RESEARCH ARTICLE

Effectiveness of Innovative Learning Media in Elementary Schools during the Covid -19 Pandemic

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Abstract

This study attempts to analyze the innovation of learning media in elementary schools during the Covid-19 pandemic. This library and field research has the data collected from Google Scholar database concerning scientific articles about innovative learning media in elementary schools during the pandemic. The data were collected using the keyword "Innovation of SD learning media". They were taken from 359 data: 280 Indonesian version and 79 Inglish versio. The data were classified into Indonesian, Natural Science, Social Sciences, and Mathematics, Civics, and Thematic subjects.There are more technology-based media than non-technology-based media. The types of media used in this research are video media, games, books, PowerPoint, and concrete objects used in the six subjects focusing on research. Based on the frequency and quantity of instructional media, the researchers recommend that the Indonesian language subjects use books, videos, and concrete objects. In science subjects, video learning media, PowerPoint, and books are used. In social studies subjects, games, videos, and concrete objects are used. In the Mathematics subject, media games, videos, and concrete objects are used. In PKN (Civics) subjects, video learning media, ICT, and comics are used. In thematic learning, video learning media, games, and books are used.
Keywords: Media, learning, innovation, Covid-19 pandemic

Introduction

The Industrial Revolution 4.0 has affected education process which has experienced changes in all factors: curriculum, models, methods, and learning strategies, learning materials and media, educators, and students, and other learning factors. All of these factors are directed towards internet-based learning and digital technology, computer-based learning, and artificial intelligence (Susetyo, 2019). In this condition, the education insitutions should equip their students with required skills such as critical thinking and problem solving, creative and innovative, as well as communication and collaboration skills (Sadovszky et al., 2009; Kivunja, 2015; Affandi et al., 2022). By doing so, a strong character is formed (Hidayati et al., 2020)).

All the above skills require the educational institutions to have the best strategy for adapting to the present condition. Educational institutions also need an effective and practical strategy in promoting teamwork and collaborative learning (Darmuki et al., 2018; Darmuki & Hidayati, 2019) is to enable sharing of computers in teams (Mitra et al., 2010; Lin, Chan and Hsiao, 2011). For this reason, learning must be adapted to technology-based learning and collaboration (Hom et al., no date; Crook, 1995; Lawlor et al., 2018; Darmuki et al., 2019). Learning must be creative and innovative so that the stduents can be processed for creating some innovations (Darmuki et al., 2017). Learning innovation is an effort to renew the various components needed in learning with the aim of improving the quality of education (Syamsudin and

Misro, 2020; Darmuki & Hariyadi, 2019). For that reason, the development of information technology today cannot be denied that it has penetrated the world of education, especially in the current state of the COVID-19 pandemic.

The covid-19 has its impact on education in some aspects globally. This phenomenon has become an crucial issue in the international world (Supena et al., 2021) because it affects all aspects of life, very specifically the educational institutions. During the COVID-19 pandemic, learning had been carried out by online using technology (Sutiman et al., 2022; Setyaningrum et al., 2022; Gnawali et al., 2022). The development of information technology that has penetrated the world of education and the Covid-19 pandemic has

great consequences on it. These two conditions create some changes in learning. One of the components of learning that has undergone major changes is the learning media.

In Permendikbud (Republic of Indonesia Ministry of Education Regulation) No: 22 of 2016 concerning Standards for Primary and Secondary Education, it is stated that teachers must be able to utilize information and communication technology to improve the efficiency and effectiveness of learning. By doing so, they can facilitate their learning by using technology (Wuryaningtyas and Setyaningsih, 2020). By using this information technology, learning will be interesting, more fun, and easier to communicate (Husaini, 2014; Sari, 2015). Especially during a pandemic, information technology is absolutely necessary.

Technology has an impact on learning: (1) the creation of various learning platforms that make it easier for teachers and students to go through the distance learning process, (2) make it easier for students to find learning resources, and (3) provide convenience for teachers in delivering learning materials to students (Salsabila et al., 2020). The Covid-19 pandemic which requires schools to change their learning strategy from face-to-face learning to online learning requires teachers to be more creative and innovative. In online learning, the role of technology cannot be ruled out. Technology can facilitate all needs in the learning process. There are many platforms that can help implement online learning such as e-learning, Google Classroom, Edmodo, Moodle, Learning House, and even more platforms in the form of video conferencing such as Google meet, Zoom, and Visco Webex.

Based on the regulation above, the main purpose of this research is to analyze the innovation of learning media in elementary schools during the Covid-19 pandemic. The main objectives are broken down into the following objectives: (1) analyze the characteristics of research data related to innovative learning media based on the following: (a) the background of the Covid-19 pandemic, (b) types of research, (c) types of essential subjects, (d) types of learning media, (2) analyzing types of innovative learning media in elementary schools during the Covid-19 pandemic. , (3) analyze the types of innovative learning media in elementary schools in essential subjects during the Covid-19 pandemic, (4) provide recommendations for effective innovative learning media in every essential subject in elementary schools

Literature Review

The learning process requires an intermediary to convey messages in the form of media. Media comes from the Latin language which is the plural form of "medium" which means "middle, intermediary, introduction" (Jennah, 2019).

Therefore, the media becomes an intermediary for delivering messages in the form of learning materials from teachers to students. However, in selecting the media, the teachers should base them on on several criteria. The media must be able to inspire students to gain learning experiences. Ideally, the use of media in learning should lead students to think and do research. Therefore, the students can learn to develop their abilities (Nurlaila and Hamdu, 2016).

The use of media has many benefits. Their benefits as described by Jennah (2019) are such as (1) it can broaden students' horizons, (2) students gain diverse experiences during the learning process, (3) provide concrete and direct learning experiences to students, (4) overcome the limitations of something, (5) provide accurate and up-to-date information, (6) add attractiveness to the appearance of the material, (7) stimulate students to think critically, use their imagination, behave and develop further, (8) increase the efficiency of the learning process, (9) solve educational problems.

In relation to the media,, there are several kinds of it in our everyday life. For example, Sukiyadi (in Nurlaila & Hamdu, 2016) mentioned some of learning media such as (1) visual media, namely media that can only be seen using the sense of sight, (2) audio media, namely media that can only be heard, and audiovisual media, namely media that can be seen and heard. According to Arsyad (2011), the types of learning media include (1) human-based media, (2) print-based media, (3) visual-based media, (4) audiovisual-based media, (5) computer-based media. Nurdyansyah (2019) classifies media Digital learning is divided into several types as follows: (1) projection media which includes (a) transparent projector/oherhead projector (ohp), (b) projector/lcd, (c) film, (d) frame film (slide), (e) film series (film strip), (f) opaque projectors, (2) photographic media, (3) frame films, (4) serial films, (5) audio recordings, (6) film media, and (7) video recording media.

Method

Research design

This research is a library and field research. This library research is used to fulfill the first and second objectives, namely to describe and analyze innovative learning media during the Covid-19 pandemic. Field research is used to fulfill the third objective, which is to prove the effectiveness of innovative learning media. In library research, the data used are in the form of scientific articles or research reports sourced from Google Scholar. The search for research data relevant to this research topic was carried out with the keyword "Innovation of SD learning media". The data were

taken based on the following criteria: (1) research articles/ reports were published in 2020-2022, (2) the topic of research articles/reports is learning media innovation, (3) articles in the form of research articles, (4) research subjects limited to elementary school level, and (5) research articles/reports uses either Indonesian or English.

Samples and data collection

The data was searched on Google Scholar and the researchers got 360 articles in Indonesian and 214 articles in English. All the articles were selected based on the specified criteria. The researchers got 280 articles written in Indonesian and 79 articles in English. Therefore, the total data were 359 scientific articles ready for analysis.

Data analysis

This study uses data analysis of literature and field research, taken by looking for articles on Google Scholar about research material topics that are considered in sequence from the most relevant, relevant, and quite relevant. The analysis was done by looking at the year of research starting from the most recent, and gradually moving back to a longer year, starting with articles published in 2020 to 2022. Firstly, it was done by reading the abstract of each research in advance to provide an assessment of whether the problems discussed are in accordance with those to be solved in the research. Then, the researchers noted down the important and relevant parts of the research problem. After that, the researchers groped them according to the research problems, then filially summarizing the data based on those that had been validated.

Table 1: Characteristics of Research Data
Based on the Background of the Covid-19 Pandemic

No	Types of the Data	Based on Pandemic	Not Based on Pandemic
1	Indonesian Version Articles	96	184
2	English Version Articles	29	50

RESULTS

The data were distinguished based on the background of the Covid-19 pandemic. If the research articles use the word pandemic or covid-19 in the title of the article or in the sections of the article, they are categorized into the research with the background of the Covid-19 pandemic. On the contrary, if the title or sections of the article do not contain the word pandemic or Covid-19, they were categorized as being not based on the Covid-19 pandemic. For those that were categorized into the articles with the background of the Covid-19 pandemic have their characteristics of the research data as seen in Table 1.

Table 1 indicates that the number of research data based on the Covid-19 pandemic is less than the data which is not based on the Covid-19 pandemic. This can be seen both in the type of data in the form of articles in Indonesian (hereinafter abbreviated as *Bindo*/ Indonesian) and in the form of articles in English (hereinafter abbreviated as English).

Based on the type of research used in scientific articles, the research data were classified into (1) scientific articles resulting from developmental research, (2) scientific articles resulting from experimental research, (3) scientific articles resulting from qualitative research, (4) scientific articles resulting from quantitative research, (5) scientific articles resulting from classroom action research, (6) scientific articles resulting from research (7) other types of research. The results of the categorization can be seen in Table 2.

Based on Table 2, it shows that the type of research most widely used is development research, both on Indonesian articles and English articles. The second most widely used type of research is experimental research on both Indonesian and English articles. The third order is the type of qualitative research in English and quantitative research in English. The fourth order is the type of classroom action research on Indonesian and qualitative research and action research in English. The fifth order is the type of literature both In Indonesian data and English data. Based on the types of essential subjects studied in scientific articles, this

Table 2: Characteristics of Research Data by Type of Research

No	Type of the Research	Data Types		Percentage	
		Indonesian Articles	English Articles	Indonesian	English
1.	Research & development	162	36	58	46
2.	Experiment	37	24	13	30
3.	Qualitative	35	6	13	8
4.	Quantitative	2	7	1	9
5.	Classroom Action	28	6	10	8
6.	Library	14	5	2	3
7.	Miscellaneous	2	1	1	1
	Total	280	79	100	100

research data is classified into (1) Indonesian Language, (2) Mathematics, (3) Science, (4) Social Sciences, (5) Civics, and (6) Thematic. The results of the categorization can be seen in Table 3.

Table 3: Characteristics of Research Data Based on Essential Subjects

| No | Subjects | Types of the Data | | |
		Indonesian Articles	English Articles	Total
1.	Indonesian	54	8	62
2.	Mathematics	63	24	87
3.	IPA (Natural Science)	66	15	81
4.	IPS (Social Science)	30	3	33
5.	PKn (Civics)	8	3	11
6.	Thematic	59	26	85
	Total	280	79	359

Based on the type of learning media studied in scientific articles, the research data were classified into the following media: (1) videos, (2) games, (3) books, (4) PowerPoint, (5) concrete objects, (6) quizzes applications, (7) comics, (8) android, (9) images, (10) interactive multimedia, (11) Augmented Reality (AR), (12) digital, (13) Google, (14) cards, (15) computers, (16) songs, (17) websites, (18) dioramas, (19) interactive, and (20) miniatures. The results of the classification of learning media for the twenty types are determined based on the criteria for the emergence of media in the data a minimum of three times or a minimum of 3. The results of the classification can be seen in Table 4.

Table 4: Characteristics of Research Data Based on Learning Media

| No | Learning Media | Types of the Data | |
		Indonesian Articles	English Articles
1.	Video	64	15
2.	Games	40	11
3.	Books	29	12
4.	PowerPoint	23	0
5.	Concrete Objects	19	4
6.	Quizzes Application	11	0
7.	Comic	11	7
8.	Android	10	8
9.	Pictures	9	0
10.	Interactive Multimedia	9	0

| No | Learning Media | Types of the Data | |
		Indonesian Articles	English Articles
11.	Augmented Reality	6	0
12.	Digital	6	0
13.	Google	6	0
14.	Cards	5	0
15.	Computer	4	0
16.	Songs	4	0
17.	Website	4	0
18.	Diorama	3	0
19.	Interactive	3	0
20.	Miniature	3	0
21.	Miscellaneous	11	22
	Total	280	79

Table 4 indicates that the five types of learning media that were most studied in the Indonesian article data were video media, games, books, PowerPoint, and concrete objects. As for English article data, the five types of media that have been extensively researched are video media, books, games, androids, and comics. From both Indonesian and English data, video media is the most studied learning media.

The result of this study indicates that the learning media used in the scientific articles as the data in this research can be divided into (1) media based on the use of technology and (2) media based on the type. Based on the use of technology, learning media are divided into technology-based learning media and non-technology learning media. Classification of learning media based on the technology base can be seen in Table 5.

Based on Table 5. it shows that the percentage of learning media using technology is greater (66%) than learning media that do not use technology (34%). From Table 5, it can also be seen that the percentage of use of learning media that uses technology in all subjects is greater than the use of learning media that does not use technology except for social studies subjects. In Indonesian, Science, Mathematics, PKN, and Thematic subjects, technology-based media were 58%, 73%, 66%, 82%, and 73%, respectively. In social studies subjects, the use of learning media that does not use technology is greater (55%) than those that use technology (45%). Based on the type, learning media are divided into various names of media as described above. Classification of learning media based on the type can be seen in Table 6.

Based on Table 6, there are five types of media that have been studied the most. The five types of learning media are videos, games, books, PowerPoint, and concrete objects.

Table 5: Types of Learning Media Based on the Use of Technology

Subjects	Types of the Data											
	Indonesian				English				Combination of Indonesian and English			
	T	%	NT	%	T	%	NT	%	T	%	NT	%
Indonesian	31	57	23	43	5	33	3	38	36	58	26	42
IPA (Natural sciences)	50	76	16	24	9	60	6	40	59	73	22	27
IPS (Social Sciences)	14	47	16	53	1	33	2	67	15	45	18	55
Mathematics	39	62	24	38	18	75	6	25	57	66	30	34
PKn (Civics)	7	88	1	13	2	67	1	33	9	82	2	18
Thematic	41	69	18	31	21	81	5	19	62	73	23	27
Total	182	65	98	35	56	71	23	29	238	66	121	34

Table 6. Classification of Learning Media by Type

No	Learning Media	Types of the Media			
		Indonesian Articles	English Articles	Combination	
				Total	%
1.	Video	64	15	79	22
2.	Games	40	11	51	14
3.	Books	29	12	41	11
4.	PowerPoint	23	0	23	6
5.	Concrete Objects	19	4	23	6
6.	Quizzes Application	11	0	11	3
7.	Comic	11	7	18	5
8.	Android	10	8	18	5
9.	Pictures	9	0	9	3
10.	Interactive Multimedia	9	0	9	3
11.	Augmented Reality (ar)	6	0	6	2
12.	Digital	6	0	6	2
13.	Google	6	0	6	2
14.	Cards	5	0	5	1
15.	Computer	4	0	4	1
16.	Songs	4	0	4	1
17.	Website	4	0	4	1
18.	Diorama	3	0	3	1
19.	Interactive	3	0	3	1
20.	Miniature	3	0	3	1
21.	Miscellaneous	11	22	33	9
	Total	280	79	359	100

Learning media in the form of videos are still differentiated into various kinds: multi interactive, adobe flash, macroflash, animaker, animation, kinemaster, audiovisual, powtoon, canva, tiktok, youtube, and so on. Learning media in the form of games are divided into various types: *congklak* games, educational games, *jenga* games, *ludo* games, monopoly, puzzles, snakes and ladders, traditional games, and so on. Various kinds of learning media classified in book media include pop up books, scrapbooks, picture story books, and fun thinker books. PowerPoint learning media can be in the form of articulate storylines, sway applications, interactive PowerPoint, multi PowerPoint, and so on. Learning media in

the form of concrete objects include blabak, hand puppets, *dakon*, woven cloth, trains, puppets, wooden boards, sandals, and bottle caps.

In part 2 above, the types of learning media used in elementary schools during the Covid-19 pandemic have been described. In this section, the types of media are classified based on their use in the subject. Types of innovative learning media in elementary schools in essential subjects can be seen in Table 7.

From Table 7, it can also be seen that the types of learning media used in each subject are different. This shows that each subject has different characteristics. Even so, there are types of learning media that are used in all subjects. This happens because this type of learning media is most widely used in learning in elementary schools. As explained in section 2, there are five types of learning media that are most widely used, namely videos, games, books, PowerPoint, and concrete objects. In accordance with that explanation, video learning media is indeed used in all subjects (Indonesian, Natural Science, Social Sciences, Mathematics, Civics, and Thematic). Game media is only used in four subjects, namely science, social studies, mathematics, and thematic. Media books are also only used in four subjects, namely Indonesian Language, Science, Mathematics, and Thematic. PowerPoint learning media is used in three subjects, namely science, social studies, and thematic. The concrete object learning media is only used in three subjects, namely Indonesian Language, Social Sciences, and Mathematics.

Table 7 shows that the types of learning media used in each subject in Elementary Schools are different. This shows that each subject has different characteristics. However, there are types of learning media that are used in all subjects. This happens because this type of learning media is most widely used in learning in elementary schools. As described in section 2, there are five types of learning media that are most widely used, namely videos, games, books, PowerPoint, and concrete objects. In accordance with that explanation, video learning media is indeed used in all subjects (Indonesian, Natural Science, Social Sciences, Mathematics, Civics, and Thematic). Game media is only used in four subjects, namely science, social studies, mathematics, and thematic. Media books are also only used in four subjects, namely Indonesian Language, Science, Mathematics, and Thematic. PowerPoint learning media is used in three subjects, namely science, social studies, and thematic. The concrete object learning media is only used in three subjects, namely Indonesian Language, Social Sciences, and Mathematics.

Effective-innovative learning media is the most widely used and developed. Therefore, determining the learning media that are considered effective is based on the frequency or quantity of use of learning media. Based on these criteria, each of three types of media can be presented in each subject that is considered effective. The effective innovative learning media can be seen in Table 8.

Table 7: Types of Innovative Learning Media in Elementary Schools in Essential Subjects

Subjects	Types of Learning Media	Total	Percentage
Indonesian	Books	11	25
	Video	10	23
	Concrete Objects	7	16
	Pictures	6	14
	Quizzes Application	5	11
	Cards	5	11
	Total	44	100
IPA (Natural Sciences)	Video	24	39
	PowerPoint	12	20
	Books	7	11
	Comic	6	10
	Games	6	10
	Android	3	5
	Multi-interactive	3	5
	Total	61	100
IPS (Social Sciences)	Games	8	40
	Video	5	25
	Concrete Objects	4	20
	PowerPoint	3	15
	Total	20	100
Mathematics	Games	19	31
	Video	17	27
	Concrete Objects	11	18
	Comic	6	10
	Books	5	8
	Android	4	6
	Total	62	100
Civics	Video	5	63
	ITC Technology	2	25
	Comic	1	13
	Total	8	100
Thematic	Video	18	28
	Games	15	23
	Books	14	22
	Android	7	11
	Quizzes Application	5	8
	PowerPoint	5	8
	Total	64	100

Table 8: Types of Effective Innovative Learning Media on Essential Subjects in Elementary School

| Subjects | Types of the Effective Learning Media | | |
	1	2	3
Indonesia	Books	Video	Concrete Objects
IPA (Natural Sciences)	Video	PowerPoint	Books
IPS (Social Sciences)	Games	Video	Concrete Objects
Mathematics	Games	Video	Concrete Objects
PKn (Civics)	Video	Technology	Comic
Thematic	Video	Games	Books

Based on Table 8, it is clearly seen that the learning media that are considered effective are different for each subject. In Indonesian subjects, the learning media that are considered effective are books, videos, and concrete objects. In science subjects, the learning media that are considered effective are videos, PowerPoint, and books. In social studies subjects, learning media that are considered effective are games, videos, and concrete objects. In Mathematics, the learning media that are considered effective are games, videos, and concrete objects. In Civics subjects, the learning media that are considered effective are video, technology, and comics. In thematic subjects, learning media that are considered effective are videos, games, and books.

Discussion

This study analyzes the innovation of learning media in elementary schools during the Covid-19 pandemic covering the following objectives: (1) analyze the characteristics of the data based on the following: (a) the background of the Covid-19 pandemic, (b) the type of research, (c) the type of essential subjects, (d) the type of learning media, (2) analyze the types of innovative learning media in elementary schools during the Covid-19 pandemic, (3) analyze the types of innovative learning media in primary schools in essential subjects during the Covid-19 pandemic, (4) provide recommendations for effective innovative learning media in every essential subject in elementary schools. Therefore, the results of the this research are divided into four sub-chapters, respectively (1) the characteristics of the research data, (2) the types of innovative learning media in elementary schools during the Covid-19 pandemic, (3) types of innovative learning media in elementary schools in essential subjects during the Covid-19 pandemic, and (4) innovative learning media that effective in every essential subject in elementary school.

The number of research data , based on the Covid-19 pandemic, is less than that of the data that is not based on the Covid-19 pandemic. The type of research that is most widely used is development research, both on Indonesian article data and English articles. Concerning the types of learning media studied in scientific articles, the data of this study were classified into the following media: (1) videos, (2) games, (3) books, (4) powerpoint, (5) concrete objects, (6) quizz applications, (7) comics, (8) android, (9) images, (10) interactive multimedia, (11) Augmented Reality (AR), (12) digital, (13) google, (14) cards, (15) computers, (16) songs, (17) websites, (18) dioramas, (19) interactive, and (20) miniatures.

The five kinds of learning media that were most studied in the Indonesian articles data were video media, games, books, power points, and concrete objects. In the English articles, the five types of media that have been extensively researched are video media, books, games, androids, and comics. The percentage of learning media that use technology is greater (66%) than learning media that does not use technology (34%). The five types of learning media that have been extensively researched are videos, games, books, PowerPoint, and concrete objects. The five most widely used types of learning media are videos, games, books, PowerPoint, and concrete objects. When basing on the explanation, video learning media is much more indeed in all subjects (Indonesian, Natural Science, Social Sciences, Mathematics, Civics, and Thematic).

Book media—as the most effective learning media in learning Indonesian--has been proven by Sholichah (2020), Hidayah et al. (2020), Solihat et al. (2020), Hijjah & Bahri (2022), Hidayah et al. (2020), Hadiapurwa, Listiana and Efendi (2021), Istiq'faroh et al. (2020) and so on. Video media as an effective learning medium in learning Indonesian has been proven by Handrayani (2021), Saputro, Sari and Winarsi (2021), Fitriana, Tahir and Setiawan (2021), Latifah, Hasan, and Fitria (2020), Alimah (2020), and etc.

Besides book media and video, concrete object media—as an effective learning media in Indonesian language learning—has been proven by Saputra, Yuliati and Febriyanto (2021), Ardianad et al. (2022), Krisanti, Suprihatien and

Suryarini (2020), Herliana and Anugraheni (2020), and so on. Video media as the most effective learning media in science learning has been proven by Rostyawati, Zulherman and Bandarsyah (2021), Zulfadewina et al. (2020), Astuti et al. (2021), Ningratih, Astawan and Margunayasa (2021), Kafah, Nulhakim and Pamungkas (2020), and so on.

PowerPoint media—as an effective learning media in science learning— has been proven by Humairah (2022), Rusmiati et al. (2021), Dewi and Manuaba (2021), Dwiqi, Sudatha and Sukmana (2020), Gunawan (2020), and so on. . Book media as an effective learning media in science learning have been proven by Misbah et al. (2021), Susanti and Prasetyo (2020), Afifah et al. (2021), Wahyuningtyas, Bintartik and Putra, (2020), Arip and Aswat (2021), and so on.

Game media— as the most effective learning media in social studies learning—has been proven by Arga, Nurfurqon and Nurani (2020), Zakiyah, Riyanto and Jacky, (2021), Zuhriyah (2020), Pratama, Zainudin and Sutan (2021), and Mahesti and Koeswanti (2021). Video media as an effective learning media in social studies learning has been proven by Prehanto et al. (2021), Merliana, Masum Aprily and Agustini, (2021), and Putri (2016). Concrete object media as an effective learning media in social studies learning has been proven by Pingge and Haingu (2020), Qorimah and Abduh, (2021), and Sumayana, Sutarman and Ningsih (2021). Media games as the most effective learning media in learning Mathematics have been proven by Sulistio and Qohar (2020), Kamid et al. (2021), Umar and Wiguna (2020), Surur (2021), Kurnia, Noviantiningtyas and Nur Rohmania (2021), etc.

Video media—as an effective learning medium in learning Mathematics—has been proven by Firdaus and Wilujeng (2018), Kurniawan (2022), Octavyanti and Wulandari (2021), Sabilla, Irianto and Badarudin, (2020). Concrete object media as an effective learning medium in learning Mathematics has been proven by Pramestika, Wulandari and Sujana (2020), Sylviani and Permana (2020), and Fatimah (2020). Video media, technology-based media, and comics as effective learning media in Civics learning have been proven by Adiputra et al. (2021), Afriani and Fitria (2021), Junioviona, Setyowati and Yani (2020), Muthmainnah et al. (2021), Qurrotaini, Sari and Sundi (2020), Rahmadhani et al. (2021), and Rusmiati et al. (2021), Hermita et al. (2020).

Video medi—as the most effective learning media in thematic learning—has been proven by Rusniawati (2022), Wangi, Rati and Sudarma (2021), Rahayu, Zulherman and Yatri (2021), Safitri et al. (2021), Dewi, Asyura and Pamungkas (2020), Rahmatika, Yusuf and Agung (2021), and so on. Media games as effective learning media in thematic learning have been proven by Pramono et al. (2021), Ranuharja et al., (2021), Rahayu (2021), Irhas, Asrowi and Djono (2022),

Candra and Rahayu (2021), and etc. Book media as an effective learning media in thematic learning have been proven Wahyuningtyas, Bintartik and Putra (2020), Mas'ula, Thohir and Ahdhianto, (2021), Pranyani, Agustiana and Simamora (2021), Gandamana and Rezeki (2020), Jabri et al. (2020), and so on.

CONCLUSION

The results of the analysis formulate the following conclusions: in the perspective of . the Covid-19 pandemic background, the data are two types od data sush as a pandemic and non-pandemic. Ehen viewed which one is the most used, it is development research. In addition, there are experimental, qualitative, quantitative, classroom action, and library research. In term of essential subjects, research data are classified into Indonesian, Natural Science, Social Sciences, Mathematics, Civics, and Thematic subjects. Based on the type of media, there are more technology-based media than non-technology-based media.

The types of media used in research or the most studied are video media, games, books, PowerPoint, and concrete objects used in the six subjects that are the focus of research. Based on the frequency and quantity of the use of instructional media, the researcher recommends that the Indonesian language subjects use books, videos, and concrete objects. In science subjects, video learning media, PowerPoint, and books are used. In social studies subjects, games, videos, and concrete objects are used. In the Mathematics subject, media games, videos, and concrete objects are used. In PK subjects, video learning media, ICT, and comics are used. In thematic learning, video learning media, games, and books are used. The limitation may cover the scope which only analyses general subjects and articles with specific innovations in learning in elementary schools.

RECOMMENDATION

The policy implication of this study is related to the choice of alternative learning media innovations in elementary schools during the COVID-19 pandemic. According to the results of this study, it was found that many learning media innovations in elementary schools were adapted to the conditions and characteristics of students, teachers, and essential materials. Each learning media used during the COVID-19 pandemic has its own advantages and disadvantages. In addition, the use of learning media must be supported by school facilities, student conditions and adequate infrastructure. Researchers can use technology in their research in the field according to the needs and characteristics of the material in learning during the COVID-19 pandemic.

There were some limitations in this research. One of them is the scope which onlyse covers a few general subjects and articles with specific innovations in learning in elementary school.

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