**DEVELOPING HOTS-BASED E-MODULE TO IMPROVE STUDENTS’ READING SKILL AT SATU NUSA LAMPUNG UNIVERSITY**

|  |  |
| --- | --- |
| Masfa Maiza  University of Satu Nusa Lampung  masfamaiza27@gmail.com  Firma Pradesta Amanah  University of Satu Nusa Lampung  firma.pradesta@gmail.com  Homsatun Nafi’ah  University of Satu Nusa Lampung  homsatunnafiah04@gmail.com | **Abstract:** The rapid development of technology supports a creative and innovative educational process in digital form, especially in providing digital material. E-module, as one of the digital materials, allows the students to access it easily. This research aims to develop a Higher Order Thinking Skill (HOTS)-based e-module of reading for English Literature students at Satu Nusa Lampung University. This teaching material is developed using Canva. This uses the ADDIE research and development (R&D) model in five stages, namely (1) Analysis (2) Design (3) Development (4) Implementation, and (5) Evaluation. Accordingly, the result shows that this e-module that has been developed is valid, practical, and effective. Meanwhile, the validity of this e-module reaches a very good category based on the expert’s and validator’s evaluation. Furthermore, the practicability reaches very good based on the students’ responses and lecturers’ evaluation. Therefore, this e-module is effective and reaches a very good category based on the students’ achievement on the test. |
| **Keywords:** *development, e-module, HOTS, Canva, reading skill* |

**INTRODUCTION**

Reading, a receptive skill, is considered as a complex process that aims to enhance knowledge. People do reading activity to learn how to use a certain language for many goals (Tyatira B 2021). Reading is not only recognizing the words, but also interpreting the idea in the writing text (Fromkim et al., 2018; Sucipto & Cahyo, 2019). In other words, a reader will succeed in reading if the reader understands the intended meanings conveyed by the writer (Muijselaar et al., 2017; Berlin et al., 2022). The depth of recognition toward reading texts influences the quality of reading skill, since the skill aligns with the level of reading comprehension (Sugiarto et al., 2021). Thus, construing the content from a textual form cannot be achieved without acquiring higher-order thinking skills.

Higher-order thinking skills are part of the cognitive processes defined in the revised version of Bloom’s Taxonomy. Based on the overview of Revised Bloom’s Taxonomy by Krathwohl (2002: 215), there are six levels of cognitive processes skills to determine the accomplishment of learning objectives namely remembering, which refers to regaining relevant knowledge from the memory, understanding which refers to establishing the meaning of instructional messages, applying which refers to employing certain procedures in a given situation, analyzing which refers to sorting out components of information and find out how the components relate to one another and to an overall structure or purpose, evaluating which refers to constructing resolutions or judgments according to certain standards or criteria, and creating which refers to establishing new products. In short, these six levels refer to two levels, in which remember, understand, and apply are sorted into lower-order thinking skills (LOTS), while analyze, evaluate, and create are sorted into higher-order thinking skills (HOTS).

In Indonesia, HOTS is admitted to be a significant part in developing students’ ability. It is closely related to the activities such as analyzing, valuing, and creating new understanding from what they have acquired during the learning process, and even in English teaching class, HOTS becomes strategic way to gain the objective (Retnawati, Djidu, Kartianom, Apino, & Anazifa, 2018, as cited in Susanti et al., 2020). Hence, the kinds of material and tasks used by students should be integrated with HOTS that correspondence with their reasoning, inferring, and decision-making ((Tyatira & Sulistyaningrum, 2021).

According to Heong, et al. (2011) higher order thinking means using thinking broadly to be able to find new challenges. Higher order thinking requires someone to perceive new information or knowledge and adapt the idea to reach possibility of answers in new circumstances. Brookhart (2010) argued that higher-order thinking is defined as the upper end of Bloom’s cognitive taxonomy. The teaching objective behind any of the cognitive taxonomies is equipping students to be able to transfer. A phrase of “being able to think” means students can utilize the knowledge and skills they developed during their learning to new contexts. Higher-order thinking is assigned as students being able to relate their learning to other elements beyond what they are taught (Mertha et al, 2017). Moreover, the higher order thinking skill for students becomes noteworthy ability that should continuously be upgraded. By following consistent instruction, students are expected to boost their higher skill in thinking. This high level happens due to the capability of someone to think critically (Damonopolii et al., 2022; Iwan et al. 2023).

American Reading Association develops a subject called Critical Reading that supports students to have critical skills. Critical reading does not mean students should always criticize all aspects in the reading text, but it emphasizes on the students’ arguments used to evaluate and analyze what they already read (Tran T, 2015). Reading activity primarily uses the sense of sight. Arsyad (2014), Hutapean (2019), and Yokami et al. (2023) argued that electronic modules can efficiently assist students to understand the idea that engages some senses particularly sight. Learning certain subject using module can promote self-actualized circumstances in which students can explore their maximal potential including analytic skill. For instance, the modules refer to instructional material that aid students to achieve learning outcome through independent study (Subeksti & Widayanti, 2017) and (Dita et al., 2023).

In addition, there are three main processes in HOTS i.e. transferring, critical thinking, and solving problems (Kharismawati, et al. 2020). Hence, the reading activities based on HOTS also supports the current learning that takes advantages from technology. One big reason students like online learning is they can also be more productive at home through accessing the online materials (Amanah, et al. 2023). Then, electronic modules can definitely accommodate the needs of students’ reading learning.

Nowadays, the electronic module has already known by most students in the world. It is definitely affected by the Covid-19 pandemic. A number of educational institution implemented long distance learning that could be assessed anywhere and everywhere. The modules offer interactive and accessible features using electronic devices (Tyatira & Sulistyaningrum, 2021). Some researchers revealed the benefits of electronic modules. E-module is defined as an adjustment from conventional modules to digital learning materials (Marpaung & Rosmen, 2022). The complex elements can assuredly be added to electronic modules such as images, animations, audios, and videos. Moreover, all advantages of using e-module assign to facilitate students in their learning process (Pramana et al., 2020).

One of the newest researches from Faidah et al. (2023) acknowledged e-modules as non-printed teaching material products designed to be operated by students through a number of electronic tools such as smartphones, tablets, laptops, or computers. In addition, every student today has potentially accessed to the gadgets so that e-module will easily be used by both teachers and students as interactive sources to reach the learning goals, done whether in the classroom or outside the classroom (Anandari et al., 2019; and Nufus et al. 2020). Eventually, e-module systematically consists of ideas, strategies, and assessment approaches that can be modified based on the level of difficulties.

Both strategy and approach implemented to solve students’ difficulties is through developing teaching materials. Hamdani (2011) stated that teaching materials refer to all kinds of materials used by the teachers in carrying teaching and learning activities in the class, and arranged systematically whether written or spoken, so as to create an atmosphere or environment that allows them learning. Besides, composing teaching material has some benefits. One of them is to engage students learning and support teacher in transmitting the instruction and knowledge. According to Suparman (2012) it will be impactful if teaching materials are developed based on the needs. Thus, the objective of the study can optimally be achieved.

The sources of electronic-based teaching materials are believed to be able to improve English language outcomes (Aini, et al., 2020). A previous research revealed that e-module containing images, audios, videos, and practice questions can encourage an effective learning system (Gunsri & Prawati, 2023). Therefore, this research has an aim to collaborate electronic-based learning materials with critical thinking skill in reading class. The needs of critical reading skills are faced by English Literature students in Universitas Satu Nusa Lampung. The current students have implemented reading skills that almost similar to the ways in their previous level at school. It has not fully implemented the high order thinking skill. Moreover, the lack of critical reading is caused by the students’ minimum ability to argue their opinions.

On the other sides, with more complex and difficult materials, students need better reading skills that present more effective and efficient (Soedarso, 2010). In the current class, the material provided in Reading IV is mostly higher than the students’ ability. Also, the exercises provided in the teaching material model require high critical reasoning abilities. Consequently, developing teaching material becomes a crucial item in the reading class. Besides, the teaching material should be appropriate with the students’ ability and can be a trigger to enhance their critical thinking in reading skill and improve the speed and understanding (Hamdani, 2011). HOTS learning gives a gap for students to getting to know from various sources.

This research was conducted in English Literature, University of Satu Nusa Lampung. The researchers already observed the students while teaching Reading IV subject. It revealed that the students were lack of enthusiasm and interest in reading the text. This was due to the text given had not accommodated the students’ need in reading. Moreover, the students’ characteristics indicated that they tend to learn in mobile. Consequently, this research was carried out by developing an electronic module based on HOTS media to improve both students’ reading enthusiasm and students’ reading skills. The e-module is designed with a media called Canva. Canva is chosen in this research because it can be obtained via website, Google Play, and App Store. Canva also provides various features used to display more interesting and interactive design (Feby & Hudayanti, 2022). In short, this research focuses on how are the validity and affectivity of Reading VI e-module to improve reading skill of English literature students at University of Satu Nusa Lampung.

**RESEARCH METHODOLOGY**

This research employed a research and development (R&D) study, a research and development that produces a product that is tested for validity (Sugiyono, 2017). This research uses the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation) with the main objective of developing a valid and practical e-module product.

Development is carried out through the stages proposed by Branch (2009), which are as follows: (1) Analysis, the researchers analyzed the problems, potential, and needs of e-module development. (2) Design, which is the stage of determining the application used in making the e-module, the design and format of the e-module content. The researchers used the Canva application because the features provided can make the appearance and content of the e-module varied. (3) Development, in this stage the researchers developed the design that was designed in the design stage with the Canva application. The e-module that has been designed and developed was then tested for feasibility validation by three experts, consisting of material, language, and media experts. (4) Implementation, at this implementation stage the researchers conducted a practicality and effectiveness test of the e-module product that had been developed. The researchers gave a practicality questionnaire to the lecturers of Reading IV course at University of Satu Nusa Lampung. The effectiveness test was conducted by taking the evaluation results from one of the materials available in the e-module and was said to be effective if the average evaluation result obtained an average value of >75. (5) Evaluation, e-module product was produced after being given input by media, material, and language experts and then revised for perfection before being used in the learning process.

This research was conducted at University of Satu Nusa Lampung and the research time was carried out in June-August 2024. The subjects of the research were students of the English Literature Study Program, Satu Nusa Lampung University.

**RESULT AND DISCUSSION**

This e-module was designed to increase the students’ reading skills using Canva application. The content of each material was developed based on the lesson plan, analysis of students’ need and validity test. The stages were carried out in Analysis, Design, Development, Implementation and Evaluation (ADDIE). The following is the elaboration of each stage.

**Analysis**

In this stage, this e-module was developed and integrated with learning content and language approach. It was gained by analyzing of lesson plan for Reading IV subject, delivering a questionnaire and conducting an interview to the students. This need analysis revealed how the characteristics of students and the material used. Based on the lesson plan, the goal of Reading IV subject is to develop the critical thinking skills and cultivate response and reasoned point of view as basis for argument through the various genres of text the students read at the university level. The materials cover:

1. How to examine the evidence or arguments presented,
2. How to check out any influences on the evidence or arguments,
3. How to check out the limitation of focus and examine assumption or implication made, and
4. To what extent the students are prepared to accept the author’s argument, opinion or conclusion.

The use of a questionnaire was aimed to identify the students’ interest in reading, including the text they prefer to read, the topic they are interested in and the type of questions for reading comprehension. The result showed that they preferred to read article, short story and news. The topics that they are interested in reading were culture and society, music and arts and history, while types of questions that they preferred doing in reading task were multiple choice, true/false and open-ended questions.

Another instrument used was an interview to obtain information on the methods of students in reading activities. These are the results of the interview:

1. The students felt bored with the previous materials provided,

Interviewee #2 stated, “A printed book was not interesting because it was not portable, and contained flat displays.”

1. The students did not spend time reading regularly or they only read the text as instructed by the lecturer,

Interviewee #5 stated, “I read the text when my mind is most focused, it could be in the morning, before bed, or when my mind feels calm throughout the day.”

1. The existing learning only emphasized the ability to read English text,

Interviewee #6 stated, “I think the teaching only focused on reading the text, not on comprehending its contents.”

1. Learning did not accommodate high-level thinking because the learning process only optimized the questions referred to the text, and

Interviewee #1 stated, “In my opinion, the questions were easy to answer.”

1. The students were interested in using technology to learn.

Interviewee #8, stated, “I spend my time using mobile phone to access everything. So, learning from my mobile phone will be interesting.”

From these analyses, an appropriate learning e-module was prepared for Reading IV subject. This e-module should be developed to solve the problems mentioned earlier. It should accommodate not only to comprehend the text but also to build the students’ critical thinking and high-level thinking.

**Design**

In this stage, it was aimed to create an initial design of e-module for Reading IV subject. The followings carried out this design:

1. Preparation of reference text, images, videos, and tests based on the students’ need analysis results. The activity of each unit would encourage the students to think critically and do the test based on HOTS of Bloom Taxonomy in the level of ‘analysing’, ‘evaluating’ and ‘creating’.
2. The choice of media namely Canva application integrated with the selection of media that helped the students learn online or offline. The researchers as well as the writers of this e-module did a workshop on designing with Canva since they need a deeper understanding of this application.
3. Using Canva application could make the series of interesting slides or pages. The learning design would fit with the preferences and link to any website.

The following presented e-module of Reading IV:

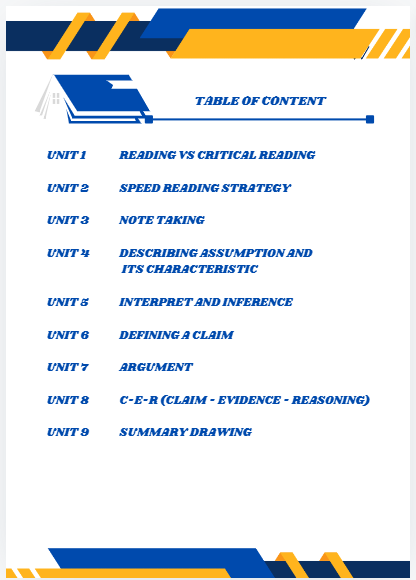
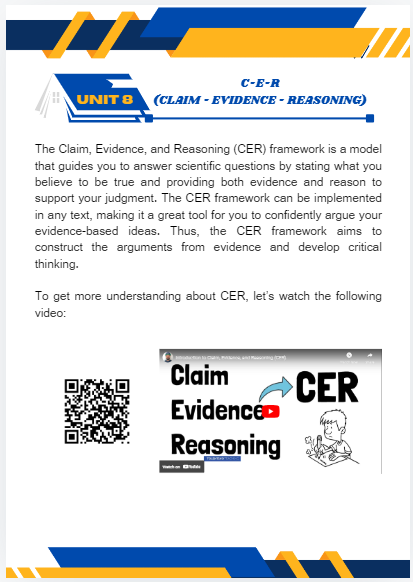
 

Image 1. Table of content Image 2. Linked to the video

**Development**

The development was aimed at creating a revised e-module based on the input of validators. This validation test was carried out by the media, material and language experts. The validity of media would see the quality of its media or design. The material expert would look at the materials compiled in the e-module and the suitability of the lesson plan and students’ needs. The language expert would see how the use of language aspect. It reached a very good category score. The input from these experts was used to develop the e-module to be better and more suitable for Reading IV subject.

|  |  |  |
| --- | --- | --- |
| No | Experts | Percentage (%) |
| 1 | Media expert | 92,4% |
| 2 | Material expert | 87,8% |
| 3 | Language expert | 88,3% |
| Average | | 89,5% |

Table 1. Result of the Validity Test

**Implementation**

The developed e-module was tested on the English Literature students. It was carried out by the lecturer. This implementation stage was done in three meetings. In each meeting, the students were given the reading material and various activities such as discussion and answering questions. After holding the meetings, a questionnaire was delivered to the lecturer and students to assess its practicality. The result showed that it reached a very good score.

|  |  |  |
| --- | --- | --- |
| No | Experts | Percentage (%) |
| 1 | English lecturer | 93,6% |
| 2 | English literature students | 89,7% |
| Average | | 91,7% |

Table 2. Result of the Practicality Test

The effectiveness of this e-module could be seen from the completeness of students’ learning. The researcher conducted an achievement test. The average score of students’ achievement test was 84,2. Thus, this e-module was effective to used. It also showed that this e-module design was not only to improve English language skills, but also to improve the students’ critical thinking.

**Evaluation**

In this stage, the e-module was revised based on the input from the experts. The following are the changes to the e-module:

|  |  |  |
| --- | --- | --- |
| No | Before | After |
| 1 | Some of the learning goals use the cognitive level of C3 (apply) | The learning goals use the cognitive level of C4 (analyze), C5 (evaluate), and C6 (create) |
| 2 | Some of the instructions use everyday language and are difficult to understand | It uses differentiated instruction based on learning style |
| 3 | Types of letters used are less varied and the size of the letters is too small | There is an addition of variety in types of letters and the size of letters is changed |
| 4 | Some of the images and videos presented are not communicative | The images and videos are chosen based on the topics |

Table 3. Before and After Revision

This evaluation also led the students to foster their critical thinking. The material should be added with the current issues and adopted from daily life situations, such as news and articles. The test or assignment was arranged to stimulate the students’ critical thinking so that the students could comprehend deeper information or understanding in reading text.

**CONCLUSION**

The results of this study showed that the e-module was developed with the ADDIE model and reached the valid, practical, and effective criteria. Lesson plan analysis and students’ need for reading interests were the keys to accommodating the e-module based on HOTS. In this case, the use of Canva application also proved to be a handy tool in facilitating the students to learn online or offline. This research was only conducted on limited subjects. It might show a different result on a broader scale. Other researchers are recommended to conduct research on a broader scale and accommodate the students’ challenge in reading for HOTS level.

**REFERENCES**

Aini N, Sari EMP, Rikarda WA. (2020) e-Module Design with Content Based Instruction in Reading for Academic Purpose. *Ilmu Pendidikan Kajian Teori dan Praktik Kependidikan*. 5(2):73–82.

Amanah FP, Nafiah H, Maiza M. (2023) Students’ Perspectives on Digital Communication in Online Learning During Covid-19 [Internet]. *Atlantis Press SARL*. 381–389 p. Available from: <http://dx.doi.org/10.2991/978-2-38476-046-6_38>

Anandari, C. L., & Iswandari, Y. A. (2019). Extensive Reading in Indonesian Schools: A Successful Story. *TEFLIN Journal: A Publication on the Teaching & Learning of English*, *30*(2).

Arsyad, A. (2014). *Media Pembelajaran*. Bandung: PT Rajagrafindo Persada.

Berlin AW, Apriliaswati R, Rezeki YS. (2022) Developing E-Module of Islamic Reading Text Materials. *J Foreign Lang Teach Learn*. 7(1):24–40.

Branch, R. M. (2009). *Instructional design: The ADDIE approach*. New York: Springer.

Brookhart, S. M. (2010). *How to assess higher-order thinking skills in your classroom*. Ascd.

Damopoli, I., Paiki, F. F., & Nunaki, J. H. (2022). The development of comic book as marker of augmented reality to raise students' critical thinking. *TEM Journal*, *11*(1), 348–355. <https://doi.org/10.18421/TEM111-44>

Dita, K. I., Tuririday, H. T., Damopolii, I., & Latjompoh, M. (2023). Designing the human circulatory system e-module to increase student achievement. Inornatus: Biology Education Journal, 3(2), 75–84. <https://doi.org/10.30862/inornatus.v3i2.422>

Faidah STR, Sriyati S, Priyandoko D. (2023) Development to Train High School Students’ Reading Literacy Skills. *J Peneliti Pendidikan IPA*. 9(8):6045–55.

Feby DV, Hudayanti T. (2022). Pemanfaatan Canva Sebagai Modul Digital Interaktif Matematika Untuk Mengoptimalkan Pembelajaran Jarak Jauh. *HUMANTECH JURNAL ILMIAH MULTI DISIPLIN INDONESIA.* 1(7):853–9.

Fromkin, V., Rodman, R., & Hyams, N. (2018). *An Introduction to Language (w/MLA9E Updates)*. Cengage Learning.

Gunsri P A, Prawati A SM. (2023) Developing E-Module for Teaching Reading at Senior High School. *Edukatif J Ilmu Pendidikan*. 5(6):2926–37.

Hamdani. (2011). *Strategi Belajar Mengajar*. Bandung: Pustaka Setia.

Heong, Y. M., Othman, W. B., Yunos, J. B. M., Kiong, T. T., Hassan, R. B., & Mohamad, M. M. B. (2011). The level of marzano higher order thinking skills among technical education students. *International Journal of Social Science and Humanity*, *1*(2), 121.

Hutapean, L. A. (2019). Pemanfaatan E-module interaktif sebagai media pembelajaran di era digital. *Prosiding Seminar Nasional Teknologi Pendidikan Pascasarjana UNIMED*, 298–305.

Iwan, I., Sumitro, S. B., Ibrohim, I., & Roman, F. (2023). Students’ critical thinking skills (2011-2020): *A bibliometric analysis. Journal of Research in Instructional*, 3(2), 104–117. <https://doi.org/10.30862/jri.v3i2.26>

Kharismawati LRS, Anggraeni R, Gasalba RA, Rabbani TAS, Ramadhanty TP. (2020). *Modul Mandiri Pengajaran Bahasa Berbasis HOTS Jenjang Sekolah Menengah Pertama*. pp. 144.

Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. *Theory into practice*, *41*(4), 212-218.

Marpaung FDN, Rosmen R. (2022). Developing Reading E-Module Based on Langkat Sultanate History for English Department Study of STKIP Al-Maksum Langkat. JIIP – Jurnal Ilmu Pendidikan. 5(10):4295–301.

Merta Dhewa, K., Rosidin, U., Abdurrahman, A., & Suyatna, A. (2017). The development of Higher Order Thinking Skill (Hots) instrument assessment in physics study. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, *7*(1), 26-32.

Muijselaar, M. M. L., Swart, N. M., Steenbeek-Planting, E. G., Droop, M., Verhoeven, L., & de Jong, P. F. (2017). Developmental relations between reading comprehension and reading strategies. *Scientific Studies of Reading*, *21*(3), 194–209.

Nufus, H., Susilawati, S., & Linda, R. (2020). Implementation of e-module stoiciometry based on kvisoft flipbook maker for increasing understanding study learning concepts of class X senior high school. *Journal of Educational Sciences*, *4*(2), 261-272.

Pramana, M. W. A., Jampel, I. N., & Pudjawan, K. (2020). Meningkatkan hasil belajar biologi melalui e-modul berbasis problem based learning. *Jurnal Edutech Undiksha*, *8*(2), 17-32.

Soedarso. (2010). *Speed Reading: Sistem Membaca Cepat dan Efektif*. Jakarta: Gramedia.

Subeksti, P., & Widayanti, L. (2017). Pengembangan modul mata kuliah statistika dan probabilitas dengan pendekatan problem based learning untuk mahasiswa Program Studi Teknik Informatika Di STMIK Asia Malang. Jurnal Kajian Pembelajaran Matematika, 1(2), 96–105. <http://journal2.um.ac.id/index.php/jkpm>

Sucipto, S., & Cahyo, S. D. (2019). A Content Analysis of the Reading Activities in Bright English Textbook for Junior High School Students. *English Language Teaching Educational Journal*, *2*(1), 13–21. https://doi.org/10.12928/eltej.v2i1.918

Sugiarto, D., Indrawati, I., & Meygita, R. (2021). Improving Students’ Reading Comprehension Text through Concept-Oriented Reading Instruction (CORI). *EEdJ: English Education Journal*, *1*(1).

Sugiyono. (2017). *Metode Penelitian Bisnis: Pendekatan Kualitatif, Kuantitatif, Kombinasi dan R&D.* Bandung: Alfabeta.

Suparman MA. (2012). *Desain Instruksional Modern*. Jakarta: Erlangga.

Susanti, A., Retnaningdyah, P., Ayu, A. N., & Trisusana, A. (2020). Improving EFL students’ higher order thinking skills through collaborative strategic reading in Indonesia. *International Journal of Asian Education*. 1. 43-52. https://doi.org/10.46966/ijae.v1i2.37

Tran T. (2015). *Critical Reading: A Guidebook for Postgraduate Students*. Hue: Hue University Publishing House.

Tyatira B, Drivoka Sulistyaningrum S. (2021). “Higher Order Thinking Skills Integrated in Reading Activities of Modul PJJ Bahasa Inggris for Ninth Grade Students in Indonesia: A Content Analysis.” in *PROCEEDING AISELT (Annual International Seminar on English Language Teaching)*.

Yomaki, E. K., Nunaki, J. H., Jeni, J., Mergwar, S. D. I., & Damopolii, I. (2023). Flipbook based on problem-based learning: Its development to bolster student critical thinking skills*. AIP Conference Proceedings*, 020022. <https://doi.org/10.1063/5.0126212>