

APPENDICES

Appendix 1. Permission Letter



KEMENTERIAN PENDIDIKAN TINGGI, SAINS,
DAN TEKNOLOGI
UNIVERSITAS PENDIDIKAN GANESHA
FAKULTAS BAHASA DAN SENI
Jalan A.Yani No. 67 Singaraja Bali Kode Pos 81116
Telepon (0362) 21541 Fax. (0362) 27561
Laman: fbs.undiksha.ac.id

Nomor : 749/UN48.7.1/ TA.00.03/2026 30 Maret 2026
Lamp : -
Hal : Permohonan Izin Observasi Awal Proposal Skripsi

Yth.
Kepala SD Mutiara di Singaraja
di Singaraja

Dalam rangka pengumpulan data awal penyusunan proposal skripsi, dengan hormat kami mohon bantuan Bapak/Ibu untuk mengizinkan mahasiswa program studi Pendidikan Bahasa Inggris di bawah ini mengumpulkan data yang diperlukan pada institusi yang Bapak/Ibu pimpin :

1. Gusti Lanang Dananjaya
NIM : 2213021057
2. Putu Andre Wiranatha
NIM : 2212021081
3. Kadek Teddy Jaya Nugraha
NIM : 2212021083

Demikian kami sampaikan permohonan ini, atas perhatian dan bantuan Bapak/Ibu, kami ucapkan terima kasih.

a.n. Dekan,
Wakil Dekan I,



Ni Luh Putu Eka Sulistia Dewi
NIP. 198104192006042002

Tembusan :

1. Dekan FBS Undiksha Singaraja
2. Koorprodi Pendidikan Bahasa Inggris
3. Sub Bagian Akademik FBS



Catatan :

- UU ITE No. 11 Tahun 2008 Pasal 5 ayat 1 "Informasi Elektronik dan/atau Dokumen Elektronik dan/atau hasil cetaknya merupakan alat bukti hukum yang sah"
- Dokumen ini tertanda ditandatangani secara elektronik menggunakan sertifikat elektronik yang diterbitkan BsrE. Surat ini dapat dibuktikan keasliannya dengan menggunakan *qr code* yang telah tersedia

Appendix 2. Final Storyline

Storyline Digital Storybook (DRAFT)

Theme : SDG-9 Industry, Innovation, and Infrastructure

Topic : Student Innovation to Solve Problems in The School

Title : Rolling, Rolling, Roll

Grade : 6

Tokoh utama:

- Paul (murid laki-laki kelas enam, cerdas dan kreatif, rambut agak berantakan, mata besar penuh rasa ingin tahu, suka memperhatikan sekitar, sering berpikir sambil memegang dagu)
- Ibu Guru (tegas tapi peduli, kacamata tipis, rambut disanggul rapi, pakaian sederhana, suara jelas dan berwibawa)
- Benny (murid laki laki dengan rambut ikal dan kulit sawo matang)

Sinopsis:

Paul sees a problem at his school. The books are very heavy, and carrying them is hard. One day, Paul gets a smart idea after watching his brother play skateboard. He thinks about using wheels to help move things easily. With help from his bestfriend, Paul turns his idea into a simple innovation. His idea makes school work easier and helps everyone. This story shows that small ideas can solve big problems.

Ide Ilustrasi:

Page	Illustration	Draft Story
(Cover)	 Konsep Visual • Paul berdiri sambil melihat keatas dengan ekspresi berpikir. • Disampingnya ada tumpukan buku • Kemudian dibelakang ada siluet teman"nya	Referensi tokoh: Paul: 

	Komposisi Text: Rolling, Rolling, Roll Tambahan kecil:	Ibu Guru:  Benny:  NB: ini hanya contoh karakter nanti akan disesuaikan semua menggunakan pakaian sekolah.
1	Banyak buku ditumpuk di meja perpustakaan.	Indonesia: Suatu pagi, banyak buku datang ke perpustakaan. Buku-buku itu sangat berat. English: One morning, many books come to the library. The books are very heavy.

		Morning: pagi Many: banyak Books: Buku Come: Datang Library: Perpustakaan Very: Sangat Heavy: Berat
2	Ibu Guru terlihat kebingungan untuk membagikan buku ke masing masing kelas	Indonesia: Ibu Guru kebingungan memikirkan cara untuk membawa buku tersebut. Itu berat dan banyak. English: The teacher was confused about how to carry the books. There were many books and they were heavy. Teacher: Guru Confused: Kebingungan How: Bagaimana Carry: Membawa The Books: Buku Tersebut
3	Paul dan teman-temannya melihat dengan wajah khawatir.	Indonesia: Paul melihat masalahnya. Dia ingin membantu. English: Paul sees the problem. He wants to help. Sees: Melihat Problem: Masalah Wants: Ingin

		Help: Membantu
4	Bubble pikiran diatas kepala paul. Paul menghadap atas dengan sambil berpikir	Indonesia: Paul teringat dengan kakaknya yang sering bermain skateboard English: Paul remembered his brother who often played skateboard. Remembered: Teringat Brother: Saudara Laki-Laki Often: Sering Played: Bermain
5	Paul memperhatikan disekelilingnya dan melihat roda bekas di samping bak sampah	Indonesia: paul menemukan roda bekas. Paul mengamati dengan saksama. English: Paul found a used wheel. Paul observed it carefully. Found: Menemukan Used: Bekas/Digunakan Wheel: Roda Observed: Mengamati Carefully: Dengan saksama
6	Paul kemudian mengambil roda tersebut dan berkata dalam hati	Indonesia: "Bagaimana jika mejanya punya roda?" pikirnya. English: "What if the table has wheels?" he thinks. What if: Bagaimana jika Table: Meja Has: punya Wheels: roda Thinks: berfikir

7	Paul berbicara dengan Ibu Guru	Indonesia: Paul menyampaikan idenya kepada guru. Ibu Guru mendengarkan dan tersenyum. English: Paul tells the teacher his idea. She listens and smiles. Tells: memberitahu Idea: ide Listen: mendengarkan Smile: tersenyum
8	Paul mengajak sahabatnya yaitu benny untuk membantu untuk membuat barangnya	Indonesia: Paul mulai membuat dengan bantuan dari benny. Sebuah meja dengan roda, seperti papan seluncur. English: Paul started to build with Benny's help. A table with wheels, like a skateboard. Started: mulai Build: membuat With: dengan Benny's help: bantuan Benny
9	Meja didorong sambil membawa banyak buku.	Indonesia: Meja mudah dipindahkan. Buku-buku mudah dibawa. English: The table moves easily. The books are easy to carry. Moves: Bergerak Easily: Mudah/ dengan mudah Easy: mudah To carry: untuk dibawa

10	Buku dibagikan lebih cepat ke tiap kelas	Indonesia: Pekerjaannya lebih cepat. Semua orang senang. English: The work is faster. Everyone is happy. Work: pekerjaan Faster: lebih cepat Everyone: semua orang Happy: senang
11	Paul tersenyum bangga.	Indonesia: Paul mempelajari sesuatu yang penting. Ide-ide berasal dari kehidupan sehari-hari. English: Paul learns something important. Ideas come from daily life. Learns: belajar Something: sesuatu Important: penting/berharga Ideas: ide-ide Come: datang From: dari Daily: sehari-hari Life: kehidupan/hidup
12	Kelas rapi dengan adanya meja beroda.	Indonesia: Ide-ide sederhana dapat meningkatkan kehidupan sekolah. Inovasi bermanfaat bagi semua orang. English: Simple ideas can improve school life. Innovation helps everyone.

		Simple: sederhana Improve: meningkatkan School: sekolah Life: kehidupan/hidup Innovation: inovasi Helps: membantu
13	Games Mencari perbedaan gambar karakter Paul	

Blurb:

Heavy books, tired teachers, and one smart idea!

When Paul sees a problem at school, he does not complain.

He thinks, watches, and creates something new.

Follow Paul's story and discover how a simple idea can make a big difference.

This fun story invites you to think, imagine, and become an innovator too!

Appendix 3. Validation of Instrument from Expert 1

Validation of the Research Instrument for Observation Sheet

This validation sheet is used by expert validators to assess the relevance and clarity of each item in the research instrument for evaluating students' needs (Target Needs: Necessities, Lacks, Wants; and Learning Needs). Validators are asked to review each item carefully and determine whether the item is appropriate, relevant, and aligned with the intended construct.

Rating Criteria:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items:

- Read each item thoroughly.
- Determine whether the item corresponds appropriately to the aspect being measured.
- Place a checkmark (✓) in either the R or NR column.
- Provide comments or recommended revisions in the Remarks column.
- Review all items systematically to ensure content validity.

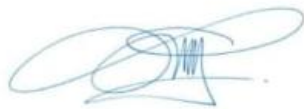
No	Aspect	Indicator	R	NR	Remarks
1	Necessities	Is there availability of reading materials and exercises related to Industry, Innovation, and Infrastructure (SDG-9)?	✓	☐	
2	Necessities	Do students need guidance to stay focused while reading?	✓	☐	
3	Necessities	Do students need clear explanations of unfamiliar SDG-9 terms?	✓	☐	
4	Necessities	Is the story length appropriate to avoid cognitive overload?	✓	☐	
5	Necessities	Is the reading content aligned with students' cognitive level?	✓	☐	
6	Lack	Do students lack understanding of SDG-9 concepts?	✓	☐	
7	Lack	Do students lack strategies to interpret SDG-related content?	✓	☐	
8	Lack	Do students have limited prior knowledge to examples of Industry, Innovation, and Infrastructure production?	✓	☐	
9	Lack	Do students struggle to connect between story content and real-world issues?	✓	☐	
10	Lack	Do students show limited awareness of SDG-9 relevance to problem-solving?	✓	☐	
11	Wants	Do students prefer stories with themes related to technology and innovation?	✓	☐	
12	Wants	Do students prefer visually appealing reading materials?	✓	☐	
13	Wants	Do students prefer characters that match their age or personality	✓	☐	
14	Wants	Do students prefer stories connected to real-life situation?	✓	☐	
15	Wants	Do students engage with reading materials?	✓	☐	
16	Learning Needs	Do students need relatable characters to support engagement and comprehension?	✓	☐	
17	Learning Needs	Do students need guided questions to stay engaged during reading?	✓	☐	

18	Learning Needs	Do students need visual and interactive elements to support understanding?	✓	☐	
19	Learning Needs	How do students prefer to engage with the story: individually, in pairs, or in groups?	✓	☐	

General Comment:

Date:

Expert



Dr. Ni Wayan Surya Mahayanti, S.Pd., M.Pd.

NIP. 198805172012122002



Validation of the Research Instrument for Interview Guide

This validation sheet is used by teachers to assess the clarity, relevance, and alignment of each item in the Interview Guide Instrument for SDG-9: Industry, Innovation, and Infrastructure Integration in Reading Lessons. Validators are expected to review each interview item carefully and determine whether it accurately represents the construct it is intended to measure (Necessities, Lacks, Wants, or Learning Needs).

Rating Criteria:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items

1. Read each interview item thoroughly under the *Item/Indicator* column.
2. Determine whether the item aligns with the specific aspect being measured, such as Necessities, Lacks, Wants, Learning Preferences, Classroom Conditions, Teacher Support, or Material Requirements.
3. Place a checkmark (✓) in either the R (Relevant) or NR (Not Relevant) column.
4. If needed, provide comments, suggestions, or recommended revisions in the Remarks column.
5. Review all items consistently and systematically to help ensure the content validity and appropriateness of the interview instrument.

No	Category	Question /Items	R	NR	Remarks
20	Necessities	Do teachers understand the concept of Sustainable Development Goals (SDGs)?	✓	☐	
21	Necessities	Do teachers know which SDG 9 topics grade 6 students can understand easily?	✓	☐	
22	Necessities	Can teachers identify SDG-9 topics that are relevant to students' daily life?	✓	☐	
23	Necessities	Can teachers prioritize which SDG-9 topic should be introduced first to grade 6 students?	✓	☐	
24	Lacks	Do teachers understand their role in using the SDG-9 digital storybook in class?	✓	☐	
25	Lacks	Can teachers identify possible challenges in using the SDG-9 digital storybook?	✓	☐	
26	Lacks	Do teachers know what the best strategies to implement the SDG-9 digital storybook for student grade 6?	✓	☐	
27	Lacks	Do teachers know which aspects of SDG-9 are most difficult for students to understand?	✓	☐	
28	Wants	Do teachers know which SDG-9 subtopics are most suitable for English reading lessons?	✓	☐	
29	Wants	Do teachers understand whether students learn better individually or in groups?	✓	☐	
30	Wants	Do teachers understand which learning style such as individual or group is the best while implementing SDG-9 based digital storybook?	✓	☐	
31	Learning Preferences	Can teachers identify factors that support students' comprehension of SDG-9?	✓	☐	

32	Learning Preferences	Do teachers know what support students need to identify cause-effect relationships, main ideas, and supporting details related to SDG-9?	✓	☐	
33	Learning Preferences	Do teachers know which teaching activities are most effective when integrating SDG-9?	✓	☐	
34	Learning Preferences	Do teachers know which reading activities best help students understand SDG-9 such as shared reading, guided reading, or group reading?	✓	☐	
35	Classroom Conditions	Can teachers predict how students respond to interactive reading activities?	✓	☐	
36	Classroom Conditions	Do teachers know which classroom conditions help students stay engaged when reading activities?	✓	☐	
37	Classroom Conditions	Can teachers identify students' preferred learning styles such as visual, auditory, or multimodal when reading SDG-9 stories?	✓	☐	
38	Teacher Support	Do teachers know what students benefit from supplementary aids such as pictures, audio, or animation?	✓	☐	
39	Teacher Support	Do teachers know which types of feedback help students understand story sequences and technology and innovation messages?	✓	☐	
40	Teacher Support	Do teachers know how long the story is most suitable for teaching SDG-9 to grade 6 students?	✓	☐	
41	Material Requirements	Do teachers know which types of characters are easiest for students to understand in SDG-9 stories?	✓	☐	
42	Material Requirements	Do teachers know which types of story content are most suitable for SDG-9 lessons?	✓	☐	

43	Material Requirements	Do teachers know what SDG-9 content can be effectively included in reading stories and how students respond to technology and innovation themes?	✓	☐	
44	Material Requirements	Do teachers know which SDG-9 themes are most engaging for grade 6 students?	✓	☐	
45	Material Requirements	Do teachers know what support or resources are needed to help them teach SDG-9 effectively?	✓	☐	

General Comment:

Date:

Expert



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Validation of the Research Instrument for the Criteria of the Digital Storybook Reading Content.

This validation sheet is used by expert validators to assess the relevance and clarity of each item in the research instrument for evaluating digital storybook reading content. Validators are asked to review each item carefully and determine whether the item is appropriate, relevant, and aligned with the intended construct.

Rating Criteria

Validators should mark one of the following options for each item:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items

1. Read each item under the *Items* column thoroughly.
2. Determine whether the item corresponds appropriately to the aspect being measured (e.g., Purposeful, Sustained, Interactive).
3. Place a checkmark (✓) in **either** the **R** or **NR** column.
4. Provide comments, suggestions, or recommended revisions in the **Remarks** column if necessary.
5. Review all items systematically to ensure content validity of the instrument.

Notes for Validators

- Consider the clarity, relevance, and alignment of each item with the theoretical framework of digital storybook quality.
- Comments are highly encouraged, especially for items marked **NR**, to guide the improvement of the instrument.
- The overall feedback will be used to revise and refine the research instrument before implementation.

NO	Aspect	Items	R	NR	Remarks
1	Purposeful	The digital storybook has a clear learning goal and supports school-related learning content.	✓	☐	
2	Purposeful	The digital storybook multimedia features such as images, sound, and animation is chosen to strengthen the content of the story.	✓	☐	
3	Purposeful	The digital storybook content is presented concisely, not long, and does not require technical knowledge.	✓	☐	
4	Sustained	The digital storybook story and features keep the children engaged while reading until the end.	✓	☐	
5	Sustained	The digital storybook use cliffhangers, light conflicts, or curiosity that encourage children to continue reading.	✓	☐	
6	Sustained	The digital content in digital storybooks provides small variations that encourage curiosity every time they are opened.	✓	☐	
7	Intercultural	The language, names, or expressions in the story reflect the cultural realities depicted.	✓	☐	
8	Intercultural	There is no character in digital storybook is depicted as inferior/superior based on cultural background.	✓	☐	
9	Intercultural	The digital storybook story shows that cross-cultural cooperation strengthens shared values.	✓	☐	
10	Interactive	In the digital storybook there are no excessive visual or audio elements to confuse the child.	✓	☐	
11	Interactive	The digital storybook interaction helps children follow the story's progress gradually.	✓	☐	
12	Interactive	The digital storybook activating features provides additional	✓	☐	

		information that deepens understanding.			
13	Child friendly	The digital storybook uses simple language that suits children's reading level.	✓	☐	
14	Child friendly	The amount of text per page is age-appropriate, and the narrative language is simple and child-friendly.	✓	☐	
15	Child friendly	The visual elements in the digital storybook are not too crowded and there is no distracting music or sound.	✓	☐	
16	Accessible	The digital storybook includes helpful features like audio.	✓	☐	
17	Accessible	The digital storybook provides simple pop-up explanations for difficult words.	✓	☐	
18	Accessible	The digital storybook uses basic animations that help children understand the meaning of the story.	✓	☐	
19	Personalizable	The digital storybook invites children to give a simple personal response at the end of the story.	✓	☐	
20	Personalizable	The digital storybook asks children to choose which character they would like to be.	✓	☐	
21	Personalizable	The digital storybook asks children to choose their favorite part of the story.	✓	☐	
22	Creative	The digital storybook uses imaginative visuals such as unique characters, settings, or objects	✓	☐	
23	Creative	The digital storybook uses sound effects or music that match the situation in the story for example calm music in peaceful scenes, lively sounds in action scenes	✓	☐	
24	Creative	The digital storybook includes creative animation effects such as simple	✓	☐	

		movements or transitions that enhance the reading experience.			
25	Social	The digital storybook shows characters interacting in positive social ways for example helping and sharing.	✓	☐	
26	Social	The digital storybook presents simple situations that illustrate social values such as empathy respect, or kindness.	✓	☐	
27	Social	The digital storybook includes scenarios where characters work together to solve a problem, promoting teamwork and cooperation.	✓	☐	

General Comment:

Date:

Expert



Dr. Ni Wayan Surya Mahayanti, S.Pd., M.Pd.

NIP. 198805172012122002

Validation of the Research Instrument for the Reading Behavioral Engagement based Reading Material

This validation sheet is used by expert validators to assess the relevance and clarity of each item in the research instrument for evaluating reading behavioral engagement-based reading material. Validators are asked to review each item carefully and determine whether the item is appropriate, relevant, and aligned with the intended construct.

Rating Criteria

Validators should mark one of the following options for each item:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items

1. Read each item under the *Items* column thoroughly.
2. Determine whether the item corresponds appropriately to the aspect being measured (e.g., Purposeful, Sustained, Interactive).
3. Place a checkmark (✓) in **either** the **R** or **NR** column.
4. Provide comments, suggestions, or recommended revisions in the **Remarks** column if necessary.
5. Review all items systematically to ensure content validity of the instrument.

Notes for Validators

- Consider the clarity, relevance, and alignment of each item with the theoretical framework of digital storybook quality.
- Comments are highly encouraged, especially for items marked **NR**, to guide the improvement of the instrument.
- The overall feedback will be used to revise and refine the research instrument before implementation.



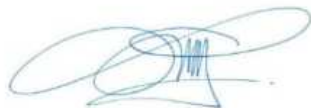
NO	Aspect	Items	VR	QR	Remarks
1	Effort	The Digital Storybook is able to encourage students to keep reading even when the story is difficult.	✓	☐	
2	Effort	The Digital Storybook is able to motivate students to try harder in understanding the story.	✓	☐	
3	Effort	The Digital Storybook is able to encourage students to reread parts of the story to improve their understanding.	✓	☐	
4	Persistence	The Digital Storybook is able to support students to finish the story until the end.	✓	☐	
5	Persistence	The Digital Storybook is able to help students continue reading even when they encounter difficult words.	✓	☐	
6	Persistence	The Digital Storybook is able to help students return to the story and continue reading after short breaks.	✓	☐	
7	Attention	The Digital Storybook is able to maintain students' attention during reading activities.	✓	☐	
8	Attention	The Digital Storybook is able to help students stay focused without being easily distracted.	✓	☐	
9	Attention	The Digital Storybook is able to keep students focused through features that maintain their engagement.	✓	☐	
10	Positive Conduct	The Digital Storybook is able to promote positive behavior during reading sessions.	✓	☐	
11	Positive Conduct	The Digital Storybook is able to reduce disruptive behavior while students are reading.	✓	☐	
12	Positive Conduct	The Digital Storybook is able to promote innovative use of digital tools during reading activities.	✓	☐	
13	Active Participation	The Digital Storybook is able to encourage students to participate actively in shared reading activities.	✓	☐	

14	Active Participation	The Digital Storybook is able to stimulate students to share their reading experiences with peers.	✓	☐	
15	Active Participation	The Digital Storybook is able to motivate students to join discussions related to the story.	✓	☐	
16	Reading Frequency	The Digital Storybook is able to increase how often students read storybooks at home or in school.	✓	☐	
17	Reading Frequency	The Digital Storybook is able to motivate students to borrow or choose more storybooks to read.	✓	☐	
18	Reading Frequency	The Digital Storybook is able to encourage students to read storybooks more regularly.	✓	☐	
19	Interaction with Texts	The Digital Storybook is able to inspire students to explore more about the story they read.	✓	☐	
20	Interaction with Texts	The Digital Storybook is able to help students connect the story to their own experiences or knowledge.	✓	☐	
21	Interaction with Texts	The Digital Storybook is able to motivate students to explore other stories with similar themes.	✓	☐	

General Comment:

Date:

Expert



Dr. Ni Wayan Surya Mahayanti, S.Pd., M.Pd.

NIP. 198805172012122002

Validation of the Research Instrument Expert Validation Checklist on SDG-9 Based Content

This validation sheet is used by expert validators to assess the relevance and clarity of each item in the research instrument for evaluating digital storybook SDG-9 related content. Validators are asked to review each item carefully and determine whether the item is appropriate, relevant, and aligned with the intended construct.

Rating Criteria

Validators should mark one of the following options for each item:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items

1. Read each item under the *Items* column thoroughly.
2. Determine whether the item corresponds appropriately to the aspect being measured (e.g., Purposeful, Sustained, Interactive).
3. Place a checkmark (✓) in **either** the **R** or **NR** column.
4. Provide comments, suggestions, or recommended revisions in the **Remarks** column if necessary.
5. Review all items systematically to ensure content validity of the instrument.

Notes for Validators

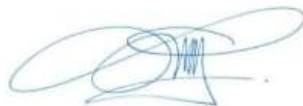
- Consider the clarity, relevance, and alignment of each item with the theoretical framework of digital storybook quality.
- Comments are highly encouraged, especially for items marked **NR**, to guide the improvement of the instrument.
- The overall feedback will be used to revise and refine the research instrument before implementation.

NO	Aspect	Items	R	NR	Remarks
1	Behaviour in innovating ideas	The storybook explains the concept of innovation and how creative ideas can help solve problems in daily life.	✓	☐	
2	Behaviour in innovating ideas	The storybook illustrates how technology and infrastructure support community development and improve people's lives.	✓	☐	
3	Behaviour in innovating ideas	The storybook demonstrates how young learners can develop simple innovative ideas to respond to challenges in their surroundings.	✓	☐	
4	Behaviour in innovating ideas	The storybook encourages students to actively engage in reading activities by exploring the story, characters, and innovation themes presented in the narrative.	✓	☐	
5	Behaviour in innovating ideas	The storybook promotes awareness of the importance of sustainable industry and innovation in creating a better future for society.	✓	☐	

General Comment:

Date:

Expert



Dr. Ni Wayan Surya Mahayanti, S.Pd., M.Pd.

NIP. 198805172012122002

Appendix 4. Validation of Instrument from Expert 2

Validation of the Research Instrument for Observation Sheet

This validation sheet is used by expert validators to assess the relevance and clarity of each item in the research instrument for evaluating students' needs (Target Needs: Necessities, Lacks, Wants; and Learning Needs). Validators are asked to review each item carefully and determine whether the item is appropriate, relevant, and aligned with the intended construct.

Rating Criteria:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items:

- Read each item thoroughly.
- Determine whether the item corresponds appropriately to the aspect being measured.
- Place a checkmark (✓) in either the R or NR column.
- Provide comments or recommended revisions in the Remarks column.
- Review all items systematically to ensure content validity.

No	Aspect	Indicator	R	NR	Remarks
1	Necessities	Is there availability of reading materials and exercises related to Industry, Innovation, and Infrastructure (SDG-9)?	✓	☐	
2	Necessities	Do students need guidance to stay focused while reading?	✓	☐	
3	Necessities	Do students need clear explanations of unfamiliar SDG-9 terms?	✓	☐	
4	Necessities	Is the story length appropriate to avoid cognitive overload?	✓	☐	
5	Necessities	Is the reading content aligned with students' cognitive level?	✓	☐	
6	Lack	Do students lack understanding of SDG-9 concepts?	✓	☐	
7	Lack	Do students lack strategies to interpret SDG-related content?	✓	☐	
8	Lack	Do students have limited prior knowledge to examples of Industry, Innovation, and Infrastructure production?	✓	☐	
9	Lack	Do students struggle to connect between story content and real-world issues?	✓	☐	
10	Lack	Do students show limited awareness of SDG-9 relevance to problem-solving?	✓	☐	
11	Wants	Do students prefer stories with themes related to technology and innovation?	✓	☐	
12	Wants	Do students prefer visually appealing reading materials?	✓	☐	
13	Wants	Do students prefer characters that match their age or personality	✓	☐	
14	Wants	Do students prefer stories connected to real-life situation?	✓	☐	
15	Wants	Do students engage with reading materials?	✓	☐	
16	Learning Needs	Do students need relatable characters to support engagement and comprehension?	✓	☐	
17	Learning Needs	Do students need guided questions to stay engaged during reading?	✓	☐	

18	Learning Needs	Do students need visual and interactive elements to support understanding?	✓	☐	
19	Learning Needs	How do students prefer to engage with the story: individually, in pairs, or in groups?	✓	☐	

General Comment:

Date:

Validator Instrument



Ni Luh Putu Era Adnyayanti, S.Pd., M.Pd.

NIP. 198904082023212043

Validation of the Research Instrument for Interview Guide

This validation sheet is used by teachers to assess the clarity, relevance, and alignment of each item in the Interview Guide Instrument for SDG-9: Industry, Innovation, and Infrastructure Integration in Reading Lessons. Validators are expected to review each interview item carefully and determine whether it accurately represents the construct it is intended to measure (Necessities, Lacks, Wants, or Learning Needs).

Rating Criteria:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items

1. Read each interview item thoroughly under the *Item/Indicator* column.
2. Determine whether the item aligns with the specific aspect being measured, such as Necessities, Lacks, Wants, Learning Preferences, Classroom Conditions, Teacher Support, or Material Requirements.
3. Place a checkmark (✓) in either the R (Relevant) or NR (Not Relevant) column.
4. If needed, provide comments, suggestions, or recommended revisions in the Remarks column.
5. Review all items consistently and systematically to help ensure the content validity and appropriateness of the interview instrument.

No	Category	Question /Items	R	NR	Remarks
20	Necessities	Do teachers understand the concept of Sustainable Development Goals (SDGs)?	✓	☐	
21	Necessities	Do teachers know which SDG 9 topics grade 6 students can understand easily?	✓	☐	
22	Necessities	Can teachers identify SDG-9 topics that are relevant to students' daily life?	✓	☐	
23	Necessities	Can teachers prioritize which SDG-9 topic should be introduced first to grade 6 students?	✓	☐	
24	Lacks	Do teachers understand their role in using the SDG-9 digital storybook in class?	✓	☐	
25	Lacks	Can teachers identify possible challenges in using the SDG-9 digital storybook?	✓	☐	
26	Lacks	Do teachers know what the best strategies to implement the SDG-9 digital storybook for student grade 6?	✓	☐	
27	Lacks	Do teachers know which aspects of SDG-9 are most difficult for students to understand?	✓	☐	
28	Wants	Do teachers know which SDG-9 subtopics are most suitable for English reading lessons?	✓	☐	
29	Wants	Do teachers understand whether students learn better individually or in groups?	✓	☐	
30	Wants	Do teachers understand which learning style such as individual or group is the best while implementing SDG-9 based digital storybook?	✓	☐	
31	Learning Preferences	Can teachers identify factors that support students' comprehension of SDG-9?	✓	☐	

32	Learning Preferences	Do teachers know what support students need to identify cause-effect relationships, main ideas, and supporting details related to SDG-9?	✓	☐	
33	Learning Preferences	Do teachers know which teaching activities are most effective when integrating SDG-9?	✓	☐	
34	Learning Preferences	Do teachers know which reading activities best help students understand SDG-9 such as shared reading, guided reading, or group reading?	✓	☐	
35	Classroom Conditions	Can teachers predict how students respond to interactive reading activities?	✓	☐	
36	Classroom Conditions	Do teachers know which classroom conditions help students stay engaged when reading activities?	✓	☐	
37	Classroom Conditions	Can teachers identify students' preferred learning styles such as visual, auditory, or multimodal when reading SDG-9 stories?	✓	☐	
38	Teacher Support	Do teachers know what students benefit from supplementary aids such as pictures, audio, or animation?	✓	☐	
39	Teacher Support	Do teachers know which types of feedback help students understand story sequences and technology and innovation messages?	✓	☐	
40	Teacher Support	Do teachers know how long the story is most suitable for teaching SDG-9 to grade 6 students?	✓	☐	
41	Material Requirements	Do teachers know which types of characters are easiest for students to understand in SDG-9 stories?	✓	☐	
42	Material Requirements	Do teachers know which types of story content are most suitable for SDG-9 lessons?	✓	☐	

43	Material Requirements	Do teachers know what SDG-9 content can be effectively included in reading stories and how students respond to technology and innovation themes?	✓	☐	
44	Material Requirements	Do teachers know which SDG-9 themes are most engaging for grade 6 students?	✓	☐	
45	Material Requirements	Do teachers know what support or resources are needed to help them teach SDG-9 effectively?	✓	☐	

General Comment:

Date:

Validator Instrument



Ni Luh Putu Era Adnyayanti, S.Pd., M.Pd.

NIP. 198904082023212043

Validation of the Research Instrument for the Criteria of the Digital Storybook Reading Content.

This validation sheet is used by expert validators to assess the relevance and clarity of each item in the research instrument for evaluating digital storybook reading content. Validators are asked to review each item carefully and determine whether the item is appropriate, relevant, and aligned with the intended construct.

Rating Criteria

Validators should mark one of the following options for each item:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items

1. Read each item under the *Items* column thoroughly.
2. Determine whether the item corresponds appropriately to the aspect being measured (e.g., Purposeful, Sustained, Interactive).
3. Place a checkmark (✓) in **either** the **R** or **NR** column.
4. Provide comments, suggestions, or recommended revisions in the **Remarks** column if necessary.
5. Review all items systematically to ensure content validity of the instrument.

Notes for Validators

- Consider the clarity, relevance, and alignment of each item with the theoretical framework of digital storybook quality.
- Comments are highly encouraged, especially for items marked **NR**, to guide the improvement of the instrument.
- The overall feedback will be used to revise and refine the research instrument before implementation.

NO	Aspect	Items	R	NR	Remarks
1	Purposeful	The digital storybook has a clear learning goal and supports school-related learning content.	✓	☐	
2	Purposeful	The digital storybook multimedia features such as images, sound, and animation is chosen to strengthen the content of the story.	✓	☐	
3	Purposeful	The digital storybook content is presented concisely, not long, and does not require technical knowledge.	✓	☐	
4	Sustained	The digital storybook story and features keep the children engaged while reading until the end.	✓	☐	
5	Sustained	The digital storybook use cliffhangers, light conflicts, or curiosity that encourage children to continue reading.	✓	☐	
6	Sustained	The digital content in digital storybooks provides small variations that encourage curiosity every time they are opened.	✓	☐	
7	Intercultural	The language, names, or expressions in the story reflect the cultural realities depicted.	✓	☐	
8	Intercultural	There is no character in digital storybook is depicted as inferior/superior based on cultural background.	✓	☐	
9	Intercultural	The digital storybook story shows that cross-cultural cooperation strengthens shared values.	✓	☐	
10	Interactive	In the digital storybook there are no excessive visual or audio elements to confuse the child.	✓	☐	
11	Interactive	The digital storybook interaction helps children follow the story's progress gradually.	✓	☐	
12	Interactive	The digital storybook activating features provides additional	✓	☐	

		information that deepens understanding.			
13	Child friendly	The digital storybook uses simple language that suits children's reading level.	✓	☐	
14	Child friendly	The amount of text per page is age-appropriate, and the narrative language is simple and child-friendly.	✓	☐	
15	Child friendly	The visual elements in the digital storybook are not too crowded and there is no distracting music or sound.	✓	☐	
16	Accessible	The digital storybook includes helpful features like audio.	✓	☐	
17	Accessible	The digital storybook provides simple pop-up explanations for difficult words.	✓	☐	
18	Accessible	The digital storybook uses basic animations that help children understand the meaning of the story.	✓	☐	
19	Personalizable	The digital storybook invites children to give a simple personal response at the end of the story.	✓	☐	
20	Personalizable	The digital storybook asks children to choose which character they would like to be.	✓	☐	
21	Personalizable	The digital storybook asks children to choose their favorite part of the story.	✓	☐	
22	Creative	The digital storybook uses imaginative visuals such as unique characters, settings, or objects	✓	☐	
23	Creative	The digital storybook uses sound effects or music that match the situation in the story for example calm music in peaceful scenes, lively sounds in action scenes	✓	☐	
24	Creative	The digital storybook includes creative animation effects such as simple	✓	☐	

		movements or transitions that enhance the reading experience.			
25	Social	The digital storybook shows characters interacting in positive social ways for example helping and sharing.	✓	☐	
26	Social	The digital storybook presents simple situations that illustrate social values such as empathy respect, or kindness.	✓	☐	
27	Social	The digital storybook includes scenarios where characters work together to solve a problem, promoting teamwork and cooperation.	✓	☐	

General Comment:

Date:

Validator Instrument



Ni Luh Putu Efra Adnyayanti, S.Pd., M.Pd.

NIP. 198904082023212043

Validation of the Research Instrument for the Reading Behavioral Engagement based Reading Material

This validation sheet is used by expert validators to assess the relevance and clarity of each item in the research instrument for evaluating reading behavioral engagement-based reading material. Validators are asked to review each item carefully and determine whether the item is appropriate, relevant, and aligned with the intended construct.

Rating Criteria

Validators should mark one of the following options for each item:

Score	Category
R (Relevant)	The item is appropriate, clearly stated, and accurately represents the intended aspect. No revision or only minor revision is needed.
NR (Not Relevant)	The item does not fit the intended aspect, is unclear, or requires major revision.

How to Validate the Items

1. Read each item under the *Items* column thoroughly.
2. Determine whether the item corresponds appropriately to the aspect being measured (e.g., Purposeful, Sustained, Interactive).
3. Place a checkmark (✓) in **either** the **R** or **NR** column.
4. Provide comments, suggestions, or recommended revisions in the **Remarks** column if necessary.
5. Review all items systematically to ensure content validity of the instrument.

Notes for Validators

- Consider the clarity, relevance, and alignment of each item with the theoretical framework of digital storybook quality.
- Comments are highly encouraged, especially for items marked **NR**, to guide the improvement of the instrument.
- The overall feedback will be used to revise and refine the research instrument before implementation.



NO	Aspect	Items	VR	QR	Remarks
1	Effort	The Digital Storybook is able to encourage students to keep reading even when the story is difficult.	✓	☐	
2	Effort	The Digital Storybook is able to motivate students to try harder in understanding the story.	✓	☐	
3	Effort	The Digital Storybook is able to encourage students to reread parts of the story to improve their understanding.	✓	☐	
4	Persistence	The Digital Storybook is able to support students to finish the story until the end.	✓	☐	
5	Persistence	The Digital Storybook is able to help students continue reading even when they encounter difficult words.	✓	☐	
6	Persistence	The Digital Storybook is able to help students return to the story and continue reading after short breaks.	✓	☐	
7	Attention	The Digital Storybook is able to maintain students' attention during reading activities.	✓	☐	
8	Attention	The Digital Storybook is able to help students stay focused without being easily distracted.	✓	☐	
9	Attention	The Digital Storybook is able to keep students focused through features that maintain their engagement.	✓	☐	
10	Positive Conduct	The Digital Storybook is able to promote positive behavior during reading sessions.	✓	☐	
11	Positive Conduct	The Digital Storybook is able to reduce disruptive behavior while students are reading.	✓	☐	
12	Positive Conduct	The Digital Storybook is able to promote innovative use of digital tools during reading activities.	✓	☐	
13	Active Participation	The Digital Storybook is able to encourage students to participate actively in shared reading activities.	✓	☐	

14	Active Participation	The Digital Storybook is able to stimulate students to share their reading experiences with peers.	✓	☐	
15	Active Participation	The Digital Storybook is able to motivate students to join discussions related to the story.	✓	☐	
16	Reading Frequency	The Digital Storybook is able to increase how often students read storybooks at home or in school.	✓	☐	
17	Reading Frequency	The Digital Storybook is able to motivate students to borrow or choose more storybooks to read.	✓	☐	
18	Reading Frequency	The Digital Storybook is able to encourage students to read storybooks more regularly.	✓	☐	
19	Interaction with Texts	The Digital Storybook is able to inspire students to explore more about the story they read.	✓	☐	
20	Interaction with Texts	The Digital Storybook is able to help students connect the story to their own experiences or knowledge.	✓	☐	
21	Interaction with Texts	The Digital Storybook is able to motivate students to explore other stories with similar themes.	✓	☐	

General Comment:

Date:

Validator Instrument



Ni Luh Putu Era Adnyayanti, S.Pd., M.Pd.

NIP. 198904082023212043

Appendix 5. Observation Result

Instrument for Observation Sheet

Instruction for Completing the Learners' Needs Observation Sheet (SDG-Based Reading Material Development)

This observation sheet is designed to identify students' needs related to SDG-based reading materials, specifically focusing on Industry, Innovation, and Infrastructure (SDG-9). The instrument evaluates several aspects categorized into Target Needs (Necessities, Lacks, Wants) and Learning Needs.

Please read each item carefully and observe actual conditions during reading activities.

Rating Scale

Score	Category
A (Available)	The information, practice, or condition mentioned in the item is present or applicable in your teaching context.
NA (Not Available)	The information, practice, or condition is not present or does not apply to your teaching context.

How to Complete the Observation Sheet

1. Read each item in the indicator column carefully.
2. Observe students' behavior, reading materials, and classroom conditions.
3. Place a checkmark (✓) in **A** if the item is observed, or **NA** if it is not observed.
4. Provide brief notes or explanations in the Remarks column if needed.

Important Notes

- Observations should be based only on visible and measurable evidence during reading activities.
- If an item appears partially, inconsistently, or unclearly, please specify details in the Remarks column.
- This instrument may be used for observing one class or comparing needs across multiple classes.
- The findings from this instrument will support the development of a digital SDG-based storybook aligned with students' needs.

A. Observation Sheet					
No	Aspect	Indicator	A	NA	Remarks
1	Necessities	Is there availability of reading materials and exercises related to	☐	☒	SDG-9 reading materials were not available in the classroom.

		Industry, Innovation, and Infrastructure (SDG-9)?			
2	Necessities	Do students need guidance to stay focused while reading?	✓	☐	Students frequently required teacher guidance to maintain focus.
3	Necessities	Do students need clear explanations of unfamiliar SDG-9 terms?	✓	☐	Students often asked for explanations of unfamiliar vocabulary.
4	Necessities	Is the story length appropriate to avoid cognitive overload?	✓	☐	Students lost interest when reading long texts.
5	Necessities	Is the reading content aligned with students' cognitive level?	✓	☐	Simple and contextual reading materials were more suitable for students.
6	Lack	Do students lack understanding of SDG-9 concepts?	✓	☐	Students were not familiar with SDG-9 concepts.
7	Lack	Do students lack strategies to interpret SDG-related content?	✓	☐	Students depended on teacher explanations to understand the content.
8	Lack	Do students have limited prior knowledge to examples of Industry, Innovation, and Infrastructure?	✓	☐	Students had limited exposure to innovation-related topics.
9	Lack	Do students struggle to connect between story content and real-world issues?	✓	☐	Students needed guidance to relate stories to real-life situations.
10	Lack	Do students show limited awareness of SDG-9 relevance to problem-solving?	✓	☐	Awareness of SDG-9 issues was still limited.
11	Wants	Do students prefer stories with themes related to technology and innovation?	✓	☐	Students showed interest in stories about inventions and creativity.
12	Wants	Do students prefer visually appealing reading materials?	✓	☐	Students were more attracted to illustrated reading materials.
13	Wants	Do students prefer characters that match their age or personality?	✓	☐	Students responded positively to relatable characters.

14	Wants	Do students prefer stories connected to real-life situation?	✓	☐	Students understood stories better when linked to daily life.
15	Wants	Do students engage with reading materials?	✓	☐	Students were more engaged with interesting reading materials.
16	Learning Needs	Do students need relatable characters to support engagement and comprehension?	✓	☐	Familiar characters helped students understand the story.
17	Learning Needs	Do students need guided questions to stay engaged during reading?	✓	☐	Follow-up questions helped maintain students' attention.
18	Learning Needs	Do students need visual and interactive elements to support understanding?	✓	☐	Visual support improved students' comprehension.
19	Learning Needs	How do students prefer to engage with the story: individually, in pairs, or in groups?	✓	☐	Students appeared more focused during individual reading activities.

Appendix 6. Interview Result

Instrument of Interview Guide

Instruction for completing the SDG-9 needs analysis instrument

This instrument is designed to gather information about teachers' perceptions, challenges, preferences, and needs related to integrating SDG-9: Industry, Innovation, and Infrastructure into English reading lessons at the elementary school level. The instrument consists of several categories, including Necessities, Lacks, Wants, Learning Preferences, Classroom Learning Conditions, Teacher Support, and Material Requirements.

Please read each item carefully and observe actual conditions during reading activities.

Rating Scale

Score	Category
A (Available)	The information, practice, or condition mentioned in the item is present or applicable in your teaching context.
NA (Not Available)	The information, practice, or condition is not present or does not apply to your teaching context.

How to Complete the Observation Sheet

1. Read each item in the indicator column carefully.
2. Observe students' behavior, reading materials, and classroom conditions.
3. Place a checkmark (✓) in A if the item is observed, or NA if it is not observed.
4. Provide brief notes or explanations in the Remarks column if needed.

How to Complete the Instrument

1. Read each item thoroughly in the Item/Indicator column.
2. Decide whether the information or condition described is available or not in your classroom, teaching experience, or understanding of SDG-9.
3. Place a checkmark (✓) in either the A (Available) or NA (Not Available) column.
4. If needed, write additional explanations, examples, or notes in the Remarks column.
5. Continue until you have completed all items across all categories.

Important Notes: Your responses should be based on your real teaching experience and actual classroom conditions.

No	Category	Question /Items	A	NA	Remarks
20	Necessities	Do teachers understand the concept of Sustainable Development Goals (SDGs)?	☐	☒	Teacher was not familiar with SDG-9 concepts.

21	Necessities	Do teachers know which SDG-9 topics grade 6 students can understand easily?	✓	☐	Teacher identified innovation as a suitable topic.
22	Necessities	Can teachers identify SDG-9 topics that are relevant to students' daily life?	✓	☐	Teacher connected SDG-9 with school activities.
23	Necessities	Can teachers prioritize which SDG-9 topic should be introduced first to grade 6 students?	✓	☐	Teacher suggested introducing innovation before infrastructure.
24	Lacks	Do teachers understand their role in using the SDG-9 digital storybook in class?	✓	☐	Teacher understood the need for guidance during trial.
25	Lacks	Can teachers identify possible challenges in using the SDG-9 digital storybook?	✓	☐	Teacher explains technical challenges that can happen.
26	Lacks	Do teachers know what the best strategies to implement the SDG-9 digital storybook for student grade 6?	✓	☐	Teacher preferred students choose depends on their choices.
27	Lacks	Do teachers know which aspects of SDG-9 are most difficult for students to understand?	✓	☐	Infrastructure concepts were considered abstract.
28	Wants	Do teachers know which SDG-9 subtopics are most suitable for English reading lessons?	✓	☐	Innovation and creativity were considered suitable.
29	Wants	Do teachers understand whether students learn better individually or in groups?	✓	☐	Students were more focused when reading individually.
30	Wants	Do teachers understand which learning style such as individual or group is the best while implementing SDG-9 based digital storybook?	✓	☐	Individual digital reading was preferred.
31	Learning Preferences	Can teachers identify factors that support students' comprehension of SDG-9?	✓	☐	Visuals and simple language supported comprehension.
32	Learning Preferences	Do teachers know what support students need to identify cause-effect	✓	☐	Guided questions were needed to



		relationships, main ideas, and supporting details related to SDG-9?			support understanding.
33	Learning Preferences	Do teachers know which teaching activities are most effective when integrating SDG-9?	✓	☐	Discussion and follow-up activities were recommended.
34	Learning Preferences	Do teachers know which reading activities best help students understand SDG-9 such as shared reading, guided reading, or group reading?	✓	☐	Guided and individual reading were preferred.
35	Classroom Conditions	Can teachers predict how students respond to interactive reading activities?	✓	☐	Students were expected to respond positively.
36	Classroom Conditions	Do teachers know which classroom conditions help students stay engaged when reading activities?	✓	☐	A focused and distraction-free environment was important.
37	Classroom Conditions	Can teachers identify students' preferred learning styles such as visual, auditory, or multimodal when reading SDG-9 stories?	✓	☐	Students preferred visual and multimodal learning.
38	Teacher Support	Do teachers know what students benefit from supplementary aids such as pictures, audio, or animation?	✓	☐	Multimedia features increased engagement.
39	Teacher Support	Do teachers know which types of feedback help students understand story sequences and technology and innovation messages?	✓	☐	Simple comprehension questions were recommended.
40	Teacher Support	Do teachers know how long the story is most suitable for teaching SDG-9 to grade 6 students?	✓	☐	Short and concise stories were preferred.
41	Material Requirements	Do teachers know which types of characters are easiest for students to understand in SDG-9 stories?	✓	☐	Relatable student characters were recommended.
42	Material Requirements	Do teachers know which types of story content are most suitable for SDG-9 lessons?	✓	☐	Problem-solving stories were considered suitable.
43	Material Requirements	Do teachers know what SDG-9 content can be effectively included in reading stories and how students	✓	☐	Innovation themes were considered

		respond to technology and innovation themes?			engaging for students.
44	Material Requirements	Do teachers know which SDG-9 themes are most engaging for grade 6 students?	✓	☐	Creativity and innovation themes were preferred.
45	Material Requirements	Do teachers know what support or resources are needed to help them teach SDG-9 effectively?	✓	☐	Contextual reading materials and guidance were needed.

Appendix 7. Checklist Result from Expert 1

A. Researcher's Identity

Name : I Kadek Teddy Jaya Nugraha
NIM : 2212021083
Study Program : English Language Education
University : Universitas Pendidikan Ganesha
Title : DEVELOPMENT OF DIGITAL STORYBOOK ON SDG-9 TO
FACILITATE READING BEHAVIOUR ENGAGEMENT OF SIXTH GRADE
STUDENTS AT SD MUTIARA SINGARAJA

B. Identity of the Product Being Evaluated

Title : Rolling, Rolling, Roll
Theme : SDG-9 (Innovation)
Grade : 6th
School : SD Mutiara Singaraja
Type of Product : Digital Storybook
Product Link : <https://digital-storybook-rolling-roll.netlify.app/>

C. Expert's Identity

Name : Dr. Ni Wayan Surya Mahayanti, S.Pd., M.Pd.
NIP : 198805172012122002
Institution : Universitas Pendidikan Ganesha

CRITERIA OF DIGITAL STORYBOOK INSTRUMENT

Research Objective:

To evaluate the quality of the developed SDG-9 digital storybook, as assessed by experts, in terms of content, design, and relevance to literacy and sustainability education.

INSTRUMENT DEVELOPMENT BASIS

The development of this digital storybook evaluation instrument is based on the quality criteria proposed by Vackova et al. (2023), who identified nine key dimensions essential for ensuring meaningful, engaging, and developmentally appropriate digital reading experiences for young children. These dimensions include purposeful design, sustained engagement, intercultural representation, interactivity, and child-friendly usability, all of which reflect current theoretical and empirical understanding of effective digital literacy tools. Drawing on the literature on children's digital books, interactive multimodality, cognitive load theory, and inclusive design principles, each item in this instrument is structured to operationalize observable indicators that align with evidence-based characteristics of high-quality digital storybooks. The instrument aims to capture the pedagogical and experiential aspects of digital reading by assessing the clarity of learning objectives, the capacity to sustain children's attention, the cultural sensitivity of the content, the relevance of interactive features, and the appropriateness of the interface for young learners. Through this framework, the instrument ensures that digital storybook evaluation is systematic, reliable, and aligned with internationally recognized quality standards for children's digital media.

REFERENCESS

Vackova, P., Cermakova, A. L., & Kucirkova, N. I. (2023). Children's digital books: Development, testing and dissemination of quality criteria. In *Children's Digital Books: Development, Testing and Dissemination of Quality Criteria*. University in Stavanger.
<https://doi.org/10.31265/usps.268>

Blue Print Criteria of Digital Storybook

Answer Scale: 1. VR= Very Relevant; 2. QR= Quite Relevant; 3. SR= Somewhat Relevant; 4. NR= Not Relevant

Category	Aspects	Items	No Item
Quality of Digital Storybook	Purposeful	- The Digital Storybook has a clear learning goal and supports school-related learning content. - Multimedia such as images, sound, animation is chosen to strengthen the content of the story. - The information is presented concisely, not long, and does not require technical knowledge.	1-3
	Sustained	- The story and features of this digital storybook keep the children engaged in reading until the end. - Stories use cliffhangers, light conflicts, or curiosity that encourage children to continue reading. - Digital content provides small variations that encourage curiosity every time it is opened.	4-6
	Intercultural	- The language, names, or expressions in the story reflect the cultural realities depicted. - No character is depicted as inferior/superior based on cultural background. - The story shows that cross-cultural cooperation strengthens shared values.	7-9
	Interactive	- There are no excessive visual or audio elements to confuse the child. - Interaction helps children follow the story's progress gradually. - Activating features provides additional information that deepens understanding.	10-12
	Child friendly	- Use of simple and clear language appropriate for children's reading level - The amount of text per page is age-appropriate, and the narrative language is simple and child-friendly. - The visual elements are not too crowded and there is no distracting music or sound.	13-15
	Accessible	- Availability of features that support children in reading like audio - Presence of simple explanations for difficult words	16-18

		- Use of visual or animated aids that help children understand the story	
	Personalizable	- Opportunities for children to give a simple personal response at the end of the story - Availability of options for children to choose preferred characters - Opportunities for children to select their favorite part of the story	19-21
	Creative	- Use of imaginative visuals that attract children attention for example, unique characters or settings - Presence of sound effects or music that match the events in the story - Use of animation effects such as movement or transitions that enhance engagement and interest	22-24
	Social	- Presence of character interactions that model positive social behavioral like helping, sharing or cooperating - Inclusion of scenarios that illustrate social values such as empathy, respect, or kindness - Opportunities for characters to work together to solve problems, promoting teamwork	25-27

Instrument Criteria of Digital Storybook

Instruction For Completing the Digital Storybook Criteria Instrument

This instrument is designed to evaluate the quality of a digital storybook based on several aspects, including Purposeful, Sustained, Intercultural, Interactive, and Child-Friendly, Accessible, Personalizable, Creative, and Social. Please read each item carefully and assess how well the digital storybook meets the stated criteria.

Rating Scale

Use the following scale to indicate the level of relevance for each item:

Score	Category
1. VR (Very Relevant)	The item is highly relevant and fully aligns with the characteristics of the digital storybook.
2. QR (Quite Relevant)	The item is moderately relevant, though some elements may be less strong.
3. SR (Somewhat Relevant)	The item is slightly relevant and only partially reflected in the storybook.
4. NR (Not Relevant)	The item is not relevant or not observed in the digital storybook.

How to Complete the Instrument

1. Read each item in the *Items* column thoroughly.
2. Determine the extent to which the digital storybook fulfills the criterion.
3. Place a checkmark (✓) in **one** of the following columns: **VR, QR, SR, or NR**.
4. If needed, provide explanations or notes in the **Remarks** column.
5. Continue rating all items across all aspects.

Important Notes

- Evaluations should be based solely on observable features in the digital storybook.
- If an item is unclear, partially present, or difficult to assess, please include comments in the *Remarks* column.

This instrument may be used to evaluate a single digital storybook or for comparing multiple storybooks

NO	Aspect	Items	1 NR	2 SR	3 QR	4 VR	Remarks
1	Purposeful	The digital storybook has a clear learning goal and supports school-related learning content.	☐	☐	☐	✓	
2	Purposeful	The digital storybook multimedia features such as images, sound, and animation are chosen to strengthen the content of the story.	☐	☐	☐	✓	
3	Purposeful	The digital storybook content is presented concisely, not long, and does not require technical knowledge.	☐	☐	☐	✓	
4	Sustained	The digital storybook story and features keep the children engaged while reading until the end.	☐	☐	☐	✓	
5	Sustained	The digital storybook use cliffhangers, light conflicts, or curiosity that encourage children to continue reading.	☐	☐	☐	✓	
6	Sustained	The digital content in digital storybooks provides small variations that encourage curiosity every time they are opened.	☐	☐	☐	✓	
7	Intercultural	The language, names, or expressions in the story reflect the cultural realities depicted.	☐	☐	☐	✓	
8	Intercultural	There is no character in digital storybook is depicted as inferior/superior based on cultural background.	☐	☐	☐	✓	
9	Intercultural	The digital storybook story shows that cross-cultural cooperation strengthens shared values.	☐	☐	☐	✓	

10	Interactive	In the digital storybook there are no excessive visual or audio elements to confuse the child.	☐	☐	☐	☒	
11	Interactive	The digital storybook interaction helps children follow the story's progress gradually.	☐	☐	☐	☒	
12	Interactive	The digital storybook activating features provides additional information that deepens understanding.	☐	☐	☐	☒	
13	Child friendly	The digital storybook uses simple language that suits children's reading level.	☐	☐	☐	☒	
14	Child friendly	The amount of text per page is age-appropriate, and the narrative language is simple and child-friendly.	☐	☐	☐	☒	
15	Child friendly	The visual elements in the digital storybook are not too crowded and there is no distracting music or sound.	☐	☐	☐	☒	
16	Accessible	The digital storybook includes helpful features like audio.	☐	☐	☐	☒	
17	Accessible	The digital storybook provides simple pop-up explanations for difficult words.	☐	☐	☐	☒	
18	Accessible	The digital storybook uses basic animations that help children understand the meaning of the story.	☐	☐	☐	☒	
19	Personalizable	The digital storybook invites children to give a simple personal response at the end of the story.	☐	☐	☒	☐	
20	Personalizable	The digital storybook asks children to choose which character they would like to be.	☐	☐	☐	☒	

21	Personalizable	The digital storybook asks children to choose their favorite part of the story.	☐	☐	☐	☒	
22	Creative	The digital storybook uses imaginative visuals such as unique characters, settings, or objects	☐	☐	☐	☒	
23	Creative	The digital storybook uses sound effects or music that match the situation in the story for example calm music in peaceful scenes, lively sounds in action scenes	☐	☐	☒	☐	
24	Creative	The digital storybook includes animation effects such as simple movements or transition.	☐	☐	☐	☒	
25	Social	The digital storybook shows characters interacting in positive social ways for example helping and sharing.	☐	☐	☐	☒	
26	Social	The digital storybook presents simple situations that illustrate social values such as empathy respect, or kindness.	☐	☐	☐	☒	
27	Social	The digital storybook includes scenarios where characters work together to solve a problem, promoting teamwork and cooperation.	☐	☐	☐	☒	

SDG-9 LEARNING OBJECTIVE INSTRUMENT

Research Objective:

To evaluate the quality of the SDG-9 learning objectives integrated into the digital storybook, as assessed by experts, in terms of their accuracy, appropriateness, and alignment with sustainability education for young learners.

INSTRUMENT DEVELOPMENT BASIS

The development of this instrument is based in the theoretical and conceptual frameworks of Education for Sustainable Development (ESD), specifically the learning objectives outlined for Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure) by UNESCO (2017). SDG 9 emphasizes the need to cultivate learners' understanding, attitudes, and behaviors related to sustainable industry practices, efficient technological innovation, improved industrial systems, and responsible infrastructure development. Accordingly, the instrument is designed to evaluate the extent to which a digital storybook integrates essential cognitive, socio-emotional, and behavioral learning components aligned with ESD principles.

From the behavioral dimension, the instrument incorporates action-oriented learning and real-world connection. UNESCO behavioral objectives emphasize the importance of empowering learners to practice sustainable behaviors, participate in meaningful decision-making, and apply sustainability principles in real-life contexts. Accordingly, the instrument includes indicators evaluating whether the storybook provides actionable prompts, models sustainable practices, and connects narrative events to children's lived experiences and real-world environmental impacts. By integrating these three dimensions, the instrument ensures comprehensive alignment with SDG 9 learning objectives, enabling an accurate evaluation of how effectively a digital storybook supports technology and innovation education. The resulting indicators are therefore theoretically grounded, developmentally appropriate for young learners, and directly linked to international standards for sustainability education.

REFERENCES

UNESCO. (2017). Education for Sustainable Development Goals: Learning objectives. United Nations Educational, Scientific and Cultural Organization

Blue Print SDG-9 Industry, Innovation, and Infrastructure based material through Digital Storybook.

Answer Scale: 4. VR= Very Relevant; 3. QR= Quite Relevant; 2. SR= Somewhat Relevant; 1. NR= Not Relevant

Category	Aspect	Items	No Items
Behavioural Learning Objective SDG-9	Behaviour in innovating ideas	- The storybook explains the concept of innovation and how creative ideas can help solve problems in daily life. - The storybook illustrates how technology and infrastructure support community development and improve people's lives. - The storybook demonstrates how young learners can develop simple innovative ideas to respond to challenges in their surroundings. - The storybook encourages students to actively engage in reading activities by exploring the story, characters, and innovation themes presented in the narrative. - The storybook promotes awareness of the importance of sustainable industry and innovation in creating a better future for society.	1- 5

Instrument on SDG-9 Based Content

Instruction For Completing the Digital Storybook Criteria Instrument

This instrument is designed to evaluate the quality of a digital storybook based on SDG-9 Learning objectives, particularly focusing on Behaviour in innovating ideas. Please read each item carefully and assess how well the digital storybook meets the stated criteria.

Rating Scale

Use the following scale to indicate the level of relevance for each item:

Score	Category
1. VR (Very Relevant)	The item is highly relevant and fully aligns with the characteristics of the digital storybook.
2. QR (Quite Relevant)	The item is moderately relevant, though some elements may be less strong.
3. SR (Somewhat Relevant)	The item is slightly relevant and only partially reflected in the storybook.
4. NR (Not Relevant)	The item is not relevant or not observed in the digital storybook.

How to Complete the Instrument

1. Read each item in the *Items* column thoroughly.
2. Determine the extent to which the digital storybook fulfills the criterion.
3. Place a checkmark (✓) in **one** of the following columns: **VR, QR, SR, or NR**.
4. If needed, provide explanations or notes in the **Remarks** column.
5. Continue rating all items across all aspects.

Important Notes

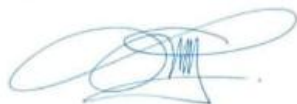
- Evaluations should be based solely on observable features in the digital storybook.
- If an item is unclear, partially present, or difficult to assess, please include comments in the *Remarks* column.
- This instrument may be used to evaluate a single digital storybook or for comparing multiple storybooks.

NO	Aspect	Items	1 NR	2 SR	3 QR	4 VR	Remarks
1	Behaviour in innovating ideas	The storybook explains the concept of innovation and how creative ideas can help solve problems in daily life.	☐	☐	☐	✓	
2	Behaviour in innovating ideas	The storybook illustrates how technology and infrastructure support community development and improve people's lives.	☐	☐	☐	✓	
3	Behaviour in innovating ideas	The storybook demonstrates how young learners can develop simple innovative ideas to respond to challenges in their surroundings.	☐	☐	☐	✓	
4	Behaviour in innovating ideas	The storybook encourages students to actively engage in reading activities by exploring the story, characters, and innovation themes presented in the narrative.	☐	☐	☐	✓	
5	Behaviour in innovating ideas	The storybook promotes awareness of the importance of sustainable industry and innovation in creating a better future for society.	☐	☐	☐	✓	

General comment:

Add home button on profile section

Date:
Expert



Dr. Ni Wayan Surya Mahayanti, S.Pd., M.Pd.
NIP. 198805172012122002

Appendix 8. Checklist Result from Expert 2

A. Researcher's Identity

Name : I Kadek Teddy Jaya Nugraha
NIM : 2212021083
Study Program : English Language Education
University : Universitas Pendidikan Ganesha
Title : DEVELOPMENT OF DIGITAL STORYBOOK ON SDG-9 TO
FACILITATE READING BEHAVIOUR ENGAGEMENT OF SIXTH GRADE
STUDENTS AT SD MUTIARA SINGARAJA

B. Identity of the Product Being Evaluated

Title : Rolling, Rolling, Roll
Theme : SDG-9 (Innovation)
Grade : 6th
School : SD Mutiara Singaraja
Type of Product : Digital Storybook
Product Link : <https://digital-storybook-rolling-roll.netlify.app/>

C. Expert's Identity

Name : Ni Luh Putu Era Adnyayanti, S.Pd.,M.Pd.
NIP : 198904082023212043
Institution : Universitas Pendidikan Ganesha

CRITERIA OF DIGITAL STORYBOOK INSTRUMENT

Research Objective:

To evaluate the quality of the developed SDG-9 digital storybook, as assessed by experts, in terms of content, design, and relevance to literacy and sustainability education.

INSTRUMENT DEVELOPMENT BASIS

The development of this digital storybook evaluation instrument is based on the quality criteria proposed by Vackova et al. (2023), who identified nine key dimensions essential for ensuring meaningful, engaging, and developmentally appropriate digital reading experiences for young children. These dimensions include purposeful design, sustained engagement, intercultural representation, interactivity, and child-friendly usability, all of which reflect current theoretical and empirical understanding of effective digital literacy tools. Drawing on the literature on children's digital books, interactive multimodality, cognitive load theory, and inclusive design principles, each item in this instrument is structured to operationalize observable indicators that align with evidence-based characteristics of high-quality digital storybooks. The instrument aims to capture the pedagogical and experiential aspects of digital reading by assessing the clarity of learning objectives, the capacity to sustain children's attention, the cultural sensitivity of the content, the relevance of interactive features, and the appropriateness of the interface for young learners. Through this framework, the instrument ensures that digital storybook evaluation is systematic, reliable, and aligned with internationally recognized quality standards for children's digital media.

REFERENCESS

Vackova, P., Cermakova, A. L., & Kucirkova, N. I. (2023). Children's digital books: Development, testing and dissemination of quality criteria. In *Children's Digital Books: Development, Testing and Dissemination of Quality Criteria*. University in Stavanger.
<https://doi.org/10.31265/usps.268>

Blue Print Criteria of Digital Storybook

Answer Scale: 4. VR= Very Relevant; 3. QR= Quite Relevant; 2. SR= Somewhat Relevant; 1. NR= Not Relevant

Category	Aspects	Items	No Item
Quality of Digital Storybook	Purposeful	- The Digital Storybook has a clear learning goal and supports school-related learning content. - Multimedia such as images, sound, animation is chosen to strengthen the content of the story. - The information is presented concisely, not long, and does not require technical knowledge.	1-3
	Sustained	- The story and features of this digital storybook keep the children engaged in reading until the end. - Stories use cliffhangers, light conflicts, or curiosity that encourage children to continue reading. - Digital content provides small variations that encourage curiosity every time it is opened.	4-6
	Intercultural	- The language, names, or expressions in the story reflect the cultural realities depicted. - No character is depicted as inferior/superior based on cultural background. - The story shows that cross-cultural cooperation strengthens shared values.	7-9
	Interactive	- There are no excessive visual or audio elements to confuse the child. - Interaction helps children follow the story's progress gradually. - Activating features provides additional information that deepens understanding.	10-12
	Child friendly	- Use of simple and clear language appropriate for children's reading level - The amount of text per page is age-appropriate, and the narrative language is simple and child-friendly. - The visual elements are not too crowded and there is no distracting music or sound.	13-15
	Accessible	- Availability of features that support children in reading like audio - Presence of simple explanations for difficult words	16-18

		- Use of visual or animated aids that help children understand the story	
	Personalizable	- Opportunities for children to give a simple personal response at the end of the story - Availability of options for children to choose preferred characters - Opportunities for children to select their favorite part of the story	19-21
	Creative	- Use of imaginative visuals that attract children attention for example, unique characters or settings - Presence of sound effects or music that match the events in the story - Use of animation effects such as movement or transitions that enhance engagement and interest	22-24
	Social	- Presence of character interactions that model positive social behavioral like helping, sharing or cooperating - Inclusion of scenarios that illustrate social values such as empathy, respect, or kindness - Opportunities for characters to work together to solve problems, promoting teamwork	25-27

Instrument Criteria of Digital Storybook

Instruction For Completing the Digital Storybook Criteria Instrument

This instrument is designed to evaluate the quality of a digital storybook based on several aspects, including Purposeful, Sustained, Intercultural, Interactive, and Child-Friendly, Accessible, Personalizable, Creative, and Social. Please read each item carefully and assess how well the digital storybook meets the stated criteria.

Rating Scale

Use the following scale to indicate the level of relevance for each item:

Score	Category
1. VR (Very Relevant)	The item is highly relevant and fully aligns with the characteristics of the digital storybook.
2. QR (Quite Relevant)	The item is moderately relevant, though some elements may be less strong.
3. SR (Somewhat Relevant)	The item is slightly relevant and only partially reflected in the storybook.
4. NR (Not Relevant)	The item is not relevant or not observed in the digital storybook.

How to Complete the Instrument

1. Read each item in the *Items* column thoroughly.
2. Determine the extent to which the digital storybook fulfills the criterion.
3. Place a checkmark (✓) in **one** of the following columns: **VR, QR, SR, or NR**.
4. If needed, provide explanations or notes in the **Remarks** column.
5. Continue rating all items across all aspects.

Important Notes

- Evaluations should be based solely on observable features in the digital storybook.
- If an item is unclear, partially present, or difficult to assess, please include comments in the *Remarks* column.

This instrument may be used to evaluate a single digital storybook or for comparing multiple storybooks

NO	Aspect	Items	1 NR	2 SR	3 QR	4 VR	Remarks
1	Purposeful	The digital storybook has a clear learning goal and supports school-related learning content.	☐	☐	☐	☒	
2	Purposeful	The digital storybook multimedia features such as images, sound, and animation are chosen to strengthen the content of the story.	☐	☐	☐	☒	
3	Purposeful	The digital storybook content is presented concisely, not long, and does not require technical knowledge.	☐	☐	☐	☒	
4	Sustained	The digital storybook story and features keep the children engaged while reading until the end.	☐	☐	☐	☒	
5	Sustained	The digital storybook use cliffhangers, light conflicts, or curiosity that encourage children to continue reading.	☐	☐	☐	☒	
6	Sustained	The digital content in digital storybooks provides small variations that encourage curiosity every time they are opened.	☐	☐	☐	☒	
7	Intercultural	The language, names, or expressions in the story reflect the cultural realities depicted.	☐	☐	☒	☐	
8	Intercultural	There is no character in digital storybook is depicted as inferior/superior based on cultural background.	☐	☐	☒	☐	
9	Intercultural	The digital storybook story shows that cross-cultural cooperation strengthens shared values.	☐	☐	☐	☒	

10	Interactive	In the digital storybook there are no excessive visual or audio elements to confuse the child.	☐	☐	☐	☒	
11	Interactive	The digital storybook interaction helps children follow the story's progress gradually.	☐	☐	☐	☒	
12	Interactive	The digital storybook activating features provides additional information that deepens understanding.	☐	☐	☐	☒	
13	Child friendly	The digital storybook uses simple language that suits children's reading level.	☐	☐	☐	☒	
14	Child friendly	The amount of text per page is age-appropriate, and the narrative language is simple and child-friendly.	☐	☐	☐	☒	
15	Child friendly	The visual elements in the digital storybook are not too crowded and there is no distracting music or sound.	☐	☐	☐	☒	
16	Accessible	The digital storybook includes helpful features like audio.	☐	☐	☐	☒	
17	Accessible	The digital storybook provides simple pop-up explanations for difficult words.	☐	☐	☐	☒	
18	Accessible	The digital storybook uses basic animations that help children understand the meaning of the story.	☐	☐	☐	☒	
19	Personalizable	The digital storybook invites children to give a simple personal response at the end of the story.	☐	☐	☐	☒	
20	Personalizable	The digital storybook asks children to choose which character they would like to be.	☐	☐	☒	☐	

21	Personalizable	The digital storybook asks children to choose their favorite part of the story.	☐	☐	☒	☐	
22	Creative	The digital storybook uses imaginative visuals such as unique characters, settings, or objects	☐	☐	☐	☒	
23	Creative	The digital storybook uses sound effects or music that match the situation in the story for example calm music in peaceful scenes, lively sounds in action scenes	☐	☐	☐	☒	
24	Creative	The digital storybook includes animation effects such as simple movements or transition.	☐	☐	☐	☒	
25	Social	The digital storybook shows characters interacting in positive social ways for example helping and sharing.	☐	☐	☐	☒	
26	Social	The digital storybook presents simple situations that illustrate social values such as empathy respect, or kindness.	☐	☐	☐	☒	
27	Social	The digital storybook includes scenarios where characters work together to solve a problem, promoting teamwork and cooperation.	☐	☐	☐	☒	

SDG-9 LEARNING OBJECTIVE INSTRUMENT

Research Objective:

To evaluate the quality of the SDG-9 learning objectives integrated into the digital storybook, as assessed by experts, in terms of their accuracy, appropriateness, and alignment with sustainability education for young learners.

INSTRUMENT DEVELOPMENT BASIS

The development of this instrument is based in the theoretical and conceptual frameworks of Education for Sustainable Development (ESD), specifically the learning objectives outlined for Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure) by UNESCO (2017). SDG 9 emphasizes the need to cultivate learners' understanding, attitudes, and behaviors related to sustainable industry practices, efficient technological innovation, improved industrial systems, and responsible infrastructure development. Accordingly, the instrument is designed to evaluate the extent to which a digital storybook integrates essential cognitive, socio-emotional, and behavioral learning components aligned with ESD principles.

From the behavioral dimension, the instrument incorporates action-oriented learning and real-world connection. UNESCO behavioral objectives emphasize the importance of empowering learners to practice sustainable behaviors, participate in meaningful decision-making, and apply sustainability principles in real-life contexts. Accordingly, the instrument includes indicators evaluating whether the storybook provides actionable prompts, models sustainable practices, and connects narrative events to children's lived experiences and real-world environmental impacts. By integrating these three dimensions, the instrument ensures comprehensive alignment with SDG 9 learning objectives, enabling an accurate evaluation of how effectively a digital storybook supports technology and innovation education. The resulting indicators are therefore theoretically grounded, developmentally appropriate for young learners, and directly linked to international standards for sustainability education.

REFERENCES

UNESCO. (2017). Education for Sustainable Development Goals: Learning objectives.
United Nations Educational, Scientific and Cultural Organization

Blue Print SDG-9 Industry, Innovation, and Infrastructure based material through Digital Storybook.

Answer Scale: 4. VR= Very Relevant; 3. QR= Quite Relevant; 2. SR= Somewhat Relevant; 1. NR= Not Relevant

Category	Aspect	Items	No Items
Behavioural Learning Objective SDG-9	Behaviour in innovating ideas	- The storybook explains the concept of innovation and how creative ideas can help solve problems in daily life. - The storybook illustrates how technology and infrastructure support community development and improve people's lives. - The storybook demonstrates how young learners can develop simple innovative ideas to respond to challenges in their surroundings. - The storybook encourages students to actively engage in reading activities by exploring the story, characters, and innovation themes presented in the narrative. - The storybook promotes awareness of the importance of sustainable industry and innovation in creating a better future for society.	1- 5

Instrument on SDG-9 Based Content

Instruction For Completing the Digital Storybook Criteria Instrument

This instrument is designed to evaluate the quality of a digital storybook based on SDG-9 Learning objectives, particularly focusing on Behaviour in innovating ideas. Please read each item carefully and assess how well the digital storybook meets the stated criteria.

Rating Scale

Use the following scale to indicate the level of relevance for each item:

Score	Category
1. VR (Very Relevant)	The item is highly relevant and fully aligns with the characteristics of the digital storybook.
2. QR (Quite Relevant)	The item is moderately relevant, though some elements may be less strong.
3. SR (Somewhat Relevant)	The item is slightly relevant and only partially reflected in the storybook.
4. NR (Not Relevant)	The item is not relevant or not observed in the digital storybook.

How to Complete the Instrument

1. Read each item in the *Items* column thoroughly.
2. Determine the extent to which the digital storybook fulfills the criterion.
3. Place a checkmark (✓) in **one** of the following columns: **VR, QR, SR, or NR**.
4. If needed, provide explanations or notes in the **Remarks** column.
5. Continue rating all items across all aspects.

Important Notes

- Evaluations should be based solely on observable features in the digital storybook.
- If an item is unclear, partially present, or difficult to assess, please include comments in the *Remarks* column.
- This instrument may be used to evaluate a single digital storybook or for comparing multiple storybooks.

NO	Aspect	Items	1 NR	2 SR	3 QR	4 VR	Remarks
1	Behaviour in innovating ideas	The storybook explains the concept of innovation and how creative ideas can help solve problems in daily life.	☐	☐	☐	☒	
2	Behaviour in innovating ideas	The storybook illustrates how technology and infrastructure support community development and improve people's lives.	☐	☐	☐	☒	
3	Behaviour in innovating ideas	The storybook demonstrates how young learners can develop simple innovative ideas to respond to challenges in their surroundings.	☐	☐	☐	☒	
4	Behaviour in innovating ideas	The storybook encourages students to actively engage in reading activities by exploring the story, characters, and innovation themes presented in the narrative.	☐	☐	☐	☒	
5	Behaviour in innovating ideas	The storybook promotes awareness of the importance of sustainable industry and innovation in creating a better future for society.	☐	☐	☐	☒	

General comment:

Date:
Expert



Ni Luh Putu Era Adnyayanti, S.Pd.,M.Pd.
NIP. 198904082023212043

Appendix 9. Checklist Result from the Teacher

READING BEHAVIOURAL ENGAGEMENT INSTRUMENT

Research Objective:

To evaluate the quality of the developed SDG-9 digital storybook, as assessed by teachers, in terms reading behavioral engagement.

INSTRUMENT DEVELOPMENT BASIS

The development of this instrument is based on the idea of reading behavioral engagement, which explains how students show their involvement in reading through clear and visible actions. According to Fredricks et al. (2004), Guthrie (2004), and McGeown & Smith (2024), reading behavioral engagement has seven important aspects: effort, persistence, attention, positive conduct, active participation, reading frequency, and interaction with texts. Each item in this instrument is designed to measure how students behave while reading. It looks at how much effort they give, how well they stay focused, how long they continue when the reading gets difficult, how actively they join reading activities, and how often they read. The instrument also observes how students interact with the text and how they show positive behavioral during reading. With this framework, the instrument provides a simple and clear way to understand students' reading involvement based on their real actions during reading activities.

REFERENCES

- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59–109.
- Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), **Handbook of reading research** (Vol. 3, pp. 403–422). Lawrence Erlbaum.
- McGeown, S., & Smith, K. C. (2024). Reading Engagement Matters! A New Scale to Measure and Support Children's Engagement with Books. *Reading Teacher*, 77(4), 462–472. <https://doi.org/10.1002/trtr.2267>

Blueprint of Reading Behavioral Engagement Validation

Answer Scale: 1. VR= Very Relevant; 2. QR= Quite Relevant; 3. SR= Somewhat Relevant; 4. NR= Not Relevant

Category	Aspect	Items	No Item
Reading Behavioural Engagement	Effort	- The Digital Storybook increases students' reading effort. - The Digital Storybook encourages students to try harder. - The Digital Storybook supports students in rereading difficult parts.	1-3
	Persistence	- The Digital Storybook helps students finish the story. - The Digital Storybook keeps students reading through challenges. - The Digital Storybook promotes consistent reading until completion.	4-6
	Attention	- The Digital Storybook maintains students' attention. - The Digital Storybook helps students stay focused. - The Digital Storybook reduces distraction during reading.	7-9
	Positive Conduct	- The Digital Storybook encourages positive reading behavioural. - The Digital Storybook supports orderly reading routines. - The Digital Storybook promotes innovative digital use.	10-12
	Active Participation	- The Digital Storybook encourages student participation. - The Digital Storybook stimulates sharing during reading. - The Digital Storybook increases involvement in reading activities.	13-15
	Reading Frequency	- The Digital Storybook increases reading frequency. - The Digital Storybook motivates students to read more. - The Digital Storybook encourages regular reading habits.	16-18
	Interaction with Texts	- The Digital Storybook encourages deeper story exploration. - The Digital Storybook promotes connections with the story.	19-21

		- The Digital Storybook motivates reading of similar texts.	
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Instrument Reading Behavioral Engagement

Instruction For Completing the Reading Behavioral Engagement Instrument

This instrument is designed to evaluate students' Reading Behavioural Engagement when using a digital storybook based on several aspects, including Effort, Persistence, Attention, Positive Conduct, Active Participation, Reading Frequency, and Interaction with Texts. Please read each item carefully and assess how well the digital storybook supports students' engagement in each area.

Rating Scale

Use the following scale to indicate the level of relevance for each item:

Score	Category
1. VR (Very Relevant)	The item is highly relevant and fully aligns with the characteristics of the digital storybook.
2. QR (Quite Relevant)	The item is moderately relevant, though some elements may be less strong.
3. SR (Somewhat Relevant)	The item is slightly relevant and only partially reflected in the storybook.
4. NR (Not Relevant)	The item is not relevant or not observed in the digital storybook.

How to Complete the Instrument

1. Read each item in the item's column thoroughly.
2. Determine the extent to which the digital storybook fulfils the criterion.
3. Place a checkmark (✓) in **one** of the following columns: **VR, QR, SR, or NR**.
4. If needed, provide explanations or notes in the **Remarks** column.
5. Continue rating all items across all aspects.

Important Notes

- Evaluations should be based on students' observable behaviours while using the digital storybook.
- If an item is unclear or difficult to assess, please provide additional explanation in the Remarks column.
- This instrument may be used to evaluate engagement with a single digital storybook or to compare students' engagement across multiple storybooks.

NO	Aspect	Items	4 VR	3 QR	2 SR	1 NR	Remarks
1	Effort	The Digital Storybook is able to encourage students to keep reading even when the story is difficult.	✓	☐	☐	☐	
2	Effort	The Digital Storybook is able to motivate students to try harder in understanding the story.	✓	☐	☐	☐	

3	Effort	The Digital Storybook is able to encourage students to reread parts of the story to improve their understanding.	☒	☐	☐	☐	
4	Persistence	The Digital Storybook is able to support students to finish the story until the end.	☐	☒	☐	☐	
5	Persistence	The Digital Storybook is able to help students continue reading even when they encounter difficult words.	☐	☒	☐	☐	
6	Persistence	The Digital Storybook is able to help students return to the story and continue reading after short breaks.	☒	☐	☐	☐	
7	Attention	The Digital Storybook is able to maintain students' attention during reading activities.	☐	☒	☐	☐	
8	Attention	The Digital Storybook is able to help students stay focused without being easily distracted.	☐	☒	☐	☐	
9	Attention	The Digital Storybook is able to keep students focused through features that maintain their engagement.	☒	☐	☐	☐	
10	Positive Conduct	The Digital Storybook is able to promote positive behavior during reading sessions.	☒	☐	☐	☐	
11	Positive Conduct	The Digital Storybook is able to reduce disruptive behavior while students are reading.	☒	☐	☐	☐	
12	Positive Conduct	The Digital Storybook is able to promote innovative use of digital tools during reading activities.	☒	☐	☐	☐	
13	Active Participation	The Digital Storybook is able to encourage students to participate actively in shared reading activities.	☒	☐	☐	☐	

14	Active Participation	The Digital Storybook is able to stimulate students to share their reading experiences with peers.	☐	☒	☐	☐	
15	Active Participation	The Digital Storybook is able to motivate students to join discussions related to the story.	☒	☐	☐	☐	
16	Reading Frequency	The Digital Storybook is able to increase how often students read storybooks at home or in school.	☒	☐	☐	☐	
17	Reading Frequency	The Digital Storybook is able to motivate students to borrow or choose more storybooks to read.	☐	☒	☐	☐	
18	Reading Frequency	The Digital Storybook is able to encourage students to read storybooks more regularly.	☒	☐	☐	☐	
19	Interaction with Texts	The Digital Storybook is able to inspire students to explore more about the story they read.	☐	☒	☐	☐	
20	Interaction with Texts	The Digital Storybook is able to help students connect the story to their own experiences or knowledge.	☒	☐	☐	☐	
21	Interaction with Texts	The Digital Storybook is able to motivate students to explore other stories with similar themes.	☐	☒	☐	☐	

General Comment:

Date:

Expert



Komang Santi Widi Rahayu, S. Pd.

RIWAYAT HIDUP



I Kadek Teddy Jaya Nugraha lahir di Air Sanih pada tanggal 4 Agustus 2004. Penulis merupakan anak dari pasangan Ketut Sumanasa dan Ketut Sukerti. Penulis berkewarganegaraan Indonesia dan beragama Hindu. Saat ini penulis bertempat tinggal di Dusun Sanih, Kecamatan Kubutambahan, Kabupaten Buleleng, Provinsi Bali.

Penulis menyelesaikan pendidikan dasar di SD Negeri 1 Bukti, kemudian melanjutkan pendidikan di SMP Negeri 1 Kubutambahan dan lulus dari SMA Negeri 3 Singaraja. Pada tahun 2022, penulis melanjutkan pendidikan tinggi di Program Studi Pendidikan Bahasa Inggris, Jurusan Bahasa Asing, Fakultas Bahasa dan Seni, Universitas Pendidikan Ganesha. Pada tahun 2026, penulis menyelesaikan skripsi yang berjudul "Development of a Digital Storybook on Sdg-9 To Facilitate Reading Behavioural Engagement of Sixth Grade Students at Sd Mutiara Singaraja" sebagai salah satu syarat untuk memperoleh gelar Sarjana Pendidikan (S.Pd.) pada Program Studi Pendidikan Bahasa Inggris, Universitas Pendidikan Ganesha.

