The Validity of Interactive PowerPoint Based on Balanced Literacy Approach for Early Reading Improvement

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Abstract. Product validity is one of the critical aspects of developmental research. Therefore, this research aimed to report the validity results of interactive PowerPoint media developed based on a *balanced literacy approach* to improve early reading skills of first-grade elementary school students. The validity assessed was media and content aspects, and the data were collected through a Likert-scale questionnaire. Six validators were involved, namely four senior lecturers and two expert practitioners. The data from expert validation were analyzed using Aiken's V coefficient and categorized into three parts, namely highly valid, valid, and not valid. The results showed that the coefficient value on media validation was 0.84 and on the material aspect was 0.96. The analysis indicated that the validation results on both aspects were in the highly valid category. Thus, it was concluded that the interactive PowerPoint media developed based on a *balanced literacy approach* to improve early reading of first-grade students was valid and suitable for use at the next stage of developmental research conducted.

Keywords: Interactive PowerPoint · Early reading · Balanced literacy approach · Validity

1 Background

Early reading skills are the main foundation of reading needed by students as it greatly affects subsequent reading skills. Reading is essentially a multifaceted process involving many activities such as decoding, visualizing, thinking, and doing psycholinguistic and metacognitive activities [1]. Three terms are often used to provide basic components of reading process, namely recording, decoding, and meaning [2, 3]. The first early steps are characterized by phonemic and phonic awareness. The first refers to the understanding that words are made up of individual sounds called phonemes, and the latter is knowing that written spellings represent spoken words' sounds [4–6]. If the foundation is not solid at the early reading stage, students will have difficulty getting good reading comprehension skills, which are the ultimate goal of reading [5–7]. Therefore, early reading urgently needs teachers' attention.

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The results of interviews with several first-grade teachers of an elementary school in Bantaeng Regency, South Sulawesi Province, showed that students' early reading development was still slow. Some students experienced difficulties arranging letters into words and distinguishing letters with identical sounds (such as b, d, p, q, f, and v). It was also found that they struggled to understand the meaning of the words. Some of the problems faced were students being less active, not focused, and lack of concentration in the learning process. Based on the observations, specific reading tools used in the class were letter cards and textbooks. Many factors possibly influence students' slow early reading development. One of them can be the media used in the classroom to facilitate learning [8–10].

Lower grade students have characteristics that love to learn using learning media that are new, interesting, meaningful, and engaging [10–12]. Therefore, teachers of lower grades should use attractive media to improve early reading skills, such as computer-based PowerPoint.

Students are more engaged, critical thinkers, and have more fun with the learning process when they are given the option to use PowerPoint as an alternative media of instruction [11].There are several benefits of using this PowerPoint, namely as a medium in achieving learning objectives, motivating students to learn, and engaging, systematic, and consistent presentation of material [12]. The PowerPoint can be made in an interactive form to obtain optimal results.

The PowerPoint can be an engaging interactive learning media because its program is supported with facilities such as hyperlinks, animations, videos, pictures, and music [13–15]. Moreover, it can be integrated with Word, Excel, and Access [16, 17].

Several researchers have developed interactive PowerPoint media for early reading. However, none of them developed this media based on a balanced literacy approach. Therefore, this study addressed this dearth by focusing on the development of interactive PowerPoint based on this approach [18–20].

Interactive PowerPoint can be developed based on a specific approach to obtain effective media. A balanced literacy approach is an approach that combines whole language and phonic approach [18–22]. It promotes complete literacy development among students that help them learn to read [19]. In addition, teachers can create and develop materials in interactive PowerPoint that meets the needs of learning. This shows that every activity can be analyzed and integrated into a balanced literacy approach [23].

An interactive powerpoint based on a balanced literacy approach is a learning media used to improve students' early reading skills. This learning media was made to attract students' interest during the learning process, facilitate the delivery of teaching materials, and make students participate actively [24].

The development of media based on a balanced literacy approach has been carried out previously by several researchers, such as developing a pop-up book media based on the balanced literacy approach [21]. Another researcher who also focused on the balanced literacy approach found that the use of this approach made students very active in participating in learning because this learning process provided a variety of creative and varied literacy activities [25, 26].

Based on the explanation above, this study focused on developing interactive PowerPoint based on a balanced literacy approach. However, the finding reported in this study

only focused on the validity aspect of the product. Product validity is one of important aspects in developmental research. Validity serves to determine whether or not the product developed, in this case interactive PowerPoint based on a balanced literacy approach, was valid to be used or not [27].

2 Method

The validity of the interactive PowerPoint developed based on the balanced literacy approach was assessed based on media and content feasibility. The six validators involved are four lecturers and two senior practitioners whose educational and professional backgrounds are relevant to this research.

Media validation was conducted by three experts that were all lecturers. The content validation was carried out by one lecturer and two senior elementary school teachers (expert practitioners). The research instrument used was a Likert scale with 4 measurements or 4 alternative answers. They were strongly agree (value = 4), agree (value = 3), disagree (value = 2), and strongly disagree (value = 1). The formula of Aiken's V was used to determine the level of validity as follows:

$V = S\ (r\text{-}lo) / n(c\text{-}1)$.

Explanation:

V = rater's agreement index.

r = the value given by raters.

n = number of raters.

c = number of selected categories.

lo = lowest score in the scoring category.

The calculation results of Aiken's V were categorized based on Aiken's V validity index:

An interactive PowerPoint developed was declared valid and feasible to use when the validity score at least fell in the valid category.

3 Results and Discussion

3.1 Media Validation Result Data

Media validity in this study consisted of three aspects of assessment, namely media design (10 items), programming (3 items), and usability (2 items). The total number of items assessed by the three media experts was 15. The tabulation results from the three experts can be seen in the following Table 1.

The media validity in the Table 2 shows that in the first aspect, six out of ten items obtained Aiken's V coefficient of 0.89 and four received 0.78. In the second aspects, all items obtained coefficient values of 0.78 and in the last one, the obtained value was 0.89. Thus, the average value on the three aspects was 0.84. The data indicated that the media aspect was highly valid.

Table 1. Category V Index

No	Average Score	Validity Level
1	$0{,}8 < V \leq 1$	Highly Valid
2	$0{,}4 < V \leq 0{,}8$	Valid
3	$0 < V \leq 0{,}4$	Not Valid

Source:[28]

Table 2. Tabulation Results of Media Validation

No	Assessment Aspect	Validator			V	Note:
		I	II	III		
A. Media Design						
1	The availability of instructions for use	3	4	4	0.89	Highly valid
2	Interesting animations and pictures	3	4	3	0.78	Valid
3	Image selection accuracy	4	4	3	0.89	Highly valid
4	Right colour combinations	4	4	3	0.89	Highly valid
5	Image display quality	4	4	3	0.89	Highly valid
6	Image and text layout	4	4	3	0.89	Highly valid
7	Font selection accuracy	3	4	3	0.78	Valid
8	Music or audio compatibility	3	4	3	0.78	Valid
9	Sound clarity	4	4	3	0.89	Highly valid
10	Creative display based on the intended ideas and purposes	3	4	3	0.78	Valid
B. Programming						
11	Clear instructions for use	3	4	3	0.78	Valid
12	Easy-to-use media operation	3	4	3	0.78	Valid
13	Consistent use of buttons	3	4	3	0.78	Valid
C. Utility						
14	Attract students' attention during the learning process	3	4	4	0.89	Highly valid
15	Make students easier to master the material deeply	3	4	4	0.89	Highly valid
Average					0.84	Highly valid

3.2 Content Validity Result Data

Content validation includes four aspects of assessment, namely material, presentation of material, language, and usability, each of which consisted of 7, 3, 2, and 3 items,

respectively. The total number of items assessed was 15. The tabulation results from the three experts can be seen in Table 3.

In the content validation, all assessment items obtained an Aiken's V coefficient value ranging from 0.89 to 1. For example, in theory aspect, out of six items, three obtained 0.89 and 1 respectively. In the material presentation aspect, two items obtained 0.89. In the language and usability aspects, all items obtained coefficient value of 1. The average Aiken's V index value for the three assessment aspects of content validity was 0.96, which corresponded to the highly valid category.

Table 3. Tabulation Results of Content Validation

No	Assessment Aspect	Validator			V	Note:
		I	II	III		
A. Theory						
1	Conformity with basic competence	4	4	4	1	Highly valid
2	The suitability of the material with the learning objectives	4	4	4	1	Highly valid
3	Depth of material	4	3	4	0.89	Highly valid
4	Ease of understanding the material	4	4	4	1	Highly valid
5	Material coverage	4	3	4	0.89	Highly valid
6	Consistency between practice questions and learning objectives	4	4	3	0.89	Highly valid
7	Giving feedback	4	4	4	1	Highly valid
B. Material Presentation						
8	Clarity of material discussion	4	4	3	0.89	Highly valid
9	Coherent and systematic teaching material	4	3	4	0.89	Highly valid
10	There is a question of learning evaluation	4	4	4	1	Highly valid
C. Language						
11	Using standard language	4	4	4	1	Highly valid
12	The language used is simple and easy to understand	4	4	4	1	Highly valid
D. Usability						
13	Make it easier for students to deepen the material	4	4	4	1	Highly valid
14	Give students motivation	4	4	4	1	Highly valid
15	Adequacy of interaction	4	4	4	1	Highly valid
Average					0.96	Highly valid

Validating developed product through expert validation is one of crucial aspects in developmental research. This is conducted to produce a reasonable and feasible product through an expert test. It determines the accuracy of a tool that will perform its function to determine the product's weaknesses or shortcomings [29].

Expert validation on both aspects in this paper, media and content, showed high results, which were 0.84 and 0.96 respectively. Both of the scores obtained belonged to highly valid category. The analysis indicated that the interactive PowerPoint media developed based on a balanced literacy approach was valid and feasible for use at the next stage of the developmental research conducted. However, in order to make the media developed better, some revisions were made as suggested by the validators, such as in the breadth and depth of the materials.

The findings of product validity in this study were in line with previous research that a media in this case interactive PowerPoint could be developed based on balanced literacy approach [19]. The findings also supported previous study that interactive PowerPoint learning could be validly developed as an alternative learning media for early reading [30].

4 Conclusion

The expert validation results of the interactive PowerPoint media developed based on the balanced literacy approach indicated high validation results. Based on the analysis, the product was declared valid and could be used in the trial phase.

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References

1. S. Rafika, Nurma and Kartikasari, Maya and Lestari, "Analisis kesulitan membaca permulaan pada siswa sekolah dasar," *Pros. Konf. Ilm. Dasar*, vol. 2, pp. 301–306, 2020, https://doi.org/10.47353/bj.v2i1.50.
2. O. Kurniaman and E. Noviana, "149 Metode Membaca SAS, Keterampilan Membaca Permulaan Otang Kurniaman, Eddy Noviana," vol. 5, pp. 149–157, 2017.
3. M. H. Chandra. Mayarnimar, "Keterampilan Membaca Dan Menulis Permulaan Menggunakan Model Vark Untuk Siswa Sekolah Dasar," *J. Inov. Pendidik. Dan Pembelajaran Sekol. Dasar*, vol. 2, no. 1, pp. 72–80, 2018, http://e-journal.unp.ac.id/index.php/jippsd.
4. C. Hasanudin, "Pembelajaran Membaca Permulaan Dengan Menggunakan Media Aplikasi Bamboomedia Bmgames Apps Pintar Membaca Sebagai Upaya Pembentukan Karakter Siswa Sd Menghadapi Mea," vol. 5, no. 1, pp. 1–12, 2016.

5. I. M. Pratiwi and V. A. N. Ariawan, "Analisis Kesulitan Siswa Dalam Membaca Permulaan Di Kelas Satu Sekolah Dasar," *Sekol. Dasar Kaji. Teor. dan Prakt. Pendidik.*, vol. 26, no. 1, pp. 69–76, 2017, https://doi.org/10.17977/um009v26i12017p069.
6. A. Muhyidin, O. Rosidin, and E. Salpariansi, "Metode Pembelajaran Membaca Dan Menulis Permulaan Di Kelas Awal," *J. Pendidik. Sekol. Dasar*, vol. 4, no. 1, p. 30, 2018, https://doi.org/10.30870/jpsd.v4i1.2464.
7. M. Rahma and F. Dafit, "Analisis Kesulitan Membaca Permulaan Siswa Kelas 1 Sekolah Dasar," vol. 13, no. 2, pp. 397–410, 2021, https://doi.org/10.37680/qalamuna.v13i2.979.
8. D. P. Sari, "Lentera : Efektivitas Media Pop Up Book Terhadap Keterampilan Membaca Siswa Kelas II Sekolah Dasar," vol. 1, no. 1, pp. 1–7, 2021.
9. S. Muntaha, M. A. Budiman, and A. Widyaningrum, "Pengembangan Media Pembelajaran Interaktif Macromedia Flash 8 pada Pembelajaran Tematik Tema Pengalamanku," vol. 3, no. 2, pp. 178–185, 2019.
10. B. Rahman and H. Haryanto, "Peningkatan Keterampilan Membaca Permulaan Melalui Media Flashcard Pada Siswa Kelas I Sdn Bajayau Tengah 2," *J. Prima Edukasia*, vol. 2, no. 2, p. 127, 2013, https://doi.org/10.21831/jpe.v2i2.2650.
11. A. Andrizal and A. Arif, "Pengembangan Media Pembelajaran Interaktif Pada Sistem E-Learning Universitas Negeri Padang," *INVOTEK J. Inov. Vokasional dan Teknol.*, vol. 17, no. 2, pp. 1–10, 2017, https://doi.org/10.24036/invotek.v17i2.75.
12. R. Indriyanti, "Pengembangan Media Pembelajaran Powerpoint Interaktif Materi Penyesuain Makhluk hidup Terhadap Lingkungan Untuk Siswa Kelas V SD Negeri Depok," pp. 1–289, 2017.
13. Y. B. Mulyadi, "Pengembangan Bahan Ajar Berbasis CD Interaktif Power Point Untuk Meningkatkan Hasil Belajar Siswa," pp. 82–92, 2018.
14. F. A. B. Putri and S. Rezkita, "Pengembangan Media Pembelajaran IPA Berbasis Powerpoint Interaktif Untuk Siswa Kelas V Sekolah Dasar Negeri Gondolayu," *Trihayu J. Pendidik. Ke-SD-an,* vol. 5, no. 3, pp. 684–693, 2019, https://doi.org/10.30738/trihayu.v5i3.6122.
15. N. D. Shalikhah, "Cakrawala, Vol. XI, No. 1, Juni 2016 101," *Pemanfaat. Apl. Lectora Inspire Sebagai Media Pembelajaran Interaktif*, vol. XI, no. 1, pp. 101–115, 2016, google scholer.
16. M. R. W. Andriani, "Pengembangan Media Pembelajaran Power Point Interaktif Melalui Pendekatan Saintifik Untuk Pembelajaran Tematik Integratif Siswa Kelas 2 SDN Bergas Kidul 03 Kabupaten Semarang," *Sch. J. Pendidik. Dan Kebud.*, vol. Vol. 6, No, no. 1, pp. 143–157, 2016: https://www.bing.com/search?q=Pengembangan+Media+Pembelajaran+Power+Point+Interaktif+Melalui+Pendekatan+Saintifik+Untuk+Pembelajaran+Tematik+Integratif+Siswa+Kelas+2+SDN+Bergas+Kidul+03+Kabupaten+Semarang&cvid=a4ba06dbb1bf4e8aa98e3a2041551294&aqs=edge..69.
17. T. Trisniawati, A. A. Niswatul Muniroh, and R. Utaminingsih, "Pengembangan Media Power Point Interaktif Pada Pembelajaran Tematik Siswa Kelas V," *Perspekt. Ilmu Pendidik.*, vol. 35, no. 2, pp. 130–139, 2021, https://doi.org/10.21009/pip.352.5.
18. L. A. Willson, Angeli Marie and Falcon, "Seeking Equilibrium: In What Ways Are Teachers Implementing a Balanced Literacy Approach amidst the Push for Accountability?," *Texas J. Lit. Educ.*, vol. 6, no. 80, pp. 73–79, 2018, https://eric.ed.gov/?id=EJ1198870.
19. D. P. Lestari *et al.*, "Pengembangan Buku Digital Berpendekatan Balance Literacy Untuk Meningkatkan Kemampuan Berpikir Kritis Siswa Pada Tema 3 Benda Di Sekitarku Kelas III," vol. 10, no. 1, pp. 312–320, 2022.
20. S. Hebzynski, "Balanced literacy strategies," *Culminating Proj. Teach. Dep.*, vol. 21, 2017, http://respository.stcloudstate.edu/ed_etds/21.
21. N. Wulandari, H. Hendratno, and T. Indarti, "Development of Pop-Up Book Media based on Balanced Literacy Approach to Improve Skills of Reading Class 1 Students Basic School," *Int. J. Multicult. Multireligious Underst.*, vol. 7, no. 5, p. 619, 2020, https://doi.org/10.18415/ijmmu.v7i5.1693.

22. D. Shaw and K. Hurst, "A Balanced Literacy Initiative for One Suburban School District in the United States," *Educ. Res. Int.*, vol. 2012, no. 1, pp. 1–9, 2012, https://doi.org/10.1155/2012/609271.
23. Yuliyati, "E-learning As Tools And Strategies Of Literacy Instruction Based Balance Literacy For Students With Learning Disabilities In Inclusive School," *J. Tekpen*, vol. 1, pp. 952–967, 2016. https://journal.unesa.ac.id/index.php/jtp/article/view/1139.
24. K. Y. Diana, P. Studi, P. Guru, and H. Belajar, "Keefektifan Media Pembelajaran Powerpoint Interaktif untuk Meningkatkan Hasil Belajar Siswa Sekolah Dasar," vol. 1, no. 1, pp. 49–54, 2020.
25. B. S. S. Supartinah and Adi, "Model pembelajaran berbasis balanced literacy approach bermuatan nilai-nilai karakter untuk pembelajaran literasi dasar di kelas awal," *J. Penelit. Ilmu Pendidik.*, vol. 11, no. 58, pp. 11–22, 2018. https://doi.org/10.21831/jpipfip.v11i1.23793.
26. R. Nurmalasari, "Peningkatan Minat Keterampilan Membaca Melalui Media Power Point Interaktif Siswa Kelas II SDN Jabon 1 Kecamatan Banyakan Kabupaten Kediri Tahun Ajaran 2019 / 2020," vol. 2, no. 1, pp. 125–131, 2021.
27. N. M. Janna and Herianto, "Artikel Statistik yang Benar," *J. Darul Dakwah Wal-Irsyad*, no. 18210047, 2021.
28. H. Retnawati, *Analisis Kuantitatif Instrumen Penelitian*, Pertama. yogyakarta, 2016.
29. E. Hutabri, "Validitas Media Pembelajaran Multimedia Pada," *Pros. Semin. Nas. Ilmu Sos. dan Teknol.*, pp. 296--300, 2022.
30. F. dkk. Utami, "Pengembangan Media Pembelajaran Interaktif Berbasis Powerpoint Tema 4 (Berbagai Pekerjaan) Kelas IV Sekolah Dasar," *J. Sci. Instr. Technol.*, vol. 1, pp. 24–28, 2021. Jurnal penelitian yang relevan/21-Article Text-95–2–10–20210709.pdf.