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Have Have We Finally Found The Happy ECE Student? A Quantitative Study Perspective

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ABSTRAK

The learning process for children is essential to achieve cognitive and affective aspects by presenting educational learning that combines education and entertainment. Edutainment can be built through positive aspects that can be created through technology. Although several studies say that the role of technology used in the learning process produces negative results, this research aims to examine the role of technology in supporting edutainment learning. This type of study uses a quantitative approach with a sample of 163 early childhood teachers in Indonesia. Data was analyzed using SMART-PLS to evaluate the role of technology in the learning process. This test uses instrument analysis using Chi Square. Data were analyzed using SMART-PLS with validity testing using convergent and discriminant validity tests, while reliability was assessed through composite reliability and Cronbach's alpha to ensure that the instrument could be measured accurately. The findings show that the role of technology cannot stand alone in providing significance for creating an educational learning process (). Educational learning can be presented with skills and competencies for teachers in navigating the teaching and learning process.

Keyword: *Teaching Knowledge, Teaching Aids, Early Childhood Education, Edutaintment, Educational Competence*

INTRODUCTION

Edutaintment is a learning method that evokes a feeling of happiness in the Early Childhood Education (ECE) learning induction process which is presented through a combination of education and entertainment (Boysen et al. 2022; Jensen and Rørbæk 2022; Kangas et al. 2017). The combination of education and entertainment in the learning process can be presented in the induction of knowledge and skills where even children unconsciously gain elements of cognitive, affective and behavioral engagement because they are immersed in an atmosphere of happiness through creative play activities (Barblett and Knaus 2022). Play activities by developing their own creativity are intended so that children have abilities such as problem solving, storytelling, play, language skills and self-development (Csíkszentmihályi 1996; Hagen et al. 2023). Self-development is the key in building humanist education for children which will lead to how to build education and is also the reason for the issue in the Happy ECE Student study.

Internet users in Indonesia in the 2024 period will reach 221,563,479 million from the total population of Indonesia, namely 278,696,200 people, this shows that internet users are equivalent to 79.5% of the total population of Indonesia. As many as 48.8% or 108,122,977 people in Indonesia use the potential of the internet for educational purposes (Andrean W. Finaka 2024; Prasetiyo et al. 2024). This situation shows that Indonesia has the opportunity to integrate technology in the world of education, especially in ECE studies (UNESCO 2023). This is reflected in the existence of innovative and unique practices in ECE studies that technology is starting to be integrated with learning method processes that combine original fairy tales originating from Indonesia (Farantika, Shofwan, and Purwaningrum 2022). Fairy tales such as fables, sages, sagas, myths can be presented in a modern way which allows children to be more expressive in learning activities in the classroom driven by the teacher (Bawono and Wibowo 2024). Apart from that, teachers in Indonesia show high commitment and initiative with the emergence of communities as a place to hone skills in using technology so that teachers can share knowledge and experience, exchange information, and discuss challenges and solutions to problems being faced by teachers (Pitopang 2023). The existence of this community makes it possible that access and development of technological facilities can become strong capital for Indonesia to continue to encourage the transformation of education to become more inclusive and sustainable by integrating technology (Rabbani 2024).

Current ECE studies cannot be separated from the use of technology as a tool that can inject into creating beneficial effects such as increasing engagement, motivation, personalized learning experience and can create interactive and dynamic learning in the learning process (Paul et al. 2023). On the other hand, when children are actively interacting with technological media such as watching, listening, playing and reading, more attention must be paid (Vidal-Hall, Flewitt, and Wyse 2020). According to research (W. Luo et al. 2022) the role of teachers has a very vital role as the main facilitator to carry out the learning process in ECE studies that utilize the use of technology with competencies, which include content, pedagogy, and technology so that children remain not out of context in learning. Technology will become a passive tool and become a potential that can distract in the learning process rather than injecting beneficial effects if teachers do not have the skills and competencies in using technology (Dogan, Dogan, and Celik 2021)

This study aims to examine how much effect technology can have on creating a fun learning atmosphere for children towards ECE studies. The focus of the study here is whether Teaching Aids which function as learning media tools are able to influence the Edutaintment Learning Method (ELM). As an alternative, this study analyzes whether knowledge of technology usage skills (TK) can be a mediating variable towards ELM or vice versa Educational Competence as a teacher's personal competence can be a full mediation towards ELM. This study will measure the relationship between variables in determining how different approaches to teaching and technology integration affect the creation of a happy learning environment in ECE studies.

LITERATURE REVIEW

Narrative Theory

Narrative Theory began to develop in studies in the fields of philosophy, literature and history which aim to understand and interpret the values contained therein (Cebik 1986). Understanding and interpreting is the essence of narrative how stories, organizing events, actions and experiences can become a coherent structure. A coherent structure contains values that can help individuals make sense of their world, and how these stories shape social and personal identity and understand existing realities (Kyratzis and Green 1997). This makes narrative theory begin to be developed and applied in the world of education where educators realize that narratives have strong potential in conveying information in a deep and meaningful way (Sevilla-Liu 2023).

Edutainment Theory

Edutainment is a combination of entertainment and education which has the main goal of forming a learning process that can be carried out in a pleasant atmosphere (Aksakal 2015). A pleasant atmosphere is a goal that must be achieved in edutaintment because elements that arise such as interesting things will make children more focused and interested in the learning process (Dunham and Delaune 2023). Elements that arise in Edutaintment can be reflected in several components such as sound, animation, video, writing and images (Druin, A., & Solomon 1996). This component can be optimized by combining the latest technology where the latest technology is now one of the opportunities to open up new systems that can be created in forming an interactive, engaging, experiential learning process (Wang and Singhal 2021). The success of the Edutaintment learning process can be presented with the teacher's ability to deliver material with technology integration so that harmony can be created by the creative medium between material and technology (Lachner, Backfisch, and Franke 2024). Edutaintment theory is able to explain teaching aids, Story Telling Education and Edutaintment Learning Method because it has an interest in creating a pleasant learning environment.

Storytelling Education

Storytelling is an art in the form of communication involving creativity which requires going through the process of vocalization, narrative structure, and mental images to communicate (Roney 1996). Communicating as a storytelling process is applied to educational studies where students are the audience and teachers are the tellers (Khalaf and Zin 2018). Teachers as tellers in schools, one of the competencies that must be possessed is the ability to tell stories (Bartan 2020). This storytelling

must have a plot that is constructive, entertaining, interesting, communicative, and theatrical so that the learning process can create a captivating and interactive atmosphere (Palioura and Dimoulas 2022). According to (Hofman-Bergholm 2022) there are several indicators in Storytelling, namely transformative engagement (SE1), namely Story telling as a way to understand the value of the story being told. The next indicator is Enhanced understanding and critical thinking (SE2) where teachers in schools need to implement reflective discussions in class regarding current issues. The influence on worldview indicator (SE3) is that the school provides space for exchanging views, and Context and emotions (SE4) which means that the school applies storytelling as a learning tool.

Teaching Aids

Teaching Aids are non-technological and technological learning media tools that cannot be separated to attain teaching, learning goals and competency in the learning process (Portana et al. 2021). The learning process that can increase the happy atmosphere in children can be used with a creative and innovative approach (Gabrhelová and Čepelová 2022). This results in implications that are in line with the use of learning media tools that are in accordance with the learning process material (Rahman, Yufiarti, and Nuraini 2023). In a research study (Haron, M. Z., Othman, M. K. H., & Awang 2019) there are several indicators that build Teaching Aids, namely the use of technology-assisted teaching aids enhanced students' interest (TC1), namely teaching aids are able to provide support in student learning, for example by providing technological facilities. The next indicator is the use of multimedia material (TC2) which means that in learning the school utilizes the use of multimedia such as educational videos connected to the internet. Next is skilled in using technology tools (audio, video, software, computers) (TC3) where each teacher is able to run the Educational Teaching Aids (APE) available at school. The indicator of use of technology-assisted teaching aids (TC4) is that in the learning process the school applies technology.

Educational Competence

Educational competence is a competency in education that must be required as a benchmark for sustainability in the learning process where a good learning process requires competent teachers (Abeywickrama 2024). Teachers who have competence are able to organize various knowledge they have into understanding and skills in accordance with existing terms and conditions so that the core of teaching always remains coherent (König, J., Jäger-Biela, D. J., & Glutsch 2020). According to (Wardoyo, C., Satrio, Y. D. 2021), there are several indicators that build educational competence, namely actively participating in learning activities (EC1), namely the active role of teachers in the learning process in the classroom. Then the second and third indicators, namely developing student potential (EC2) and motivating students' willingness to learn (EC3), explain that schools provide a place for students to develop their talents, and when students are actively learning, schools provide appreciation. The indicators ensure the level of understanding and adapt learning activities (EC4), continue to improve teaching methods (EC5), pay attention to learning objectives (EC6), and teaching in accordance with the learning objectives and life context (EC7) explain the methods and learning outcomes. Furthermore, increase student motivation (EC8) and providing opportunities for students to ask questions (EC9) explain teaching that motivates students so that their courage to express their opinions increases.

Teaching Knowledge

Teaching knowledge is a natural skill that is uniquely possessed by each teacher in teaching the learning and teaching process (Zhang and Tian n.d.). The current learning and teaching process is beginning to conceptualize the use of technology as an educational media tool that can make learning more innovative and creative (Akram et al. 2022). The use of technology requires skills/competencies and beliefs/attitudes by teachers in implementing it in the classroom (Anderson and Putman 2019). High

trust in the use of technology has a positive effect in terms of effectiveness and value towards technology integration. This technology integration is an obligation for teachers in meeting learning outcomes as a context of TPACK (Technological Pedagogical and Content Knowledge). According to (Hämäläinen et al. 2021) 4 several indicators that build Teaching Knowledge are skills (TK1), Attitudes (TK2) and Knowledge (TK3).

Edutaintment Learning Method

Edutainment stems from the words education and entertainment which have the meaning of education and entertainment that have congruence in producing a fun learning process (Pojani, D., & Rocco 2023). Fun learning can be created by establishing deeper interactions between teachers and children (). This interaction can be created with activities such as role-playing, demonstrations, field trips, conversations so that they can create an experiential process (Sasmita and Wantini 2023). The experiential process is created so that children can simultaneously absorb information or knowledge with pleasure (Dunham and Delaune 2023). Absorption of information with pleasure can be done through games, role-playing, and demonstrations in the context of edutainment (Addaudy 2021). According to (Cheong 2023) there are four indicators that build the Edutainment Learning Method, namely Fun Teaching Session (ELM1) and Lesson Class With Environment (ELM2), namely the implementation of a fun and entertaining learning environment. The next indicator is A Teaching Session Filled Variety of Interesting and Varied Operations (ELM3) and Edutainment May Employ Information And Communication Technology (ELM4), the implementation of interesting learning by utilizing technology.

Teaching Aids and Storytelling Education

The application of Teaching Aids as a learning medium has an important role in helping the teaching and learning process where teachers as facilitators are expected to be able to present learning attention and create motivation to learn (Bel-Ann Ordu 2021). Learning motivation can be stimulated by creating a pleasant atmosphere through the delivery of learning content that can engage children (Rahiem 2021). Engaging learning ma(Bel-Ann Ordu 2021)terials in ECE studies can be combined by inserting interesting stories, one of which is an original fairy tale in Indonesia (Mardhiah et al. 2024). The presence of technology that can visualize stories for children, teachers can freely provide meaningfully and entertaining assting teachers bringing the real world into the classroom (Vishnupriya and Bharathi 2022).

H1: Teaching Aids have a significant effect on Storytelling Education

Teaching Aids and Educational Competence

Teaching and learning activities cannot be separated from the existence of supporting media in the form of educational teaching aids that are useful for creating more dynamic and relevant learning (Chima Abimbola Eden, Onyebuchi Nneamaka Chisom, and Idowu Sulaimon Adeniyi 2024). Technology integration is here to make learning even more dynamic and relevant (Z. Luo et al. 2024). In addition, the success of technology integration is determined by the active role of teachers in guiding students to be able to explore further and support active participation in the learning process (Gustisari, Robandi, and Suyitno 2020). This learning process will be more meaningful when children do not only receive material but children are directly involved and stimulated to always have a high sense of curiosity so that cognitive and affective aspects can be built from an early age (Abdelghani et al. 2022). Building cognitive and affective understanding becomes the main narrative of ECE studies in creating an inclusive, progressive and self-development-focused learning environment for children (Barbier et al. 2023).

H2: Teaching Aids have a significant effect on Educational Competence

Educational Competence and Storytelling Education

In an effort to improve the progress of children's learning, comprehensive support is needed from various aspects, namely in terms of teachers, facilities and infrastructure (Yaro 2023). Facilities and infrastructure will be effective if they are identified with professional teachers (Tatto 2021). Professional teachers are an important element in forming a mature learning environment such as preparing and implementing quality learning materials that can be evaluated for outcomes in children through learning enrichment programs (Egert, Dederer, and Fukkink 2020). In a varied learning process, a tool is needed that can stimulate creativity, thinking power through active involvement in children (Behnamnia et al. 2020). This can be done with storytelling skills in teachers who can create more meaningful learning experiences, build imagination and emotions in children (Kostiainen and Pöysä-Tarhonen 2022).

H3: Educational Competence has a significant effect on Storytelling Education

Teaching Knowledge and Storytelling Education

Teaching knowledge as a competency and skill that must be possessed by teachers in mastering the integration of technology to support the achievement of more optimal learning outcomes (Fernández-Batanero et al. 2022). The achievement of optimal learning outcomes is in accordance with TPACK or Technological Pedagogical Content Knowledge which has been determined according to the learning needs of children, by designing strategies on how children can more easily understand the material presented (W. Luo et al. 2022). The material presented by the teacher must be packaged in an interesting way with the teacher's narrative skills so that the context of the material presented can be in line with the use of technology by the teacher (Leung, Yip, and Li 2024).

H4: Teaching Knowledge has a significant effect on Storytelling Education

Story Telling Education and Edutaintment Learning Method

Storytelling is a process that involves storytelling activities where stories can attract interest if the content of the story is delivered in an interesting way so that there is a reciprocal relationship between the teller and the audience (Williamson, J., White, A., & Hedges 2023). The existence of a reciprocal relationship can be applied to edutaintment which shows that children as an audience can understand the material with a sense of pleasure brought by the teacher (Salvas et al. 2022). In line with research (Musyayyadah, U., & Ningsih 2022). Storytelling Education has an effect on the Edutaintment Learning Method because teachers in the learning process must dynamically create an interesting impression for students. Moreover, with the adaptation of technology as a collaborative approach from digital storytelling involving images, audio, and video, even the use of AR and VR is more enjoyable, entertaining and captivating (Naida n.d.).

H5: Story Telling has a significant influence on the Edutaintment Learning Method

Teaching Aids and Teaching Knowledge

In the child-friendly school learning process, the learning media that can be used is not only limited to the use of physical images and textbooks, but also the integration of the use of immersive

technology has begun to be implemented (Vagaevich and Mahmedovna 2020). Research and educational studies in various countries also show that technology integration has a strong factor in supporting success in the learning process (Kalolo 2019). The learning process needs to be mediated by the ability and skills of teachers in integrating technology so that learning needs can be optimized (Christ, Arya, and Liu 2019). Learning needs can be encouraged by the activeness and involvement of children in the learning process which can be assisted by the use of teaching aids such as visual manipulatives, audio and interactive tools to help simplify complex ideas and abstractions (Shabiralyani et al. 2015).

H6: Teaching Aids have a significant effect on Teaching Knowledge

Teaching Knowledge and Edutaintment Learning Method

The integration of technology in the classroom requires skills and abilities from teachers in navigating children to present a pleasant learning atmosphere (Liu, Hedges, and Cooper 2024). Enjoyable learning can be triggered by interest and happiness when the learning process can be presented in an interesting way (Sum, Bora, and Palmin 2024). This can be created with the role of technology where children can interact directly with digital media such as videos, animations, educational games that have been previously simulated (Masykuroh 2024). In addition, children are also directed to make the learning that has been given more meaningful and applicable in everyday life (Mubarok et al. 2022).

H7: Teaching Knowledge has a significant effect on Edutaintment Learning Method

Teaching Aids and Edutaintment Learning Method

Educational teaching aids are tools that can support the learning process that can achieve needs in learning outcomes (Kelana, Kelana, and Pratama 2019). Learning outcomes can be achieved by improving student understanding, providing motivating learning experiences and supporting child development (Anwer 2019). This can be created with educational props with the integration of technology in the learning process (Undheim 2022). This technology integration is able to support various learning styles with preferences such as visual, auditory or kinesthetic through graphic illustrations so that abstract or complex content becomes easier to simplify (Volpe and Gori 2019).

H8: Teaching Aids have an effect on Edutaintment Learning Method

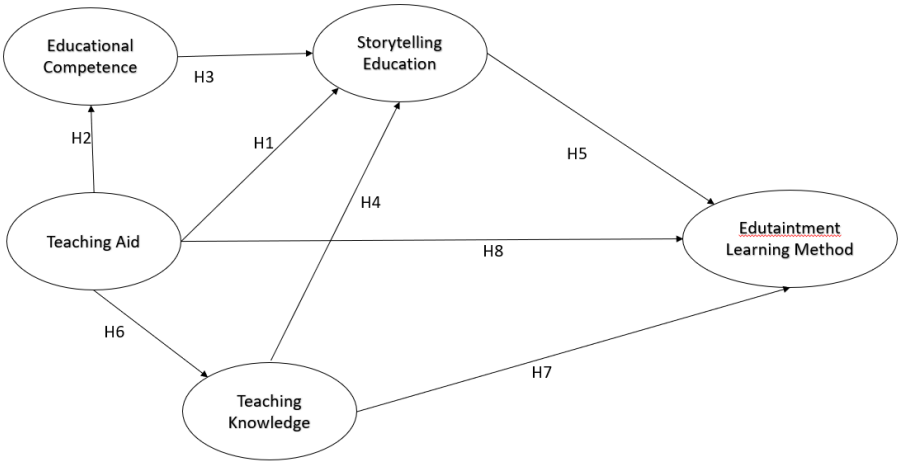

Figure 1. Hypothesis Model

RESEARCH METHOD

Primary data were obtained directly from the field and then analyzed in this study. Respondents in this study were School Principals whose institutions have joined Himpaudi and IGTKI Sukoharjo Regency. School Principals became respondents in this study because they were considered policy makers who were equal to managers (Robbins, S. P., Bergman, R., Stagg, I., & Coulter 2014). The number of respondents in this study was sufficient for sample adequacy calculated based on the indicators of the Teaching Aids variable according to (Haron, M. Z., Othman, M. K. H., & Awang 2019) as many as four indicators. Indicators of the Storytelling Education variable according to (Hofman-Bergholm 2022) as many as four indicators. Indicators of the Educational Competence variable according to (Wardoyo, C., Satrio, Y. D. 2021) as many as nine. Indicators of the Edutainment Learning Method variable according to (Cheong 2023) there are four indicators. The indicators of the Teaching Knowledge variable according to (Hämäläinen et al. 2021) are three indicators. The data collected were 178 respondents and the data acquisition method was by distributing questionnaires with self-assessment filling based on the purposive sampling technique. Purposive sampling is a sampling technique based on the researcher's determination of the most appropriate sample that is considered to represent a population (Berndt 2020). In this study, questionnaires were distributed, but after outlier data analysis was carried out, the data processed in this study was 163 of the total data collected. The approach used in this study is the positivism approach where this study is real based on data and can be logically interpreted by the mind (Lin Chih 1998). The analysis tool used is Structural Equation Modeling (SEM) which is analyzed with SMART-PLS software. SEM is a multivariate analysis method that can be used to describe simultaneous linear relationships between indicators and variables that cannot be measured directly or latent variables (Collier 2020). The use of SMART-PLS is based on the processed samples being included in the small category (Hair et al. 2014).

RESULTS AND DISCUSSION

RESULTS

This study began by distributing questionnaires in Sukoharjo Regency in each child-friendly school program. Based on Table 1, it shows that the number of respondents was 163 respondents where the number of respondents was dominated by women, namely 160 represented by 98.15% and men by 3 represented by 1.84%. The female profession is more dominant because women are more patient in caring with gentleness, more caring, good in communication, and more patient in providing assistance to students (Munir, F., & Aboidullah 2018). The data also shows that the status of private schools is 159 schools with a percentage of 98.15% and public schools are 3 schools with a percentage of 1.84%, which means that private schools are more dominant than public schools. This is because private schools can be more adaptable in adjusting the curriculum and current educational trends (Wang, J., Yang, M., & Maresova 2020). From these data, it can also be concluded that respondents with a teaching period of >5 years are more, namely 79.75% or 130 respondents, then respondents with a teaching period of less than 1 year are 13 respondents or 7.97% and 1-5 years are 20 respondents or 12.26% of the total data.

Table 1. Responden Characteristic Demographic

Characteristic	Total	Percentage
Gender		
Male	3	1.84 %
Female	160	98.15 %
Total	**163**	**100%**
School Status		
State	4	2.45 %
Swasta	159	97.54 %
Total	**163**	**100%**
Long Teaching		
<1 years	13	7.97 %
1-5 years	20	12.26 %
>5 years	130	79.75 %
Total	**163**	**100%**

Testing in this study was carried out with 2 tests, namely the convergent test and discriminant validity. The Convergent Test is intended to measure the level of validity of an indicator in a variable.

According to (Hair et al. 2014) the requirements for this indicator are said to be valid if it has a value of more than 0.70 (> 0.70) . However, it can also be said to be valid if it is more than 0.5 or 0.6 (> 0.5 or > 0.6). Based on the data in Table 2, the indicator value of the Educational Competence variable has met the cut off because it is above > 0.7 then for the indicator value of the Edutainment Learning Method variable has also met the cut off which is above > 0.8. Furthermore, the Storytelling Education variable indicator has met the cut off which is above > 0.8, the Teaching Aids variable indicator has also met the cut off > 0.8, and the Teaching Knowledge variable indicator has met the cut off above 0.8

Tabel 2. Loading Factor

		EC	ELM	STE	TA	TK
EC1	Schools encourage teachers to play an active role in learning.	0.786				
EC2	Our school provides a platform for students to develop their talents.	0.812				
EC3	The school gives appreciation when students are actively learning.	0.847				
EC4	So far, the learning syllabus has been achieved to the maximum.	0.769				
EC5	Our school is constantly improving its teaching methods.	0.846				
EC6	Our school has a concern in meeting learning outcomes.	0.876				
EC7	Teaching is applied according to the achievements that emphasize daily learning.	0.837				
EC8	The teaching applied increases students' motivation to learn.	0.858				
EC9	Teachers provide space for students to express their opinions (ask, comment, discuss, or answer).	0.645				
ELM1	Our school implements fun learning		0.915			
ELM2	Our school builds an entertaining classroom environment.		0.943			
ELM3	Our school implements a variety of interesting learning sessions.		0.92			
ELM4	Our school utilizes technology (internet, video, games) in implementing edutaiment learning.		0.855			
STE1	Story telling as a learning medium that inspires students in line with the values in the story.			0.896		
STE2	The storytelling given by the teacher makes students able to distinguish between right and wrong actions			0.944		
STE3	Story telling encourages students to have broader insights.			0.936		
STE4	Story telling is an interesting educational medium that triggers students' emotional experiences..			0.919		
TA1	The school has technology that provides learning support.				0.83	
TA2	Schools use multimedia as a teaching aid.				0.906	
TA3	The school ensures that teachers have the skills to run Educational Teaching Aids (APE).				0.847	
TA4	Technology is inherent in the teaching and learning process.				0.843	
TK1	Our school has teachers who have technical skills in using technology.					0.924
TK2	Our school has teachers who are able to learn technology easily.					0.927
TK3	Our school has teachers who are able to apply technology to learning needs.					0.928
TK4	So far, teachers have combined various technologies to meet learning outcomes.					0.885

The next data processing is by conducting a construct reliability test taken from the Conbrach's Alpha value, a variable can be said to be reliable if the Conbrach's Alpha value is above 0.70 (> 0.70) (Garson 2016). The data presented in Table 3 shows that the Conbrach's Alpha value of all variables has a range of 0.879 - 0.943 so that from the data it can be determined that all variables are reliable because they are more than the predetermined cutoff. The second test is Discriminant Validity where this test is to test the difference between latent variables and other variables. A high Discriminant Validity value indicates that a variable is able to explain the measured phenomenon, this test can be seen from the

Composite Reliability (CR) and Average Varian Extract (AVE). The value of CR must be above 0.70 (>0.70) (Henseler, Ringle, and Sarstedt 2012) which can be seen in Table 3 that the CR value of all variables is 0>70 with a range of 0.95–0.959, this shows that all variables have met the cut off. Furthermore, the value of Average Variance Extracted (AVE) which must be 0.05> (0.05) (Chin 1998). The data in Table 3 shows that the AVE value of each variable has met the cutoff, namely in the range of 0.658–0.854

Table 3. Cronbach's Alpha, Composite Reliability, dan Average Variance Extract (AVE)

Latent Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Education Competence	0.934	0.939	0.945	0.658
Education Learnig Method	0.929	0.929	0.95	0.826
Storytelling Education	0.943	0.944	0.959	0.854
Teaching Aids	0.879	0.882	0.917	0.735
Teaching Knowledge	0.936	0.937	0.954	0.839

Discriminant validity can also be tested through the Fornell-Lacker Criterion value which is seen from the correlation value between the latent variable and its variable must be greater than the correlation with other variables (Chin 1998). From the table it can be seen that the correlation between the Edutaintment Learning Method (ELM) variable and other variables is greater, which is 0.909. The correlation between the Storytelling Education variable and other variables is greater, which is 0.924, the Teaching Aids (TA) variable with its variable is 0.857, and the Teaching Knowledge (TK) variable with its variable is 0.916 so that the relationship of all each variable is greater than with other variables.

Table 4. Fornell-Lecker Criterion Test Values

Variable	EC	ELM	STE	TA	TK
EC	0.811				
ELM	0.809	0.909			
STE	0.803	0.671	0.924		
TA	0.688	0.657	0.694	0.857	
TK	0.735	0.775	0.634	0.655	0.916

In the Model Fit test there are Standardized Root Mean Square Residual (SRMR), Chi Square and NFI. SRMR is the absolute value of fit with a value of 0 and the fit value when SRMR is less than 0.80 (<0.80). Based on Table 5, the SRMR value is 0.053 which is less than 0.80 so it can be said to be good. Then the Chi-Square value is intended to measure the overall model fit (Hu, L. t., & Bentler 1999). However, according to (Hooper, D., Coughlan, J., & Mullen n.d.) samples below 200 Chi-Square cannot

assess whether the model in the study can be said to be suitable or not because Chi-Square is susceptible to sample size.

Table 5. Model Fit

	Saturated Model	Estimated Model
SRMR	0.053	0.118
d_ULS	0.901	4.524
d_G	0.778	0.904
Chi-Square	673.818	737.625
NFI	0.842	0.827

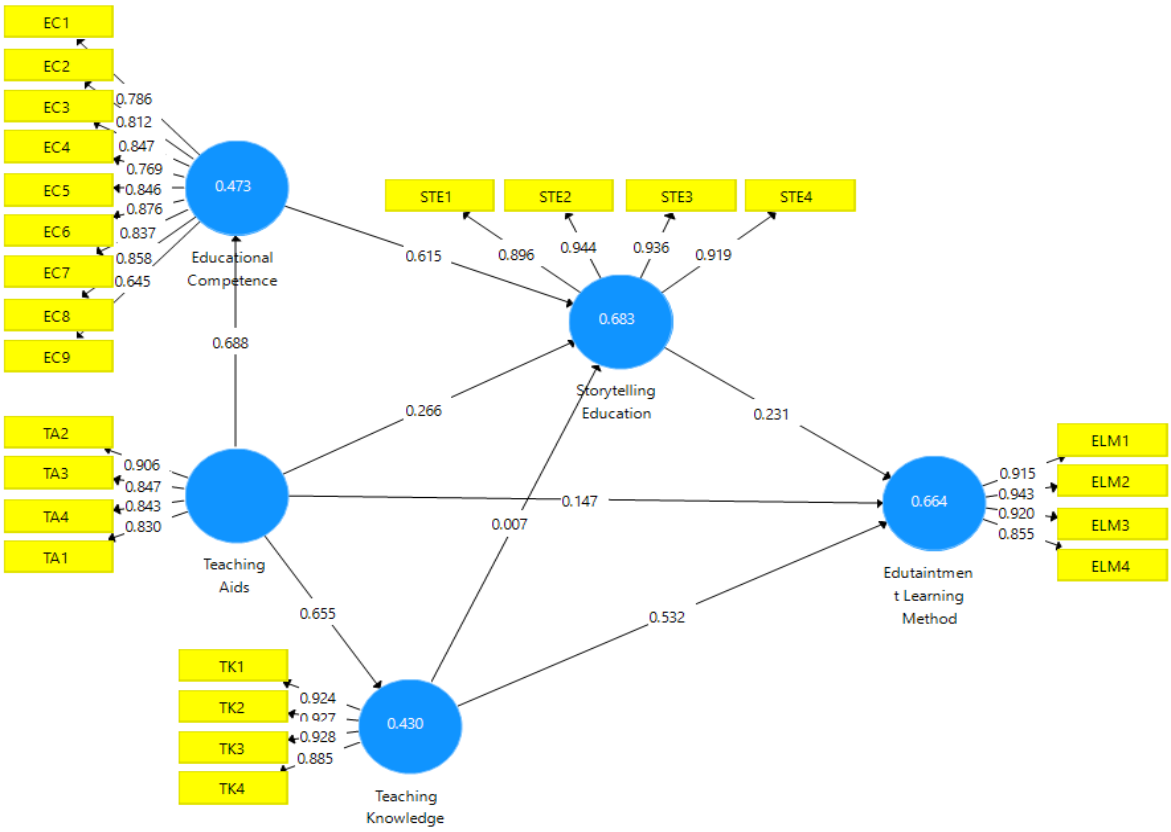

Figure 2. Hypothesis Value Testing

Hypothesis value testing is analyzed by Original Sample (O) testing, namely testing the direction of the relationship between dependent and independent variables, if the value is positive then the influence of the relationship is also positive. Based on the table, the Original Sample (O) results are all positive. The relationship between Education Competence (EC) and Storytelling (STE) is positive, Storytelling Education and Edutaintment Learning Method (ELM) is 0.231, Teaching Aids (TA) and

Educational Competence is 0.688, Teaching Aids (TA) Edutaintment Learning Method (ELM) is 0.147, Teaching Aids (TA) and Teaching Knowledge (TK) is 0.655, Teaching Knowledge (TK) and Edutaintment Learning Method (ELM) is 0.522, Teaching Knowledge (TK) and Edutaintment Learning Method (ELM) is 0.532. And the relationship between the Teaching Knowledge (TK) variable and Storytelling Education (STE) is 0.007. Then, the value of the T-Statistic is said to be accepted if it is greater than 1.96 (>1.96) (GİRma 2023). Based on the table, the T-Statistic value in hypothesis 3 shows that the cut-off value is not accepted because it does not meet the specified value of 0.216, while the other hypotheses are accepted because they have met the cut-off. Based on the direct influence of the independent variable on the dependent variable, it can be said to have an effect if the P-Values or significance value is less than 0.05 (<0.05) (Ghozali 2015).

Table 6. Hypothesis Value Testing

Hipotesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
TA -> STE 1	0.266	0.271	0.078	3.415	0.001	*ACC*
TA -> EC 2	0.688	0.697	0.05	13.825	0	ACC
EC -> STE 3	0.615	0.616	0.087	7.04	0	ACC
TK -> STE 4	0.007	-0.002	0.063	0.107	0.915	NO
STE -> ELM 5	0.231	0.228	0.086	2.7	0.007	ACC
TA -> TK 6	0.655	0.658	0.052	12.576	0	ACC
TK -> ELM 7	0.532	0.526	0.067	7.973	0	ACC
TA -> ELM 8	0.147	0.158	0.088	1.684	0.093	NON

This study examines the relationship between TA and STE, in this study showed that there was a significant influence between TA and STE so that **Hypothesis 1 was accepted**. This finding provides a view of the Narrative theory that teacher skills in integrating technology coupled with teacher abilities in narrating material will maximize effectiveness in learning so that this also broadens the scope of the Edutaintment theory which emphasizes that educational activities can be in line with entertainment. This is reinforced by research (Rizvic et al. 2019) that the use of technology in delivering material containing situations, moral values and characters that can be connected with audio & visual can create meaningful and entertaining learning media so that it can generate emotional involvement in children. Indicators that can build TA are if in the ECE study where each teacher has skills in implementing technology can create an interesting learning atmosphere so that this is in accordance with one of the STE indicators that children are involved in the emotional aspect when interactions in learning take place.

Then this study tested Teaching Aids (TA) and Educational Competence (EC), which this study showed a significant influence so that **Hypothesis 2 was accepted**. This study provides a strong perspective on the Edutaintment theory by identifying the role of technology in shaping educational competencies that influence the effectiveness of learning. This is in line with research (van Haastrecht et al. 2024) that the integration of technology into the curriculum is an essential part of the learning process because it creates dynamic adjustments so that the curriculum remains in line with existing conditions and circumstances where the way technology interactions work in influencing the learning environment can create a learning environment that is relevant, adaptive and in accordance with the progress of the existing digital era so that it remains a medium that provides effective teaching and

learning. This is in line with the indicators that build TA that the technology attached to learning has an effect on one of the EC indicators, namely that schools always provide support to create talented children according to their interests.

This study examines the relationship between Educational Competence (EC) and Storytelling Education (STE) whether it has an influence or not. Competence related to educational background will facilitate storytelling education and facilitate the presence of edutainment learning. This is in line with previous research conducted by (Saka and Celik 2024) which states that teachers are not only facilitators in learning but teachers are required to accommodate the challenges and diverse learning needs of children in the classroom so that teachers can provide material that is still in accordance with the needs of children with levels of ability, interests and learning styles. Based on the test, there is a significant influence between EC and STE so that **Hypothesis 3 is accepted**. One of the indicators that builds EC is that schools are able to encourage teachers to play an active role in the learning process, namely by creating interactive and responsive learning, therefore teachers have implemented one of the STE indicators that children will be encouraged to gain broad insights in the learning process.

Then the test of the relationship between TK and STE showed an influence but not significant between TK and STE so that **Hypothesis 4 was not accepted**. Communication skills in building stories function to activate emotional responses in children where this is in accordance with narrative theory where a story can be used as teaching material when a story succeeds in changing abstract information into something more concrete and meaningful. The story that can be built is not enough with the teacher's ability to demonstrate technology, but the teacher can map how children can receive material through edutainment that activates deep emotional responses. This is in accordance with research (Aditya et al. 2024) that teachers are not enough to have skills in using technology alone, but teachers must be able to make a creative medium from technology that can build interesting learning narratives through storytelling. This is in accordance with one of the TK indicators that technology usage skills are not enough to create interesting learning in the classroom because the use of technology must be accompanied by the teacher's ability to package material in an interesting way, which is in accordance with one of the STE indicators, namely Context and emotions.

The next test is the relationship between Storytelling Education (STE) and Edutaintment Learning Method (ELM), in this study showed a significant influence on the relationship between the two so that **Hypothesis 5 was accepted**. This study provides a significant contribution to narrative theory that narrative skills built by teachers create the presence of happiness in learning in the classroom. This finding expands the narrative theory which is in line with previous research that according to (Bond and Bedenlier 2019) telling stories in an interesting way can show a reciprocal relationship between teachers and children where the delivery of cognitive, affective and behavioral engagement processes can be presented with a happy atmosphere. This is in line with the indicators that build STE that interesting stories told by teachers can create a pleasant learning atmosphere, this is in accordance with one of the ELM indicators.

Then this study also tested the relationship between Teaching Aids (TA) and Teaching Knowledge (TK). The integration of educational teaching aids is able to design Edutaintment in the learning process with the ability of strategic contributions by teachers in implementing educational media. This is reinforced by research (Carpenter et al. 2020) that multimedia technology as the main tool is able to enrich the way in the process of delivering material accompanied by the technical skills of each teacher in using educational teaching aids such as integrating technology so that technology can be in line with the learning needs required. Based on the tests carried out, it shows that there is a very significant influence between TA and TK so that **Hypothesis 6 is accepted**. One of the indicators that builds TA is the existence of technology such as software, computers and Augmented technology that has been provided by the school to meet the learning process. This can result in one of the TK factors,

namely the skills in using technology by each teacher can provide appropriate learning needs and teachers can also be facilitated well.

The next test, namely the relationship between TK and ELM in this study showed a significant influence so that **Hypothesis 7 was accepted**. The level of technological competence in teachers is effectively able to create Edutaintment learning by providing interesting and varied learning style aspects according to students' learning needs. This can be supported by research (Al-Ansi et al. 2023) that the success of innovation in the application of technology such as Augmented Reality/Virtual Reality must be supported by the ability to use technology by teachers. Indicators that can build TK, namely the ability to adapt in the use of technology during the learning process, mean that teachers have implemented interesting learning where students do not feel bored with the learning environment applied.

Then test the Relationship between Teaching Aids (TA) and Edutaintment Learning Method ELM, where this study shows an insignificant influence so that **Hypothesis 8 is not accepted**. Integration of technology as an educational tool indirectly fails to create a learning atmosphere that is in accordance with the theory of edutainment. This can be explained by research according to (Walker and Venker Weidenbenner 2019) that the integration of technology in the classroom requires teachers who have the skills and competence as instructors and facilitators in integrating technology because designing meaningful learning activities is essential, relating directly to students or content. If the relationship is tested from the relationship of one of the TA indicators to ELM, namely the use of technology-assisted teaching aids enhanced student interest, where technology cannot stand alone to provide learning motivation to children.

CONCLUSIONS

This study aligns the direction of potential technology that can be utilized as a more interesting and inclusive teaching method. Interesting and inclusive learning implies that the principal can assess readiness as an initial phase in determining educational infrastructure and providing teacher skills in supporting technology-based learning. As a second phase, the principal. This can be developed with routine monthly training for teachers that focuses on integrating the latest technology such as the use of Augmented Reality combined with audio and visual multimedia. In addition, schools can provide space to develop talents, one of which is by building a multimedia laboratory integrated with APE, such as a mini stage equipped with an interactive screen and audio sound for a child showcase attended by parents. This is support for the BCCT curriculum, especially the role center which can be held every 1-2 times in 1 year. In the third phase, evaluations can be carried out to align the curriculum with learning materials combined with technology so that the relevance of educational needs in children is guaranteed. This study recommends that schools conduct child development assessments in one semester by combining assessments from the perspective of teachers at school and parents outside the classroom regarding how children's behavior and interests are. Assessment can provide a holistic assessment of children's abilities and needs. Improving children's cognitive abilities can be stimulated by opening a forum to provide feedback and discussion, one of which is that teachers can tell stories to children by integrating interactive technology such as AR. After learning, children are not only asked about understanding the story, but are also encouraged to provide further responses through cases of everyday life in children.

LIMITATION

One of the limitations of this study lies in the lack of significant results observed, namely the Teaching Aids variable on Storytelling Education. This can be caused by differences in generational

periods between the younger generation and the older generation. The older generation who have experienced massive technological developments, especially in education, must adapt if schools begin to implement technology-based teaching methods. The shift from technology-based teaching to traditional teaching can cause feelings of discomfort. Feelings of discomfort arise in older generation teachers due to anxiety in the form of teaching anxiety such as professional demands by schools, a lack of confidence in the use of technology and feelings of irrelevance in the digital era so that they can affect the ineffective learning process. In addition, the ability to provide infrastructure as learning facilities and infrastructure is also an important factor. This depends on the ability of the school to invest in making learning more effective with procurement such as technology.

FURTHER RESEARCH RECOMMENDATIONS

This study focuses on analyzing how technology-based learning media can create a fun learning atmosphere in ECE learning. Further research can explore how children are involved with the use of technology at home. This is important to understand how parents' active role in monitoring the use of technology positively can support cognitive, social and emotional development in the environment outside of school. In addition, parents are not limited to being supervisors for children but how parents become second teachers at home who can support daily activities that support children's learning such as the use of digital books, educational applications, or being involved with technology that can hone cognitive aspects, critical thinking, creativity, and problem-solving skills. By understanding the dynamics of the educational environment involved in children, we can understand more about how to create an educational system built by a school environment driven by teachers and a home environment driven by parents with technology media as a moderation in maximizing the potential benefits that can be provided.

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