Development of An Portfolio Electronic (Potret) Using Google Sites to Optimize Kindergarden Teacher Administration in Cisaat Sub-District, Sukabumi Regency

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ABSTRACT

Educational administration is the main thing that needs to be managed by teachers so that the teaching process and classroom management are effective and teachers will have records for the development of students. But in reality, the management of these administrations is still experiencing difficulties. Based on the results of observations and interviews in this study, kindergarten teachers in Cisaat sub-district still use a manual administration system so that they experience problems in managing administration. In fact, the latest technology can help manage education administration. Electronic Portfolio (POTRET) based on Google Sites is an innovation to help teacher education administration become more effective and efficient and support the digitalization of administration. In the research, the method used is Research and Development (RnD) with a combination model of Borg and Gall and ADDIE with data analysis techniques used are qualitative and quantitative. The research data was collected through observations, interviews, questionnaires, as well as feasibility trials by 3 experts and 30 kindergarten teachers in Cisaat Sub-District and effectiveness trials with the research subjects being 30 kindergarten teachers in Cisaat Sub-District, Sukabumi Regency, who have a Belajar.id account. The validation results show that POTRET media is in the "very feasible" category with a percentage of material expert validation of 97.4%, media experts 93%, and instructional design experts 91.25%. The effectiveness trial of the final results of the average post-test score of 90.67% which shows that POTRET media can optimize the administrative activities of kindergarten teachers in Cisaat Sub-District and based on the N-Gain value obtained a score of 0.77 which stated the "high" category which means that POTRET media is effective in helping the administration of kindergarten teachers in Cisaat Sub-District. Thus, this research can support digital transformation policies in the education sector and facilitate education administration for teachers.

INTRODUCTION

In this modern age, electronic devices are a necessity. Activities carried out in the form of content and other internet activities are used every day (Dogan & Akbarov, 2016). With the development of technology, it is undeniable that there are changes in various fields, including the field of education. Digitalization of educational administration is an urgent need to improve the efficiency and effectiveness of data management and documentation. Educational administration is very important for the learning and teaching process in schools to run smoothly. School administration is a foundation for the effectiveness and efficiency of the

entire educational process in schools starting from planning to evaluation (Napitupulu et al., 2022)

The urgent need for digitization of education administration in Cisaat Sub-district, Sukabumi Regency was conveyed by stakeholder the supervisor of Cisaat Sub-district in a research interview which stated "*checking school administration, teachers do not need to provide administration in the form of thick books, teachers only need to provide a link to the electronic portfolio to the accompanying supervisor and the supervisor can check the administration quickly*". This opinion is supported by the results of observations in the field where only 20% of teachers, namely school operators in Cisaat Sub-district, work on teacher administration. This is because administrative management is still manual which causes rapid loss and damage to data and teachers feel bored and neglect administration for reasons of easy loss and damage to data. Therefore, there is an urgent need to digitize school administration that can streamline and streamline the management of educational administration.

Portfolio Electronic abbreviated as POTRET is an innovative media in digitizing administration using a *Belajar.id* account through Google Sites where education administration management can be carried out with several teachers collaboratively and administrative storage becomes more organized and neatly stored so that when one day the teacher needs data, there is no need to have difficulty searching again. *Belajar.id* account is a platform provided by the Indonesian government for every educator, including kindergarten teachers (Kemendikbudristek, 2024). One of the features that teachers can utilize in the account is google sites, which can be used to build and manage portfolio electronic more effectively and efficiently (Santoso et al., 2024). This is evidenced by research conducted by SMPIT Al-Haraki in 2021 using google sites, administrative management is more effective and teachers are helped in managing administration which becomes more interesting and interactive (Al-Haraki, 2021). Another study by Rahman states that the use of google sites in education can increase the efficiency of data management and support more interactive learning (Rahman et al., 2021). This is in line with Sari and Hidayat research which found that the use of *Belajar.id* accounts can accelerate the adoption of technology in learning and teacher administration, especially at the elementary school (Sari & Hidayat, 2022). Therefore, with POTRET teachers will not feel burdened in completing the administration because with POTRET teachers become interactive and creative in making administrative designs according to the creativity of the teacher so that doing educational administration becomes more fun.

In the portfolio electronic or POTRET, the administration managed by teachers is in the form of school profile administration, student affairs (student data), staffing, curriculum, infrastructure, finance, public relations, education (school activity programs & learning programs), health, and learning media. The data can be accessed by the entire school community with the manager, namely the teacher. This is adjusted to the data needs needed in kindergarten schools in Cisaat Sub-District. According to Uyun and Aulia, the school administration needed by kindergarten is student data and student development, learning programs, finance, staffing, and school data (Uyun fadillah & Aulia, 2023). One of the educational administrations that is needed by teachers is an educational portfolio which is a collection of documents, assignments, or works that show the process and results of student learning. Portfolios can be used as a tool to assess student development, provide opportunities

for self-reflection, and support competency based learning (Manoussi et al., 2018). To overcome the constraints of existing technological developments, the development of portfolio electronic can be a solution. Dewanti states that website based e-portfolios can improve assessment efficiency and support the development of students critical thinking skills (Dewanti, 2022)

Based on the problems described, portfolio electronic or POTRET can help organize administration digitally in a neater and more accessible manner, and can also increase transparency in the administrative process, both for principals and parents. In this study, the implementation was carried out using the approach by conducting training, technical guidance, and a monitoring and evaluation system for the use of google sites based POTRET in kindergarten teacher education administration.

METHODS

In the research, the method used is Research and Development (RnD). According to Waruwu (2024), the RnD research process begins with problem analysis, followed by design and development, implementation, and evaluation. After the validation and trial process, the resulting product or model is expected to have a high level of novelty and effectiveness (Waruwu et al., 2024).

Researchers used two development models, namely the Borg and Gall Model and the ADDIE Model. Combining the two models aims to utilize the advantages of each model to produce a valid, practical, and effective product (Sumarni, 2019). The planning and information gathering stages of the Borg and Gall Model will be combined with the analysis stage of the ADDIE Model to gain an in depth understanding of user needs and context. Furthermore, the design and development process will follow a systematic ADDIE framework, while field trials and product revisions will adopt a stepwise approach from Borg and Gall to ensure the validity and effectiveness of the product before widespread dissemination and implementation. The following is an overview of the model used in the study:
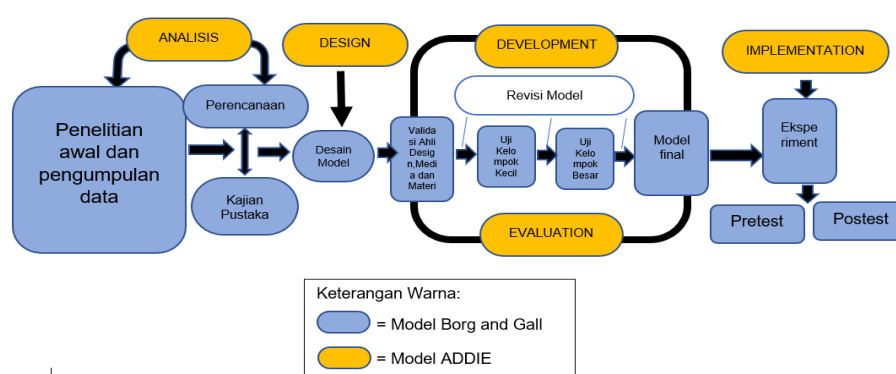

Figure 1. Research Development Model

This research was conducted in kindergartens in Cisaat Sub-District, Sukabumi Regency, West Java province, during the even semester of the 2024-2025 academic year, starting from January to June 2025. The subjects used in this study were 30 kindergarten teachers in Cisaat Sub-District who had a *Belajar.id* account and a laptop that could be connected to the internet.

Quantitative and qualitative are data analysis techniques used in this research. Qualitative used is observation, interviews and documentation. While quantitative uses a questionnaire or questionnaire distributed to validators and respondents which is then processed with the percentage formula (Sugiyono, 2014) as follows:

Percentage (%) = $\dfrac{\text{Scores obtained } (\sum x)}{\text{Ideal Maximum Score}} \times 100\%$

Table 1. Categories of Percentage Data Results

Achievement Level	Qualification	Description
100% - 90%	Very good	No need to revise
89% - 75%	Good	Revised as necessary
74% - 65%	Simply	Pretty Much Revised
64% - 55%	Not so good	Much Revised
54% - 0%	Very unfavorable	Revised Total

Futhermore, to see the effectiveness of learning, the N-Gain Score Test formula is used (Kustantina, 2023), as follows:

N-Gain = $\dfrac{\text{Post Test Score} - \text{Pre Test Score}}{\text{Ideal Score} - \text{Pre Test Score}}$

Table 2. Categories of N-Gain Score Data Results

N – Gain Value	Category
g > 0,7	High
0,3 ≤ g ≤ 0,7	Medium
g < 0,3	Low

After going through the N-Gain calculation, the N-Gain Score results are converted into a percentage. The percentage results will be converted based on the effectiveness of learning activities in accordance with (Hake, 1999):

Table 3. N-Gain Score Effectiveness Interpretation Categories

N – Gain Value	Category
< 40	Ineffective
40 - 55	Less effective
56 - 75	Effective enough
> 76	Effective

RESULT
1.1 Needs Analysis Results and Effectiveness Analysis Results

The results of the needs analysis through observation found that the administrative management of kindergarten teachers in Cisaat Sub-District is still done manually and conventionally. While the results of interviews conducted with accompanying stakeholder the supervisors on February 12, 2025 stated that; kindergarten teachers rarely use technology in administrative work, google sites are not familiar among kindergarten teachers, there are obstacles faced in using school administration technology such as lack of access, support, or

understanding related to technology, teachers do administration conventionally, and teachers need a digital system to facilitate school administration.

The results of the initial analysis of the effectiveness of POTRET media for administrative management based on the results of a survey using a questionnaire with the sample used was purposive sampling with the subject of 30 kindergarten teachers in Cisaat Sub-District who have laptops and *Belajar.id* accounts showing the results of an average value of 56.23 where kindergarten teachers are still not familiar with how to use POTRET. The results state that teachers still have difficulty accessing google sites due to lack of understanding, teachers have conventional documents, teachers still need practice to create an portfolio electric menu design, because teachers do not understand portfolio electric, administrative management is still in the trial stage, and due to limited knowledge and internet networks, teachers still find obstacles to making portfolio electric.
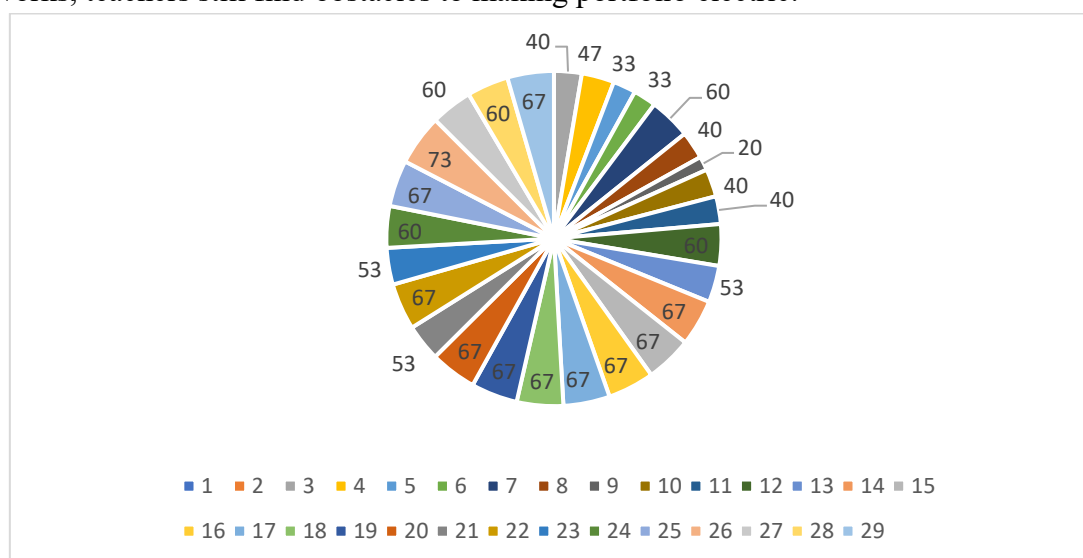

Chart 1. Pretest Questionnaire Results of the POTRET Media Effectiveness Test

And based on the results of the final analysis of the effectiveness of POTRET media using a survey through a questionnaire with the subject of 30 kindergarten teachers in Cisaat Sub-District who have laptops and *Belajar.id* accounts, it shows that the teacher's ability has improved enough to use digital media used for administrative management. These results can be seen from the post-test which shows an average score of 90.67 which is an increase of 34.44, which states that teachers can use or access POTRET media properly and POTRET media is effective in helping manage teacher administration.
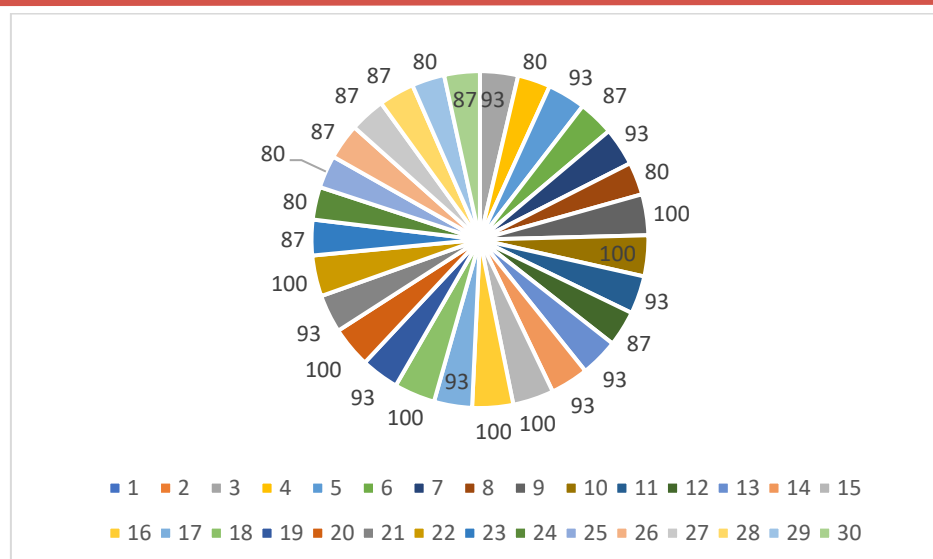
Chart 2. Pretest Questionnaire Results of the POTRET Media Effectiveness Test

based on the overall recapitulation of the initial average value of the effectiveness test, namely 56.23 and the final average value of the effectiveness test, namely 90.67, if the recapitulation results in an N-Gain score of 0.77 which states in the "high" category.

1.2 Feasibility Model Test Analysis Results (Model Feasibility)

Product feasibility testing was conducted through evaluation activities involving expert validation, limited trials, and quantitative and qualitative data analysis.

1.2.1 Instructional Design Expert Test

The feasibility test of instructional design was conducted by Dr. Umi Fatonah, M.Pd. The results stated that the "POTRET" media received the criteria "Very Feasible" because it was in accordance with the material to be developed, effective in its use as well as in accordance with the needs of teachers for optimizing administration.

Table 4. Percentage of Instructional Design Aspects

No	Aspects	Frequency (f)	Percentage	Criteria
1	Appropriateness of Learning Objectives	14	$P = \frac{14}{20} \, X \, 100\% = 70\%$	Worth
2	Suitability of Material with Curriculum	19	$P = \frac{19}{20} \, X \, 100\% = 99\%$	Very Feasible
3	Effectiveness of "POTRET" media	20	$P = \frac{20}{20} \, X \, 100\% = 100\%$	Very Feasible
4	Suitability to user needs	20	$P = \frac{20}{20} \, X \, 100\% = 100\%$	Very Feasible
	Average		91,25%	Very Feasible

1.2.2 Media Expert Test

The feasibility test of Learning Media was conducted by Dr. Rudi Hartono M.Pd. The results state that the development of "POTRET" media has content suitability with objectives, virtual quality and user-friendliness appearance, suitability with user characteristics, and

interactivity openness, thus according to the portfolio electric media expert "very feasible" for use in optimizing administration.

Table 5. Percentage of Media Aspects

No	Aspects	Frequency (f)	Percentage	Criteria
1	Fit for Purpose	19	$P = \frac{19}{20} X\ 100\% = 95\%$	Very Feasible
2	Visual and display quality	17	$P = \frac{19}{20} X\ 100\% = 95\%$	Very Feasible
3	User-friendliness	19	$P = \frac{19}{20} X\ 100\% = 95\%$	Very Feasible
4	Suitability to user characteristics	18	$P = \frac{19}{20} X\ 100\% = 95\%$	Very Feasible
5	Openness and interactivity	17	$P = \frac{18}{20} X\ 100\% = 90\%$	Very Feasible
	Average		93%	Very Feasible

1.2.3 Material Expert Test

The material feasibility test was conducted by Mrs. Hj. Ela Sukarya M.Pd. Based on the results of the media "POTRET" has the suitability of the material with learning objectives, has the quality of the material with the curriculum, has the clarity and readability of the material, has the usefulness of Google site technology, and has the relevance and innovation of the material. Based on the recapitulation results get the criteria "Very Feasible".

Table 6. of Learning Material Aspects

No	Aspects	Frequency (f)	Percentage	Criteria
1	Fit for Purpose	24	$P = \frac{24}{25} X\ 100\% = 96\%$	Very Feasible
2	Visual and display quality	23	$P = \frac{23}{25} X\ 100\% = 95\%$	Very Feasible
3	User-friendliness	25	$P = \frac{25}{25} X\ 100\% = 100\%$	Very Feasible
4	Suitability to user characteristics	25	$P = \frac{25}{25} X\ 100\% = 100\%$	Very Feasible
5	Openness and interactivity	24	$P = \frac{18}{20} X\ 100\% = 96\%$	Very Feasible
	Average		97,4%	Very Feasible

1.2.4 Small Group Test

The results of the small group test of the development of the "POTRET", the percentage of small group tests obtained the results of 92.77%, so the POTRET media is "very feasible" to use.

Tabel 7. Small Group Test Percentage

No	Aspects	Frequency (f)	Percentage	Criteria
1	User Requirements	15	$P = \frac{15}{18} X\ 100\% = 83,33\%$	Worth
2	Document Accessibility	15	$P = \frac{15}{18} X\ 100\% = 83,33\%$	Worth
3	Feature Comprehensiveness	18	$P = \frac{18}{18} X\ 100\% = 100\%$	Very Feasible

4	Adoption by teachers	18	$P = \frac{18}{18} X\ 100\% = 100\%$	Very Feasible
5	Speed of document management	17	$P = \frac{17}{18} X\ 100\% = 94\%$	Very Feasible
6	Storage regularity	17	$P = \frac{17}{18} X\ 100\% = 94\%$	Very Feasible
7	Reduction of administrative expenses	15	$P = \frac{15}{18} X\ 100\% = 83,33\%$	Worth
8	Teacher satisfaction with the system	16	$P = \frac{18}{18} X\ 100\% = 100\%$	Very Feasible
9	Ability to access technology	18	$P = \frac{18}{18} X\ 100\% = 100\%$	Very Feasible
10	Understanding of digital systems	18	$P = \frac{18}{18} X\ 100\% = 100\%$	Very Feasible
	Average		92,77%	Very Feasible

1.2.5 Large Group Test

In the next stage, researchers conducted a large group test on thirty (30) kindergarten teachers in Cisaat Sub-District, and obtained a percentage of 93.33%, indicating that the Portfolio Electric (POTRET) is "very feasible" to use.

Table 8. Large Group Test Percentage

No	Aspects	Frequency (f)	Percentage	Criteria
1	User Requirements	83	$P = \frac{83}{90} X\ 100\% = 92,22\%$	Very Feasible
2	Document Accessibility	85	$P = \frac{85}{90} X\ 100\% = 94,44\%$	Very Feasible
3	Feature	86	$P = \frac{86}{90} X\ 100\% = 95\%$	Very Feasible
4	Comprehensiveness	88	$P = \frac{88}{90} X\ 100\% = 97,77\%$	Very Feasible
5	Speed of document	86	$P = \frac{86}{90} X\ 100\% = 95\%$	Very Feasible
6	management	84	$P = \frac{84}{90} X\ 100\% = 93\%$	Very Feasible
7	Storage regularity	83	$P = \frac{83}{90} X\ 100\% = 92,22\%$	Very Feasible
8	Reduction of administrative expenses	82	$P = \frac{82}{90} X\ 100\% = 91,11\%$	Very Feasible
9	Teacher satisfaction with	81	$P = \frac{81}{90} X\ 100\% = 90\%$	Very Feasible
10	the system	82	$P = \frac{82}{90} X\ 100\% = 91,11\%$	Very Feasible
	Average		93,33%	Very Feasible

From the overall product feasibility test, it can be concluded that the Electric Portfolio or POTRET media is "Very Feasible" to be used in the administrative management of kindergarten teachers in Cisaat Sub-District, Sukabumi Regency.

DISCUSSION

Good administration school is effective administration, with effective administration can make a good school. Effective administration is closely related to administrators (Yildirim,

2018). The main functions in educational administration include; "planning, organizing, directing, coordinating, reporting, and budgeting" (Hadijaya, 2012).

Educator administration needs to adopt an information technology-based approach, increase cross-sector collaboration, and focus on developing educator competencies to face the challenges of globalization and digitalization. This digital transformation brings a number of new challenges in education, including in terms of human resource management (Putri et al., 2024). Untuk mengahadapi permasalahan tersebut, perlu administrator yang merupakan guru yang profesional. Wahyu dan Yahya (2007) To deal with these problems, administrators who are professional teachers are needed. Wahyu and Yahya (2007) emphasize the importance of a teacher's professional development. The skills of a teacher can be developed by conducting practical training (Chemdghazali et al., 2024). The training that teachers do is the learning process for teachers. Learning is very important to achieve learning objectives. The learning process is essentially a communication process in which there is a delivery of messages to recipients in the process (Jasrial et al., 2023). In this study, the training conducted is the development of electronic portfolio media or POTRET which in the context of educational administration, the application of technology such as electronic portfolios is one of the innovations that can improve the managerial quality and efficiency of educational administration work.

An electronic portfolio is a portfolio compiled using digital tools, such as websites or cloud-based applications, to store, manage and share learning documentation (Taufiq et al., 2016). The development of an Electronic Portfolio (POTRET) using Google Sites in this study is a technological solution that supports education administration in a more systematic and efficient way. Electronic portfolios provide an opportunity for teachers to document learning and administrative progress digitally, making it easier to access and manage. The use of technology in educational administration, such as electronic portfolios, greatly supports the improvement of teacher professionalism and improves the quality of education (Suprapto & Subekti, 2021).

Figure 2. Portfolio Electronic Model (POTRET)
https://sites.google.com/d/1h3ERudB7Phe6Zh7AvaRdlNYOlDAEil74/p/1nGsv2Kb2GYmpmN2BYqyBHjLe-Lz30gn8/edit

The model effectiveness trial was conducted on 30 kindergarten teachers in Cisaat Sub-District with the Electric Portfolio (POTRET) media and using the N-Gain formula and

achievement presentation. The results of the pretest showed an average score of 56.23, stating that kindergarten teachers in Cisaat Sub-District were still unfamiliar with the use of electric portfolios. After the implementation of the pretest, an introduction to the electric portfolio was carried out for kindergarten teachers with two workshop meetings and online guidance. The post-test was conducted after the implementation of the POTRET introduction activity, and the results stated an average value of 90.67 with an average difference in value of 34.44, a significant increase indicating that the use of POTRET could improve the ability of teachers to use media to optimize the administration of kindergarten teachers. In line with the theory of technology effectiveness in administration, namely the Technology Acceptance Model (TAM) theory proposed by Davis (1989) which states that technology acceptance by users is strongly influenced by two main factors, namely usefulness and ease of use (Bagus & Prakasa, 2007). With the use of google sites as an electronic portfolio media, the real benefits of technology will help teachers in the effectiveness of implementing educational administration.

The results of data management using N-Gain obtained a figure of 0.77 which based on Hake's classification (1999) is included in the high category (g>0,7) this shows that "POTRET" is very effectively used for optimizing the administration of kindergarten teachers. The use of POTRET allows teachers and students to more easily access and update portfolios in real-time. In the context of kindergarten teacher administration, POTRET can be used to manage and assess administrative activities such as lesson planning, child assessment, as well as daily or monthly activity reporting (Ngunyen & Bo, 2019).

Using POTRET for teacher administration can optimize time management and increase transparency in administrative activities. Through platforms such as Google Sites, teachers can create portfolios that are easily accessible and updated, which facilitates collaboration with peers, principals and parents. It also allows teachers to be more organized and efficient in storing and managing data, and provides space for reflection on teaching practices and child development (Sulaiman & Abdullah, 2020).

CONCLUSION

The procedure for developing an electronic portfolio (POTRET) using google sites to optimize the administration of kindergarten teachers in Cisaat Sub-District has been proven to improve the efficiency and tidiness of administrative management of kindergarten teachers in Cisaat Sub-District. Teachers find it helpful in compiling, storing, and accessing administrative documents digitally, which is useful for improving quality in educational services, this is evidenced by the analysis of pretests and posttests using N-Gain which shows an average value of 0.77 this is included in the high category and proves that the use of the Electric Portfolio (POTRET) helps optimize teacher performance in managing school administration, The response shown by the teacher when practicing directly using the Electric Portfolio (POTRET) the teachers feel happy with managing administration in a new way of working using digital technology which makes the enthusiasm to improve administrative management at school and can take advantage of the *Belajar.id* account that they have to manage administration using Google sites to optimize school administration.id that they have to manage administration using google sites which are systematically developed into electric portfolio media (POTRET).

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