fair and scores ≥ 0.95 are very good. If RMSEA is less than 0.01, 0.05, or 0.08, the fit is great, good, or medium. Hair et al. [17] says that PCLOSE > 0.05 means that the fit is excellent, and ≥ 0.01 means that the fit is good. IBM Amos was used for CFA.

III. RESULTS AND DISCUSSION

A. Descriptive Analysis

Validity tests determine whether a measurement instrument is valid. Questionnaire questions are the measuring instrument. A questionnaire is valid if its questions reveal anything it measures [23]. The validity test assumes that the total Pearson correlation is higher than the r-table. Hence, the

study's findings are legitimate if true [24]. When the significance level is 5%, and 195 respondents are used, the r-table value is 0.304. The reliability test results are in Table 1.

TABLE I
VALIDITY TEST PEARSON CORRELATION

r Count	Pearson Correlation	r table	Description
P1	0.463		
P2	0.611		
P3	0.636		
P4	0.553		
P5	0.649		
P6	0.498		
P7	0.611		
P8	0.631		
P9	0.679		
P10	0.616		
P11	0.468		
P12	0.613		
P13	0.599		
P14	0.721		
P15	0.627		
P16	0.678		
P17	0.455		
P18	0.364	0.304	Valid
P19	0.646		
P20	0.335		
P21	0.607		
P22	0.626		
P23	0.719		
P24	0.742		
P25	0.607		
P26	0.538		
P27	0.612		
P28	0.571		
P29	0.459		
P30	0.66		
P31	0.582		
P32	0.661		
P33	0.71		
P34	0.557		
P35	0.682		

SPSS's Cronbach Alpha function was used for this test. If a person's answer to a statement is consistent, a questionnaire is dependable [25]. A Cronbach alpha score > 0.6 indicates questionnaire reliability [26]. The reliability test results are in Table 2.

TABLE II
CRONBACH'S ALPHA RELIABILITY TEST

Reliability Statistics	
Cronbach's Alpha	N of Items
0.943	35

Table 3 shows Kaiser Meyer Olkin (KMO) & Bartlett's Test results to determine a variable's feasibility & data processing ability [27]. Continuing factor analysis is possible if the KMO value is more than 0.50. In this study, the KMO value is 0.933 > 0.50, and the significance (sig) is 0.000 < 0.05.

TABLE II
KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	Approx. Chi-Square	
	df	5114,755
Bartlett's Test of Sphericity	Sig.	595 0,000

B. Exploratory Factor Analysis

Table 4 shows the extracted factors' eigenvalues, explained variance, and cumulative variance. Twelve factors were found using the Kaiser criterion (a component is retained in the model if its eigenvalue is higher than one). This number also met expectations. The twelve factors explained 80.71% of the variance in kindergarten teacher data from 195 teachers. Other factors accounted for the rest. The threshold of total variation explained is not agreed upon, however, the current findings are in line with social science guidelines (about 60%) or other findings [21], [28]. Table 4 shows that factors 1 to 12 explain 46.624%, 6.053%, 4.831%, 3.413%, 3.344%, 2.933%, 2.727%, 2.679%, 2.305%, 2.118%, 1.917%, 1.917% of the variation

TABLE IV
RESULTS FOR THE EXTRACTION OF COMPONENT FACTORS

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	16.319	46.624	46.624	15.758	45.022	45.022
2	2.119	6.053	52.678	1.754	5.011	50.033
3	1.891	4.831	57.509	1.731	2.947	52.98
4	1.874	3.413	60.921	1.711	2.947	55.927
5	1.744	3.344	64.265	1.681	2.374	58.301
6	1.727	2.933	67.199	1.664	1.898	60.2
7	1.705	2.727	69.926	1.564	1.731	52.378
8	1.638	2.679	72.605	1.581	1.711	55.324
9	1.581	2.305	74.91	1.564	1.664	58.243
10	1.541	2.118	77.028	1.463	1.564	57.239
11	1.271	1.917	78.945	1.264	1.581	52.357
12	1.108	1.767	80.712	1.164	1.463	53.957
13	0.603	1.722	82.434			
14	0.547	1.562	83.996			
15	0.497	1.42	85.416			
16	0.464	1.326	86.742			
17	0.44	1.257	87.999			

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
18	0.421	1.202	89.201			
19	0.382	1.092	90.293			
20	0.339	0.968	91.26			
21	0.326	0.931	92.191			
22	0.299	0.855	93.046			
23	0.275	0.786	93.833			
24	0.255	0.729	94.561			
25	0.25	0.714	95.276			
26	0.234	0.667	95.943			
27	0.217	0.62	96.563			
28	0.203	0.581	97.144			
29	0.187	0.535	97.679			
30	0.178	0.509	98.187			
31	0.168	0.479	98.666			
32	0.146	0.416	99.083			
33	0.123	0.353	99.435			
34	0.111	0.318	99.754			
35	0.086	0.246	100			

Figure 1 shows that twelve components may make sense when considering eigenvalue changes (referring to the "elbows" in the scree plot). The fifth factor's eigenvalue (.603)

is beyond the latent root criteria of 1.0 [17]. If the eigenvalue is close to 1.0, the factor can be included. All these criteria suggest keeping the twelve elements for further study.

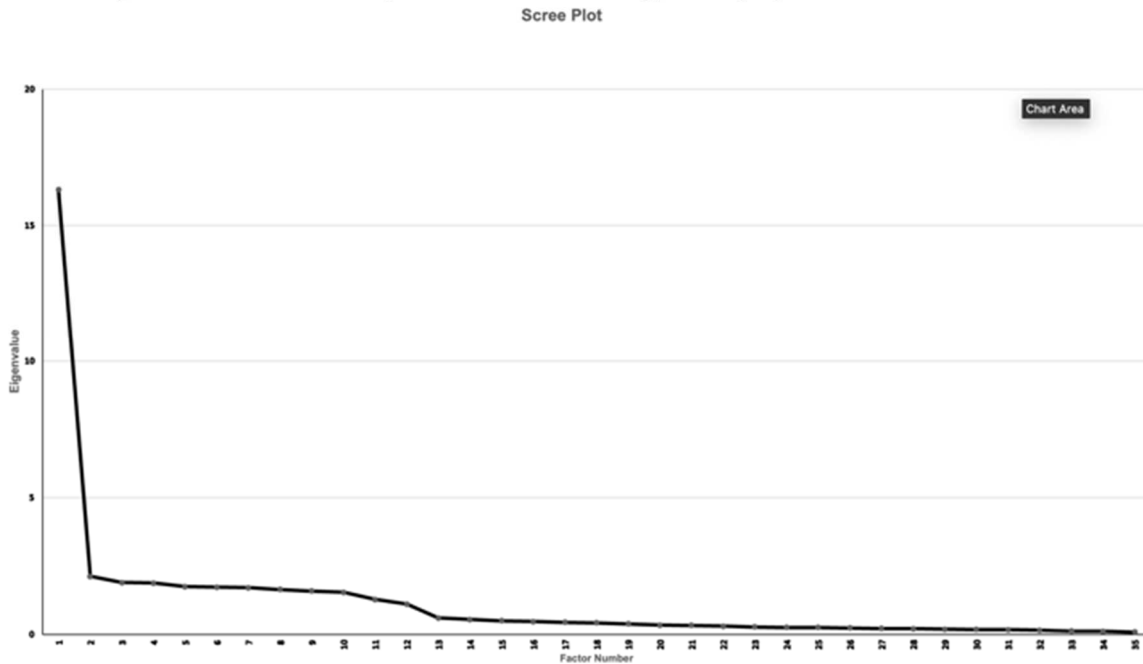


Fig. 1 Scree Plot

Table 5 shows factor loadings. The minimum and maximum factor loadings are .436 and .812. Hair (2009) [17] The proposed factor loading values show how variables relate to factors. Large loading values > 0.40 indicate the factor;

therefore, all items are preserved. Table 4 further illustrates that the twelve elements are preferable with more than two variables per component above 40.

TABLE V
VARIMAX-ROTATED COMPONENT ANALYSIS FACTOR MATRIX

Item	1	2	3	4	5	6	7	8	9	10	11	12
C22	.812											
C21	.741											
C13	.676											
C14	.668											
C23		.586										
C11		.583										
D13		.541										

Item	1	2	3	4	5	6	7	8	9	10	11	12
A12		.532										
A13			.529									
C12			.517									
D11			.442									
D12				.436								
B11				.659								
B12				.611								
B13					.582							
A11					.561							
A21					.552							
A23						.456						
E21						.716						
E22						.651						
E11							.567					
E12							.547					
E23							.532					
A22								.782				
F12								.744				
F13								.663				
F11									.467			
D21									.784			
G13									.777			
G12										.731		
G11										.574		
D31											.641	
D32											.631	
D33												.598
D22												.546

Table 6 presents the final results of the EFA concerning the factor names and factor loadings of each item. Factor 1's three components have conceptual links to learners' abilities and progress; hence Factor 1 is named "Phase A1". The three items in Factor 2 are related to determining learning objectives and materials. Factor 2 is named Phase A2. Furthermore, three items in Factor 3 determine entrepreneurial values related to children's social emotions. This factor 3 is named Phase B. Furthermore, four items in Factor 4 are related to determining learning topics. This factor 4 is named Phase C1. Three items in Factor 5 are related to analyzing the needs of tools and materials that will be used in learning. This factor 5 is named Phase C2. Three items in Factor 6 are related to determining the project implementation schedule. Factor 6 is named Phase D1.

Furthermore, three items in Factor 7 related to determining the work group in project learning. Factor 7 is named Phase D2. Three items contained in Factor 8 are associated with preparing the learning environment for students. This factor 8 is named Phase D3. Two items in Factor 9 are associated with organizing the project creation guide. This factor 9 is named Phase E1. Three items contained in Factor 10 are related to making projects by schedule. Factor 10 is named Phase E2. Three items contained in Factor 11 are related to preparing entrepreneurial mini-projects. Factor 11 is named Phase F. Three items contained in Factor 12 are related to assessing the learning process of the entrepreneurial values project. This factor 12 is named Phase G.

TABLE VI
FINAL RESULT FOR EFA

Item	Loading Factor
Phase A1. Knowing Learners' Ability and Development	
A11 Knowing the initial ability of learners through diagnostic assessment/early observation	0.520
A12 Knowing students' learning styles	0.524
A13 Knowing the development of students from learning results with the learning model that is usually used	0.507
Phase A2. Determine learning objectives and materials	
A21 Learning Objectives are adjusted to the Learning Outcomes.	0.671
A22 Learning objectives adapted to project learning in kindergarten	0.598
A23 The project material provided is following the characteristics of the learners	0.621
Phase B. Determine entrepreneurial values related to children's social-emotional	
B11 Appropriateness of entrepreneurial values Cooperation. Responsibility. Creativity. Tenacity and Communicative related to the socio-emotional of children aged 5-6 years	0.504
B12 These entrepreneurial values of Cooperation. Responsibility. Creativity. Tenacity. and Communicative can be applied to project learning in kindergarten.	0.632
B13 Entrepreneurial values Cooperation. Responsibility. Creativity. Tenacity. and Communicative according to the needs of learners	0.627
Phase C1. Determine the learning topic	

Item	Loading Factor
C11 Customizing the topic with the project learning that will be implemented	0.648
C12 Select and define topics related to the entrepreneurial values project	0.614
C13 Adapting the topic to the learning objectives	0.681
C14 Design a Learning Plan according to the topic	0.617
Phase C2. Analyze the need for tools and materials to be used in project learning	
C21 Analyze the need for tools and materials according to learner characteristics	0.649
C22 Determine tools and materials according to the topic that will be implemented in project learning	0.641
C23 Select tools and materials that are safe for learners to use	0.659
Phase D1. Determine the project implementation schedule	
D11 Determine the timeline for completing the project	0.675
D12 Set a deadline for project creation	0.625
D13 Agree on a schedule for project learning	0.746
Phase D2. Defining working groups in project learning	
D21 Agree on the division of student groups	0.622
D22 Divide learners into groups based on learner development and understanding	0.655
Phase D3. Preparing the learning environment for project learning	
D31 Prepare the room and learning environment that supports the implementation of project learning.	0.704
D32 Prepare all equipment needed for project learning	0.699
D33 Prepare the materials needed to make the project	0.732
Phase E1. Prepare a project creation guide	
E11 Preparing the entrepreneurial values project learning model book	0.690
E12 Preparing e-modules for entrepreneurial values project learning	0.730
Phase E2. Project delivery according to the designed schedule	
E21 Project creation is adjusted to the series designed in the entrepreneurial values project learning e-module.	0.748
E22 Project creation is following the schedule that has been designed	0.691
E23 Project creation is tailored to the needs and characteristics of learners	0.722
Phase F. Developing the Entrepreneurship Mini Project Activity	
F11 Plan entrepreneurial mini-project activities for learners	0.714
F12 Conveying to parents to be involved in the implementation of entrepreneurial mini-project activities	0.695
F13 Prepare a suitable place for entrepreneurial mini-project activities	0.732
Phase G. Preparing the assessment of the learning process of the entrepreneurial values project	
G11 Preparing assessment rubrics for aspects of child development	0.788
G12 Take notes during the process of learning activities	0.832
G13 Make learner observation instruments	0.813

C. Confirmatory Factor Analysis

Table 7 shows the reliability and validity of the CFA analysis scale. Every Cronbach's alpha value exceeds the required 0.7. CR >.7 and AVE >.5 indicate credible and validated constructs.

TABLE VII
CONSTRUCT RELIABILITY AND AVERAGE VARIANCE EXTRACTED

Factor	Items	CR	AVE
Phase A1	3	0.753	0.504
Phase A2	3	0.770	0.528
Phase B	3	0.818	0.602
Phase C1	3	0.861	0.520
Phase C2	3	0.850	0.656
Phase D1	3	0.847	0.648
Phase D2	2	0.769	0.625
Phase D3	3	0.868	0.686
Phase E1	2	0.849	0.739
Phase E2	3	0.849	0.653
Phase F	3	0.858	0.669
Phase G	3	0.924	0.802

Table 8 shows the summary of the CFA model fit. Table findings show CMIN/DF = 1.450, an outstanding criterion. The GFI value of 0.945 exceeds the acceptable criteria ($\geq .90$). AGFI and NFI fit well with values of 0.912 and 0.945. CFI = 0.982, exceeding the good criterion. RMSEA was acceptable when 0.48 was less than 0.05. Finally, PCLOSE is a good measure when the estimate exceeds the threshold.

TABLE VIII
MODEL SUMMARY FIT

No.	Measure	Estimate	Threshold	Interpretation
1	CMIN/DF	1.450	< 3	Excellent
2	GFI	0.945	≥ 0.90	Acceptable
3	AGFI	0.912	≥ 0.90	Acceptable
4	NFI	0.945	≥ 0.90	Acceptable
5	CFI	0.982	≥ 0.95	Excellent
6	RMSEA	0.048	≤ 0.05	Acceptable
7	PCLOSE	0.053	$\geq .050$	Excellent

Figure 2 illustrates kindergarten teachers' final entrepreneurship-oriented learning readiness measurement methodology. In the model, factor loadings over 0.50 were favored for retention. Items were maintained in the model because all factor loadings in the figure are more than 0.50. The EFA matches this result.

No more than 3 levels of headings should be used. All headings must be in 10pt font. Every word in a heading must be capitalized except for short minor words, as listed in Section III-B. This study used EFA and CFA to examine the factorial structure of 35 kindergarten teacher survey items in a cross-sectional sample. The EFA showed that the 195 research samples were sufficient because KMO was more than 0.50, allowing further investigation. Since a six-factor solution explained over 80.71% of the variation, the EFA favored it. A high link between questions is indicated by factor creation. Trigwell et al. [29] found that having skills helps

students learn. Previous research by Ngwuchukwu and Nwachi [9] shows the importance of entrepreneurship education. The association is explained similarly to other factors.

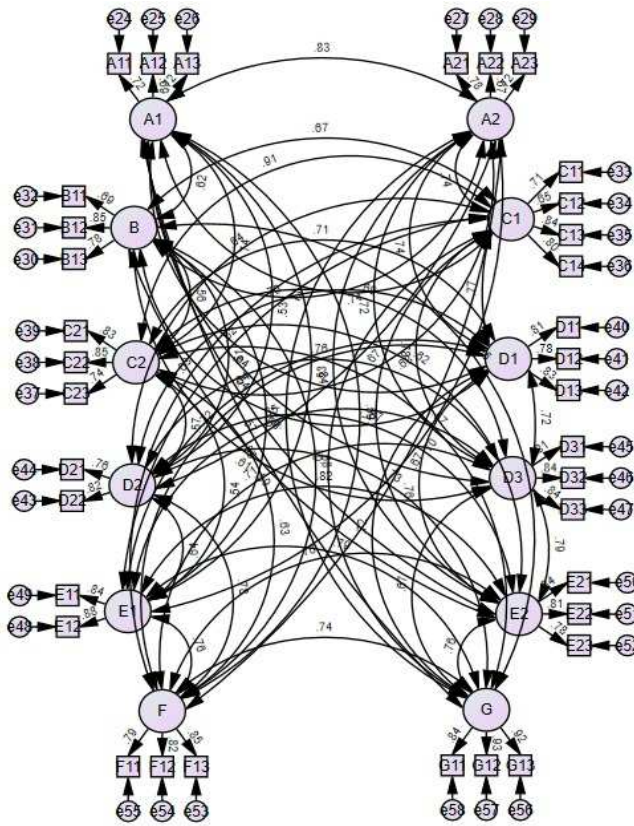


Fig. 2 Factor Model

The component and common factor analysis gave the researcher vital insights into variable structure and data reduction. First, the variable structure showed that teachers must establish learning objectives and resources utilizing 12 assessment dimensions. These dimensions can cover a wide range of teacher and learner competencies, from knowing learners' ability and development (Phase A1) to determining learning objectives and materials (Phase A2) to determining entrepreneurial values related to social-emotional (Phase B), then determining learning topics (Phase C1) and analyzing the needs of learning tools and materials (Phase C2). Policymakers and kindergarten teachers can now discuss ideas for these topics instead of tackling each component individually. Second, these criteria can be used with cluster analysis to discover if they have other properties for more in-depth research. Finally, future researchers could utilize one representative question from each category and additional scale measurements to study further associations.

A further benefit of factor analysis is that it provides a foundation for data reduction using the summing of scale or factor responses. When researchers have developed a method to combine the variables that are contained inside each component into a single score, they will be able to substitute the initial set of variables with a variety of aggregate indicators [30]. Using this new composite variable, we can concentrate on the differences between different groups or regions rather than evaluating each variable individually. This makes it easy to

zero in on a specific area of interest for the research. For instance, multivariate linear regression can be used to make predictions for different perspectives of teacher ability at the kindergarten level based on the total scores.

Next, the model that was discovered from the EFA analysis was validated through the use of CFA. By all of the aforementioned acceptable criteria, the findings of the CFA analysis provided support for the hidden structure that was derived from the EFA [31]. The criteria of the various model fit indices should be considered when discussing how well the CFA model fits the data. This is a critical consideration [32]. An RMSEA number that is less than 0.01 is considered good; a value that falls between 0.01 and 0.05 is considered to be satisfactory, and a value that falls between 0.08 and 0.1 is considered a mediocre fit. There was a reasonable level of fit, as indicated by the RMSEA value of 0.048 for this particular investigation. Considering that the GFI and AGFI values of this sample, which were 0.945 and 0.912, respectively, were both more incredible than the limitations of 0.90 and 0.90, it may be concluded that the fit was satisfactory. As a result of the CFI value being more than 0.95, it can be concluded that the model makes excellent use of the data.

There is a possibility that individuals currently employed in kindergarten, individuals with an interest in kindergarten, and individuals with aspirations to conduct research in the future could benefit from this research. The findings of this study have the potential to contribute to enhancing the educational experience that kindergarten students receive. Notable among these are enhancements that can be incorporated into the academic program to instill or cultivate entrepreneurial qualities in children who are in kindergarten. The findings of this research can serve as a valuable resource for enhancing entrepreneurial education across all the stages discussed earlier. This resource has the potential to serve as a useful reference that can improve educational experiences and foster entrepreneurial traits among kindergarten students. The stages that are an integral part of this research can be utilized as steps in teaching kindergarten students about entrepreneurship.

IV. CONCLUSIONS

This study aimed to elucidate the fundamental framework of the 35 inquiries and ascertain the underlying factors that contribute to the formulation of these inquiries. The study involved a sample size of 195 kindergarten teachers who volunteered to participate. Both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed on the sample. Following the implementation of an exploratory factor analysis (EFA) experiment, the collected data revealed the presence of twelve latent variables. These variables accounted for approximately 80% of the variability, with the remaining 20% being attributed to other variables. The test measures surpassed the necessary thresholds, indicating a satisfactory and excellent fit. Furthermore, the results obtained from the CFA enhanced and confirmed the validity of the twelve-factor model. The parameters yielded outcomes consistent with the guidance offered by prior research, as cited in older scholarly works. Therefore, the findings of this study provide a chance for policymakers and educators to participate in deliberation instead of closely examining the entrepreneurial behaviors of kindergarten teachers. Researchers can utilize the findings of this study to

perform additional analysis, such as multivariate linear regression or complementary cluster analysis.

Multiple recommendations were derived from the findings of this investigation. These recommendations can provide valuable guidance for the efforts of other professionals and practitioners. Elementary school teachers should be aware that practical entrepreneurship skills can be introduced to students at a young age and applied in real-life situations. It is essential for all individuals in the classroom, including the children, to be aware of this information since it equips them with the necessary skills to navigate real-life situations. The positive feature implies that educators entrusted with instructing pupils should consistently devise efficacious pedagogical approaches in educational institutions, as these methodologies have demonstrated success in various comparable research studies or settings. To fulfill the participation criterion, educators should exert more effort to engage students in learning. Children must demonstrate curiosity and actively inquire about their learning material for teachers to achieve their objectives. Completing this last piece of work will prepare students for a more intelligent society, particularly in the era of Industry 4.0. Teachers are encouraged to engage in various academic disciplines to expand their expertise. Despite the considerable time and effort required, the endeavor is precious as it aids in retaining primary school educators.

Furthermore, according to the twelve-factor model, practitioners need to possess the ability to articulate and emphasize the key concepts within these domains, as well as provide a rationale for the correctness of their policies. This text is given from a practitioner's perspective. From the perspective of a curious researcher, the item factor loadings indicate the indicators that should be utilized in forthcoming research studies. However, it is advisable for experts not to overly prioritize the inclusion of all aspects in the model when making decisions. The suggested cutoff value was derived from the sample number. Instead, they should explore alternate indicators that might provide a more accurate explanation for the underlying causes identified in this study. Furthermore, future studies should incorporate these components to gain a more comprehensive understanding of various perspectives, such as the mechanisms of learning, the utilization of integrated teaching methods, and the actual pedagogical process.

This study offers potential benefits to individuals currently employed in a kindergarten, individuals with an interest in kindergarten, and individuals with aspirations of conducting research in the future. The results of this study possess the capacity to improve instructional quality in kindergarten. This encompasses the improvements that can be implemented in the curriculum to impart or cultivate entrepreneurial traits in children of kindergarten age. The results of this study can serve as a valuable resource for improving entrepreneurship pedagogy across the stages above. This resource can serve as a valuable reference for improving the educational experience and fostering entrepreneurial traits among kindergarten students.

However, it is imperative to underscore that this research possesses several constraints that necessitate careful consideration. During the initial stage of the procedure, a thorough collection of thirty-five survey questions was

carefully reviewed and subsequently disseminated to educators working in primary education establishments. Before the implementation of any additional measures, this action was undertaken. Due to this, it is plausible that other variables were overlooked. If individuals desire to gain knowledge on this particular subject, they will be presented with a systematic framework to examine the phenomenon, necessitating additional investigation. Furthermore, academics must comprehensively examine the current scholarly literature on the factors contributing to the increasing integration of entrepreneurial principles into the educational curriculum for kindergarten students.

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