

# Hypercontent Book Virus, an Alternative for Learning at Higher Grades of Elementary School in the Middle of Covid-19 Pandemic

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**Abstract**—Hypercontent Book Virus was launched for teachers who facilitate learning at higher grades elementary school. The book shared by means of social media and web link of Faculty of Public Health, University of Muhammadiyah Jakarta. The study aims to evaluate whether the book applicable, especially in the middle of Covid-19 pandemic while learning activities should be done at home. After 2 weeks, the reader responses data were analyzed. As many as 69 responses received, and most of the respondents were female, aged younger than 20-year-old and graduated from high school. Almost a half of the respondents had difficulties while delivering material about virus. The respondents urgently require new media to help them deliver it. Positive evaluation was stated about content, clarity and comprehensiveness description, material sequence, as well as understandable and title. The e-book has been completed with interactive quizzes at the end of every topic and reviewed in accordance to the readers' suggestion and highly recommended for elementary school especially in the middle of Covid 19 pandemic. Along with the teachers, parents could also facilitate the learning process at home.

**Keywords**—hypercontent, virus, elementary school, Covid-19

## I. INTRODUCTION

Indonesia is still experiencing triple burden of diseases, namely infectious diseases, non-infectious (degenerative) diseases, and emerging infections (new emerging diseases). Data showed a disease increased rapidly, but the infectious disease is also not much decreased [1]. Many types of infections that occur are caused by viruses, including the latest Covid-19.

The Covid-19 pandemic situation strongly affects the learning process at all levels of education, including high grade elementary school. Almost the whole process should be carried out at home, so it is necessary synergies of teachers and parents' roles in achieving the objectives of learning. One of the materials discussed in the high-grade elementary school is about viruses. Various types of viruses still result in infectious diseases in different parts of the world. The characteristics and

activities of viruses (e.g., influenza) on the school setting are also still a mystery [2].

Viruses are the most important entity in the world and take part in many episodes of human history. The super-small size half-living thing can only be observed in laboratory research. Learning about viruses having limitations on various levels of school. Some methods are developed, one of which creates a device (kit) that can be used in practicum. Even elementary schools with limited funding support can have it [3]. However, the Covid-19 pandemic situation does not allow the learning process, both classical and laboratory implemented. All activities must be done at home. Media supporting the learning process in such situations is certainly needed. Many learning models and media are developed not only with the aim of enhancing knowledge, but also shaping skills and behaviors. One of them, the educational media virus (influenza) in the form of electronic books (e-book) is an alternative to increase the knowledge, attitudes, even the practice of high-class elementary school [4]. The research team developed a Hypercontent book titled Virus, Kenali-Hindari on March 2020. The book was launched in early April 2020 and was reserved for high-class elementary school teachers. The e-book disseminated through social media and web links <https://fkm.umj.ac.id/telah-hadir-buku-hypercontent-kenali-dan-hindari-virus/>.

The content of this book includes the introduction of various types of viruses, the consequences caused, and the way it is interception. The viruses are discussed ranging from the classic and common types of influenza, to the various types of viruses that mutate and result in new types of diseases such as Corona virus Novel (Corona virus new type cause Covid-19), as well as viruses that result in chronic health problems such as HIV. The material is divided into 4 namely what is a virus, how viruses infect, self-defense mechanisms, and levels of prevention.

The research is aimed at assessing whether the teacher as a facilitator can apply the book, especially in the midst of a Covid-19 pandemic that results in learning activities performed

at home. In indirect studies It is also intended to ward off misinformation, false, or lying very easily scattered through social media; By providing a fundamental understanding of the characteristics of viruses and how to prevent their transmission.

## II. METHODS

This survey was conducted online. Hypercontent books are shared along with questionnaire links that are also filled online. Once launched for 13 days, the incoming response is evaluated.

The questionnaire contains characteristic information that includes respondents' name, contact number, email, gender, age, last education, and the status of the teaching or having a child who is in high class (IV-VI) Elementary School. The next data is about the experience of providing education about viruses in elementary school, the ownership of teacher manuals, the suitability of books owned by the needs, difficulties when providing such material, and whether it requires media other than previously owned.

In particular, the evaluation of the hypercontent book of Virus, Kenali-Hindari is obtained through questions about the content components, completeness and clarity of the material description, the content, the easy to understand, the display of fission, and the title. The questionnaire was closed with the question of whether the book could be applied, and how it was confident in teaching the material before and after reading the book and watching all the videos.

Descriptive analysis directed to get a complete depiction of research variables. Respondents can also provide further information about the effect on the hypercontent book through online channels. A slight obstacle is encountered, generally, respondents are not accustomed to Hypercontent, so do not realize that the QR code contained in any material can be touched and directly connected to the learning materials linked.

## III. RESULTS AND DISCUSSION

E-Book Hypercontent Virus (Figure 1), Kenali-Hindari consists of four core materials, firstly, what the material is a virus, discussing definitions, different types, histories, shapes, and sizes as well as the general characteristics that the virus has. The second, how viruses infect, discusses the condition of the human body, the virus's ability to infect, and the environmental conditions needed for infection. The third was about self-defense mechanisms, containing diseases, signs, and symptoms and the last material was about the prevention of virus infection. A total of 69 responses collected.

### A. Characteristics of the respondents

Most of the respondents are women, aged  $\leq 20$  years and graduated from high school and the equivalent or currently studying at bachelor degree (66.7% and 26.1%) (Table 1). Unfortunately, as many as 94.2% of respondents were not teaching in high school classes and 88.4% had no children at the age of 10-12 years.

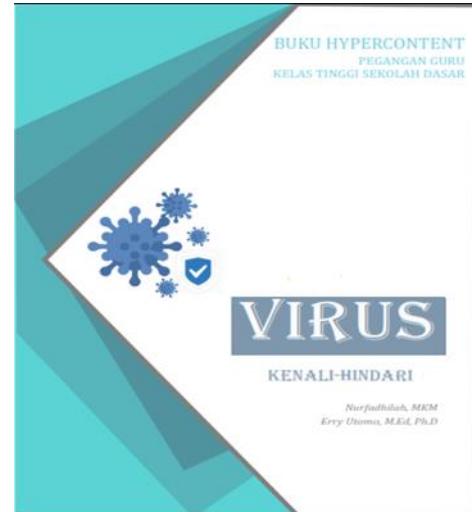


Fig. 1. Book Cover.

TABLE I. CHARACTERISTICS OF RESPONDENTS (N = 69)

Characteristics	f	%
<b>Sex</b>		
Woman	62	89.9
Man	7	10.1
<b>Age</b>		
$\leq 20$ y.o.	44	63.8
21-30 y.o.	22	31.9
$> 30$ y.o.	3	4.3
<b>Last Education</b>		
Senior High School	46	66.7
Going on Bachelor Degree	26	26.1
$\geq$ Bachelor Degree	5	7.2
Teaching High Class Level		
Yes	4	5.8
No	65	94.2
<b>Have child 10-12 years old</b>		
Yes	8	11.6
No	61	88.4

### B. The experience of doing Virus education

Most of the respondents did not deliver virus education to their students. A total of 69.6% of respondents did not conduct education about viruses in elementary school and only 14.5% had teacher manuals in teaching the material (Table 2). Generally, teachers (81.2%) feel the books that have been in accordance with their needs, but 49.3% still feel difficult when discussing the material so that then 87% feel still need media other than the one they currently have.

Educating elementary school children is challenging because of its distinctive characteristics. The rapid development of information and communication technology (ICT) is currently occurring. Sometimes conflicts and missed perception occur between teachers and students [5], as well as between parents and children when they have to study at home.

TABLE II. THE EXPERIENCE OF DOING A VIRUS EDUCATION (N = 69)

The experience of doing Virus education	f	%
Yes	21	30.4
No	48	69.6
<b>Have a teacher's manual book</b>		
Yes	10	14.5
No	59	85.5
<b>Books as needed</b>		
Yes	56	81.2
No	13	18.8
<b>Have trouble when giving the material</b>		
Yes	34	49.3
No	35	50.7
<b>Requires other media</b>		
Yes	60	87
No	9	13

### C. Perception of the E-book

Positive evaluation (> 90%) Expressed about the content component, clarity and completeness of material explanations, the order of material, as well as understandable and the title (Table 3).

TABLE III. PERCEPTION OF THE E-BOOK (N = 69)

Perception of E-book	f	%
<b>Content</b>		
Enough	68	98.6
Less	1	1.4
Excessive	0	0
<b>Complete and clear descriptions</b>		
Enough	68	98.6
Less	1	1.4
Excessive	0	0
<b>Systematic</b>		
Enough	67	97.2
Less	1	1.4
Excessive	1	1.4
<b>Easy to understand</b>		
Enough	67	97.2
Less	2	2.8
Excessive	0	0
<b>Book display</b>		
Enough	57	82.7
Less	9	13
Excessive	3	4.3
<b>Title</b>		
Proper	68	98.6
Not proper	1	1.4

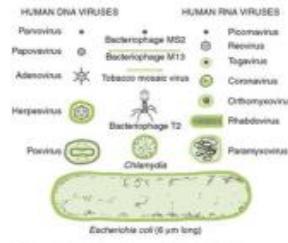
The book view is rated as the only positive rated component of less than 90% and a slight controversy. A total of 13% of respondents considered the book look less appealing, but instead, 4.3% considered it redundant. The book is structured as a teacher's grip, not a student. The notion that this book is less interesting may be based on that it can be enabled at once as a pupil's grip. In contrast, the notion that this book can be excessive because of the teacher's variation of experience, background (including culture), and the

competence of readers who come from Indonesia's vast territory. Past studies have shown that education interventions have a positive impact on improving knowledge, attitudes, and confidence to behave. Adolescent-friendly, culturally-contextualized, and Internet-based educational interventions have class discussions could become regular programs [6].

The last material level/level of prevention, discussing the concept of healthy-sick, primary, secondary, and tertiary prevention. This precautionary-related material comprehensively discusses clean and healthy living behavior (PHBS) in particular to prevent transmission from viruses, but also other types of germs. Some behaviors or healthy lifestyles (healthy lifestyle) are also discussed in an effort to increase the degree/health status. Each material has a video as an illustration and explanation. In Total there are eight videos with a duration of each between 5-15 minutes. Here are the pictures (views) of some parts of the viral Hypercontent book (Figure 2 and 3).

Some notes primarily related to the material presented in the video. Although in general, respondents assessed that the whole material is very interesting and easy to understand, but some consider the language to be less suitable for high level elementary students. Keep in mind that this book is the teacher's grip, so the target audience is not for learners directly. This book is expected to increase the capacity of teachers in delivering material about virus.

### MATERI 1. APA ITU VIRUS



Gambar 2. Bentuk dan ukuran relatif berbagai virus

Sumber: <https://e-fisika.stkip-ungu.ac.id/virus-structure-classification-and-activities/>

Selanjutnya, guru mendampingi peserta didik mengakses video tersebut 10 menit tentang sejarah dan struktur virus.

<https://www.youtube.com/watch?v=atL0f0i6CA>



Ternyata virus itu memiliki antara hidup dan mati yang sangat luar biasa. Satu lagi ciri virus yaitu memiliki kesempatan beradaptasi. Maka adalah pertumbuhan yang terjadi pada makhluk/makhluk genetik. Maklum akan mengakibatkan perubahan strukt virus, sehingga diperlukan penelitian lebih lanjut untuk mengenali ciri atau karakter virus yang berhubungan tersebut. Kelebihannya pertumbuhan akus serupa dengan makhluk hidup?

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Fig. 2. Videos embedded using QR code.

## MATERI 4. TINGKAT/LEVEL PENCEGAHAN

Buktikan, ketika terlalu membasuh tangan dengan air dingin. Terakhir, peserta dituntut diminta untuk menyebutkan latihan pertama secara berurutan/perek di bawah.

1. Dihindarkan tentang pertemuan antara virus yang ada di sekitar
2. Analisis pertemuan yang selama ini dilakukan
3. Apa yang bisa dilakukan untuk mempertahankan risiko/pertemuan antara? Biasa pertemuan spesifik atau memiliki lingkungan dan diskusi tentang kebutuhan sekelah
4. Bantuan kognitif di bawah tentang tingkat lanjut dan pertemuan dengan komitmen bersama.

KURS:  
Silakan jawab pertanyaan-pertanyaan berikut



Fig. 3. Videos and Interactive quiz at each end of the material started when the QR code is touched

One of the types of viruses discussed in this E-book is HIV (Human Immunodeficiency Viruses) that causes AIDS (Acquired Immune Deficiency Syndrome), which is a collection of symptoms of damage to the immune system. This topic is related to puberty that occurs much in the younger (premature) age in various parts of the world, including Indonesia. However, pubertal education has not been the norm, especially at elementary school level [7]. The intended education should be designed so that adolescent friendly [6,8] and sensitive culture [6,9] to complement the discussion in the class.

This book emphasizes the only prevention that 100% effectively avoids the risk of contagious transmission of sexually transmitted infections (STIs), including HIV through the exchange of bodily fluids during sexual activity, i.e., abstinence (Abstinence or fasting sex). Education is portrayed through one of the videos, it allows the perception that the information/material or the display of the book is considered excessive. In fact, with sufficient explanations and discussions, this material becomes an interesting and important part and urges to convey given that some of the high-class learners of elementary school are already experiencing menstruation and wet dreams as a sign of late puberty.

The use of media by utilizing ICT is pretty much done. The intervention of smart phones or mobile phones for example, proved to be an effective tool in behavioral change [10-12] and education [6,13]. Current students are also highly dependent on the learning process and other daily activities. High access to smart phones and its applications opens up to the wide opportunities of educators to leverage and develop applications to support student growth and development processes. This Hypercontent book is in accordance with the expectations and perception of respondents and can be applied in current learning.

PHBS and healthy lifestyles that have always been promoted by health practitioners have long become popular on

their own during the Covid-19 pandemic. Research and intervention were conducted by utilizing various media and technology to teach hand washing soap (CTPS) with flowing water [14] since long time ago. Nowadays, it's happily done all circles. Similarly eat balanced nutritious food, physical activity, as well as keep the sun's distance and sunbathing to get the benefits of sunlight.

Nevertheless, there are still a lot of misinformation scattered or lying and misleading primarily through social media. This book provides a fundamental understanding to the reader so it is hoped that they can think and act logically and responsibly when receiving information. For example, in a book it is explained that a virus can infect if a few conditions are fulfilled, including an open 'door' (Exit-enter), an adequate amount (sufficient), and in life conditions (survival). So, the stigma and discrimination against sufferers is really not expected to happen.

The possibility of implementing this book in all regions in Indonesia is highly feasible. However, because the teacher's capacities and experiences and background are very varied, it can be found constraints when applied in areas with disabilities. Sure, it takes adequate Internet network to be able to watch videos and take quizzes. The book comes with a quiz at each end of the material for the preparedness and identification of participants before learning begins. Communication styles, choice of words and terms, and cultural specificity are also things to consider. As one solution, at the end of the book included a form link that can be supplemented if the reader needs explanation or give suggestions about the book.

## IV. CONCLUSION AND SUGGESTION

E-Book Virus, know it-Avoid it got positive valuation from almost all of the respondents. It is highly potential to be one of the alternatives to be implemented in the elementary school level during Covid-19 Pandemic and continued in the future. The Covid-19 pandemic is contextually relevant to the material discussed and the media developed. Video Media as a complement and explanatory is very supportive of the learning process so that it becomes more interesting. Nevertheless, the limitation of quality video and suitability with high-class learners of elementary school that can be downloaded at no cost (open source/public domain) into separate records in the development of learning media.

This book as a teacher's grip requires skill and creativity when applied. Most materials can be forwarded directly to learners, but needs to be aware of the capacities and facilities available on site. Conformity with local culture and language is also a concern that should not be ignored. The space and opportunity to give feedback and ask available can be utilized. It is also very open that the book is studied further and discussed in order to continue to be developed.

The Hypercontent book can be implemented immediately throughout the learning process in the home still continue to be done. The application can be continued even in the later days

of classical learning in the school back as before. This research will continue with the application of books in selected schools and other schools that voluntarily will apply. Capacity of teachers to be able to convey material about the virus through this book need to be improved. So that, they can educate the students about clean and healthy lifestyles. Policy support in various regions of Indonesia and at the central level will mean a lot to achieve the learning objectives.

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