PAPUA JOURNAL OF PHYSICS EDUCATION (PJPE)
Vol 5, No 1, Halaman 32-44
Bulan Juni Tahun 2025

p-ISSN 2722-5852
e-ISSN 2746-329X

IMPLEMENTATION OF THE INDEPENDENT CURRICULUM BASED ON HIGH SCHOOL TEACHER'S PERCEPTION IN PHYSICS SUBJECT IN BANDAR LAMPUNG CITY

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ABSTRACT

The global education sector faced a significant crisis due to the COVID-19 pandemic, characterized by widespread learning loss and educational disparities. To address this critical situation and facilitate recovery, the Independent Curriculum was introduced as a key initiative. This research sought to investigate how high school Physics teachers in Bandar Lampung City perceive the implementation of this new curriculum. Conducted in Bandar Lampung City from March to June 2023, the study involved 30 high school Physics teachers, a portion of whom had already adopted the Independent Curriculum. A quantitative research design utilizing a survey method was employed. Data collection relied on a closed questionnaire distributed to the participating teachers. Prior to its use, the questionnaire underwent content validity testing. The collected data was then analyzed using descriptive statistics.The study's findings indicate that all state high schools in Bandar Lampung City have implemented the Independent Curriculum. This implementation was examined across its planning and instructional execution aspects. Overall, Physics teachers hold a fairly positive view of the Independent Curriculum's rollout. These educators in Bandar Lampung City have not only planned and delivered lessons in alignment with assessments provided by the Ministry of Education, Culture, Research, and Technology but have also tailored their approaches to suit the specific circumstances and requirements of their students.

Keywords: *Independent Curriculum, Teacher Perception, Physics Subject.*

INTRODUCTION

Education stands as a crucial determinant of human resource quality and a nation's overall advancement. Encouragingly, the 2022 PISA (Program for International Student Assessment) results reveal that Indonesia has improved its ranking since 2018, which was ranked 66th out of 81 participating countries. Although Indonesia's ranking increased by 5-6 positions compared to PISA 2018, Indonesia's scores in reading, mathematics, and science decreased (OECD, 2023). The Covid 19 pandemic has increasingly caused a crisis in the world of education where there is loss of learning and learning gaps (Engzel et al., 2021). The Indonesian nation needs to take serious action to overcome these problems. The curriculum is an important component that aims to direct educational goals (Prabowo, 2019). Thus, in its application, the curriculum that is developed should pay attention to the developments and needs of the 21st century. One of the efforts that can

p-ISSN 2722-5852
e-ISSN 2746-329X

improve and help recover from the learning crisis that occurred due to the Covid-19 pandemic is to implement the Independent Curriculum (Nugraha, 2022).

The Independent Curriculum represents a groundbreaking policy introduced by Minister of Education Nadiem Makarim, with the goal of fostering a generation that is both intelligent and morally upright (Hutabarat et al., 2022). This initiative seeks to shape education by prioritizing the development of knowledge, skills, and character in alignment with Indonesian national values (Armadani et al., 2023). At its core, Independent Learning promotes intellectual freedom for both students and teachers, which encourages the formation of independent character and enables individuals to gain knowledge from their surroundings (Ainia, 2020).

The learning principles applied in the Independent Curriculum can improve self-competence according to student character, but also instill moral values or attitudes. In the sense that each student is given the freedom to choose, access, and explore the concepts of science that will be studied and of course pay attention to their moral character education. The Independent Curriculum incorporates several key programs: it features project-based learning to cultivate soft skills and character aligned with the Pancasila Student Profile. Additionally, it prioritizes essential learning material for deeper student understanding and employs differentiated instruction tailored to individual abilities, while also adapting to local contexts and content (Wiguna & Tristaningrat, 2022).

One key component of the Independent Curriculum is the Pancasila Student Profile Strengthening Project (P5). (Khoirurrijal et al., 2022). This project serves as a key mechanism for achieving various objectives outlined in the Pancasila Student Profile. The Profile itself encompasses six core dimensions: (1) believing and being devoted to God Almighty and having noble character; (2) global diversity; (3) mutual cooperation; (4) independent; (5) critical thinking; (6) creative. The Pancasila Student Profile seeks to cultivate competent graduates who exemplify the values of Pancasila in their conduct. Its implementation offers flexibility concerning content, activities, and scheduling. In the P5 activity, it provides the freedom to learn using formal conditions with the aim of creating active learning but also strengthening various competencies in the Pancasila Student Profile. The Pancasila Student Profile can also be applied to every subject, one of which is Physics. Physics is one of the subjects that is difficult and not interesting to learn. The Independent Curriculum primarily champions the freedom to delve into preferred scientific disciplines. (Farhana, 2022). Therefore, further research is needed to determine the implementation of the Independent Curriculum with the relationship between Physics.

According to the results of interviews that have been conducted on a limited basis by Physics teachers in Bandar Lampung City, teachers still do not understand the relationship between the independent curriculum and Physics learning, as well as implementing the Pancasila Student Profile Implementation Project which is linked to Physics. This is also supported by research conducted by Sunarni and Karyono (2022) which states that teachers have not optimally implemented the Independent Curriculum in learning because many teachers have not had the opportunity to participate in training/socialization related to the implementation of the Independent Curriculum, especially in the formation of the Pancasila Student Profile. Sartini and Mulyono (2022) also stated that teachers and students still do not understand the

p-ISSN 2722-5852
e-ISSN 2746-329X

concept of Independent Learning, especially in character development as it is to realize national goals and the demands of the development of the times. Driven by these considerations, this research investigated the implementation of the Independent Curriculum as perceived by high school Physics teachers in Bandar Lampung City.

METHOD

This study employed a quantitative survey design and was carried out from March to June 2023 across 17 State Senior High Schools in Bandar Lampung City.. The sample for this research was high school physics teachers in Bandar Lampung City, consisting of 30 respondents from 17 state high schools. The sampling technique used was purposive sampling, considering that Physics teachers at the school had implemented the Independent Curriculum. The research stages consisted of preliminary, preparation, and implementation stages.

The research instrument used was a questionnaire on Physics teachers' perceptions of the implementation of the Independent Curriculum. Before being used, the instrument had been tested for content validity by 3 experts and was declared valid and in the high category. The data analysis technique used in this study was descriptive statistics. The data obtained were then presented, this calculation used Microsoft Office Excel. Furthermore, it is described and conclusions are drawn based on predetermined criteria. The formula used to calculate the percentage of respondents along with the assessment criteria is as follows.

$$p = \frac{f}{n} \times 100\% \qquad (1)$$

Description:
p=percentage sought
f=frequency
n=total number of frequencies

The classification of score levels in percentage form can be seen in Table 1.

Table 1. Interpretation Criteria

Interval Presentase	Category
0%	No one
0%< *P*< 25%	A small part
25%≤ *P*≤ 50%	Almost half
50%< *P*< 75%	Most
75%≤ *P*≤ 100%	Almost all
100%	All

(Source Paula dkk., 2022)

The results of the descriptive percentage analysis are interpreted using a descriptive percentage criteria table, then interpreted using qualitative sentences to draw conclusions.

RESULT AND DISCUSSION

Result

The research was conducted in March - June 2023 in Bandar Lampung City by distributing questionnaires face-to-face to the Physics teachers concerned. The study's respondents included Physics teachers who had adopted the independent curriculum. Based on the results of this study, it explains the implementation of the independent curriculum based on the perceptions of physics teachers in Bandar Lampung City. Before being used, the questionnaire was validated first by 3 experts.

The expert evaluation of content validity revealed that the questionnaire achieved a moderate validity rating, as detailed in Table 2.

p-ISSN 2722-5852
e-ISSN 2746-329X

Table 2. Results of calculations from content validity testing

Butir	Penilai			s_1	s_2	s_3	$\sum s$	V	Kategori
	1	2	3						
Substantion	6	7	6	5	6	5	16		
Konstruction	12	12	10	11	11	9	31		
Language	12	11	12	11	10	11	32		
1-8	30	30	28	29	29	27	85	0.86	Validitas Sangat Tinggi

This study examined two distinct aspects: Physics teachers' perceptions regarding the planning of the Independent Curriculum's implementation, and their perceptions of its actual learning implementation.

1. Planning Aspect

This aspect requires evaluating the Independent Curriculum's implementation by examining its key components: operational curriculum planning, objective flow design, learning and assessment planning, teaching tool utilization and development, and the planning of Pancasila profile strengthening projects.

1) Operational curriculum planning

Based on operational curriculum planning, it is divided into several aspects as follows.

- **The stages of the independent curriculum**
  That are implemented are: independent learning; independent change; and independent sharing. Based on the results of the questionnaire, a small number of schools have implemented independent learning (13.3%) and independent sharing (16.7%); while almost all schools have implemented independent change (83.3%). Figure 1 provides a visual representation of this.

Figure 1. Stages of the independent learning curriculum in each school

- **The operational curriculum planning of educational units**
  is a learning plan that is used as a guideline for all learning activities. Based on the results of the questionnaire, 33.3% of teachers have designed an operational curriculum based on sample documents provided by the Ministry of Education, Culture, Research and Technology; 13.3% of teachers have designed an operational curriculum based on modifications without being based on analysis and reflection; 30% of teachers have designed an operational curriculum based on modifications, analysis and reflection; and as shown in Figure 2, 36.7% of educators have crafted operational plans that are contextually relevant and reflect both the community's educational aspirations and insights from their own unit's analysis and reflection.

p-ISSN 2722-5852
e-ISSN 2746-329X

Figure 2. Operational curriculum planning of educational units

2) Planning the flow of learning objectives

Curriculum planning of learning objectives flow displays a series of learning objectives that are systematically and logically arranged from the beginning to the end of the learning phase. Based on the results of the questionnaire, 10% of teachers design learning objectives provided by the Ministry of Education, Culture, Research and Technology; 63.7% of teachers design learning objectives provided by the Ministry of Education, Culture, Research and Technology adjusted based on student needs; As Figure 3 shows, 10% of teachers tailor learning objectives to student needs, while 50% of teachers independently develop objectives by referencing learning outcomes (CP).

Figure 3. Planning the flow of learning objectives

3) Learning and assessment planning

This stage presents a document containing principles, strategies, and these examples serve to guide teachers and educational units through the processes of planning, implementing, and evaluating learning and assessment. Based on the results of the questionnaire, 13.3% of teachers plan learning and assessment provided by the Ministry of Education, Culture, Research and Technology; 16.7% of teachers plan learning and assessment provided by the Ministry of Education, Culture, Research and Technology adjusted based on student needs; As shown in Figure 4, 6.7% of teachers adapt their learning and assessment strategies to student needs, while 36.7% actively develop these based on student requirements.

Figure 4. Learning planning and assessment

Learning planning also requires a learning implementation plan (RPP) which includes planning related to learning models. The learning model applied can be seen in Figure 5.

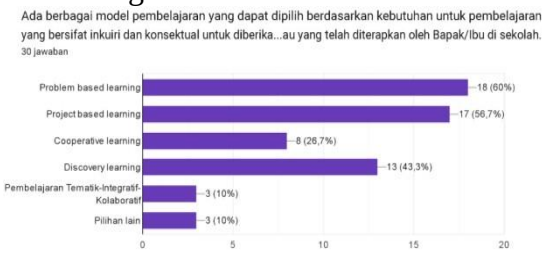

Figure 5. Learning model planning

4) Use and development of teaching tools

Figure 6. Use and development of teaching tools

p-ISSN 2722-5852
e-ISSN 2746-329X

Based on the results of the questionnaire, almost half of the teachers use texts and teaching modules as the main source (33.3%); Almost all teachers (76.7%) opt for materials from textbooks and other teaching modules, adapting them to the local context and student needs. Meanwhile, a small percentage of teachers (20%) combine various teaching resources, also customizing them to the local context and student requirements; and a small number of teachers develop; combine, and share various learning devices (3.3%). This can be seen in Figure 6.

5) Planning a Pancasila profile strengthening project

As indicated by the questionnaire results and visible in Figure 7, P5 implementation varied among teachers. A small portion (20%) followed the Ministry's guidelines directly. Almost half (40%) implemented P5 where teachers primarily guided problem identification, while another 26.7% facilitated it. Similarly, 26.7% of teachers implemented P5 with student-initiated problem identification, facilitated by the teacher and involving external partners. Additionally, a small percentage of teachers (23.3%) developed project ideas and modules tailored to local contexts, needs, and student interests, incorporating student input (16% specifically for involving student opinions and ideas within that 23.3%).

Figure 7. Planning of the P5

2. Aspects of the implementation of independent curriculum learning based on the perceptions of physics teachers

The implementation of the Independent Curriculum in learning is assessed across eight key aspects, specifically:

1) Implementation of the Pancasila profile strengthening project

Figure 8. Implementation of the P5 seen from the preparation

Figure 9. Implementation of P5 seen from the Learning

Figure 10. Implementation of P5 based on devices

Figure 11. Implementation of P5 based on Asesment

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e-ISSN 2746-329X

Figure 12. Implementation of the P5 based on learning activity

2) Implementation of student-centered learning

Figure 13. Implementation of student-centered learning

3) Integration of assessments in learning

Figure 14. Integration of assessment in learning

4) learning according to the student's learning stage

Figure 15. Learning according to the learning stage of students

5) Collaboration between teachers for curriculum and learning purposes

Figure 16. Collaboration between teachers for curriculum and learning purposes

6) Collaboration with parents/families in learning

Figure 17. Collaboration with parents/families in learning

7) Collaboration with society/ community/ industry

Figure 18. Collaboration with Society/Community/Industry

8) Reflection, evaluation, and improvement of the quality of curriculum implementation.

Figure 19. Reflection, evaluation, and improvement of implementation quality

p-ISSN 2722-5852
e-ISSN 2746-329X

Figure 20. Quality improvement through elective eye selection

Discussion

The study was conducted in March - June 2023 in Bandar Lampung City by distributing questionnaires face-to-face to the Physics teachers concerned. Respondents in this study were some of the physics teachers who had implemented the independent curriculum. The questionnaire used in this study has been validated by 3 experts and was declared in the valid category.

The aspects to be observed are: aspects of learning planning and implementation. The description of the learning planning aspect is as follows. 1) operational curriculum planning; 2) design of learning objective flow; 3) Utilization and creation of instructional materials; 4) Designing profile enhancement initiatives. Meanwhile, the description of the learning implementation aspect is as follows. 1) implementation of the Pancasila profile strengthening project; 2) Student-centered learning is applied; 3) Assessment is integrated into the learning process; 4) Learning is tailored to students' developmental stages; 5) Teachers collaborate on curriculum and instructional goals; 6) Partnerships are forged with the community/industry; 7) Reflection, evaluation, and continuous improvement of curriculum implementation are undertaken. The total number of aspects observed is 20 statements.

Learning can begin with learning planning and assessment planning. Therefore, teachers need to think about designing the best possible learning planning. The thinking process in planning learning is shown in Figure 21.

Figure 21. Process of designing learning activities

The learning outcomes presented in Figure 21 represent the competencies students are expected to attain at each phase. The following are the benefits of the Learning Achievement phase in planning learning, namely: (1) flexible learning; (2) learning that is in accordance with student readiness; (3) development of collaborative learning plans (BSKAP, 2022: 19) (Hutabarat et al., 2022). For primary and secondary education, CP is compiled for each subject.

After understanding CP, teachers need to design learning objectives systematically. Learning objectives should incorporate two key elements: competency and the scope of material. These objectives are typically formulated using Bloom's Taxonomy. Anderson and Krakthwohl in (Head of BSKAP, 2022: 24) developed bloom's taxonomy which is considered more relevant to the current learning context which can be seen in Figure 23. In addition, Marzano (2000) developed a new taxonomy for learning objectives. In his taxonomy, In the knowledge domain, Marzano's framework incorporates three distinct systems: the cognitive, metacognitive, and self-systems.

After formulating learning objectives, the next step in learning planning is to compile a flow of learning objectives. The sequence of learning objectives essentially serves the same purpose as a "syllabus," helping to plan and organize general learning and assessment activities for an

p-ISSN 2722-5852
e-ISSN 2746-329X

entire year. This means teachers have flexibility in using these objective flows: they can (1) design their own based on learning outcomes (CP), (2) adapt and refine existing examples, or (3) use examples provided by the government.

When developing the sequence of learning objectives, several key principles should be kept in mind: (1) Learning objectives represent broader aims rather than specific daily lesson targets (they are goals, not merely objectives for a single session); (2) The sequence of learning objectives needs to be fully accomplished within a single phase, without interruption; (3) The learning objective sequence should be developed through collaboration. If teachers are creating it, inter-teacher cooperation across different classes or levels within the same phase is necessary; (4) The sequence of learning objectives should be tailored to each subject's unique characteristics and target competencies. Thus, subject matter experts, including highly proficient teachers, are best suited to develop it; (5) The learning objective flow typically doesn't need to extend across different educational phases, with the exception of special education; (6) The approach to constructing the learning objective flow needs to be logical, progressing from simpler to more intricate abilities. This progression can be shaped by the subject's characteristics and the pedagogical method employed (e.g., realistic mathematics); (7) The presentation of learning objectives should start with the overall flow of objectives, followed by an attachment detailing the underlying thinking process (e.g., breaking down elements into specific learning objectives) to ensure it's simpler and more direct for teachers; (8) Since the Ministry of Education, Culture, Research and Technology provides the learning objective flow as an example, it can be numbered or lettered to clearly indicate the sequence and completion within a single phase; (9) parafrase kalimat ini dalam bahasa inggris agar tidak terplagiasi oleh google; and (10) The learning objective flow primarily targets the achievement of Learning Outcomes (CP), rather than the Pancasila student profile, and it doesn't require additional pedagogical approaches or strategies.

Teachers can use the available learning objective flow examples, or modify the learning objective flow examples to suit the needs of students, characteristics and readiness of the educational unit. In addition, teachers can independently compile learning objective flows according to the readiness of the educational unit. There is no component format set by the government. Learning objective flow components can be adjusted to the needs of the educational unit that are easy to understand.

Learning plans are designed to guide teachers in carrying out daily learning to achieve a learning objective. Learning plans are therefore constructed from the teacher's chosen learning objective flow, resulting in a more detailed format than the flow itself. It should be reminded again that the learning objective flow is not set by the government so that one educator can use a different learning objective flow than another educator even though they teach students in the same phase. Therefore, the learning plans made by each teacher can also be different, especially because these learning plans are designed by considering various other factors, including different student factors, the school environment, the availability of learning facilities and infrastructure, and others. Every teacher needs to have a learning plan to help direct the learning process to achieve CP. This learning plan can be in the form of: (1) a learning implementation plan or what is known as RPP or (2) in the form of a teaching module. If the teacher uses a teaching

p-ISSN 2722-5852
e-ISSN 2746-329X

module, then he does not need to make a RPP because the components in the teaching module include the components in the RPP or are more complete than the RPP. The government provides examples of learning implementation plans and teaching modules. Educators can use and/or adapt these examples to the needs of students.

Designing a teaching module at least contains objectives, steps, learning media, assessments, and other learning information and references that can help educators in implementing learning. The teaching module in the Independent Curriculum is intended to help educators teach more flexibly and contextually, not always using textbooks. Teaching modules can be another option or alternative learning strategy. The design of the teaching module is as follows. (1) Learning objectives (one of the objectives in the learning objective flow); (2) Learning steps or activities. Usually for one learning objective achieved in one or more meetings; (3) Assessment plan for the beginning of learning along with the instruments and assessment methods; (4) Assessment plan at the end of learning to check the achievement of learning objectives along with the instruments and assessment methods; (5) Learning media used, including, for example, reading materials used, activity sheets, videos, or website links that students need to study.

The Independent Curriculum highlights the crucial role of integrating learning with assessment to create a cohesive educational cycle. Its core principles underscore the need to develop teaching strategies aligned with students' developmental stages. This involves offering diverse learning materials tailored to individual student comprehension, ensuring each student can meet their learning objectives. Consequently, the curriculum prioritizes competency development and necessitates varied, periodic assessments. Planning and implementing learning and assessment as needed by teachers, namely: (1) teachers prepare a learning implementation plan, This includes formative assessment planning at the outset of instruction and a summative assessment at the conclusion of learning; (2) Based on the assessment results, teachers design a learning plan according to student conditions; (3) teachers carry out learning and use various formative assessment methods to monitor learning progress; (4) Carry out assessments at the end of learning to determine the achievement of learning objectives. Assessment is a unity that culminates in helping students succeed in class. The government opts not to micromanage the specifics of learning and assessment. Instead, to ensure effective educational processes, it has established core learning and assessment principles. These principles are designed to guide teachers in developing and executing meaningful lessons that cultivate creativity, critical thinking, and innovation in students.

Following the Minister of Education, Culture, Research, and Technology's Decree Number 56 on curriculum implementation guidelines, it states that: (1) Learning assessments can be conducted to pinpoint students' educational needs, with the findings then used to design instruction that aligns with their achievement levels; (2) Educational institutions and educators have the flexibility to choose learning activities and teaching materials that align with their learning objectives, the context of their specific unit, and the students' characteristics; (3) Educational institutions and educators are flexible in deciding the type, technique, instrument format, and timing of assessments, all based on the specific characteristics of their learning objectives; (4) If educators either utilize government-provided teaching modules or

p-ISSN 2722-5852
e-ISSN 2746-329X

develop their own by referencing those examples, they can then use these modules as their learning planning documents. Such documents should include, at a minimum, learning objectives, instructional steps, and assessments designed to monitor whether those objectives are met.

The results of student assessments in a certain time period can be used as feedback for educators to reflect and evaluate. Teachers need to reflect on the planning and implementation of learning and assessments that have been carried out. The teacher concerned needs to reflect at least once a semester. Assessment of learning planning can be carried out in the following ways (Permendikbud Nomor 16 Tahun, 2022), namely: (1) Self-reflection on the planning and instructional process; (2) Self-reflection on assessment outcomes, incorporating feedback from fellow educators, school leaders, and/or students.

Peer assessment among educators involves colleagues evaluating an individual teacher's learning planning and implementation. The aim is to cultivate a culture of mutual learning, cooperation, and support. As with self-reflection, reflection among educators is carried out at least once a semester. Reflection by the principal can be done by having a discussion about what the school needs to do to help the learning process. Principals can contribute to better learning and assessment by asking challenging questions. The principal can also randomly enter for observation to see the learning process in the classroom directly. After the teacher has reflected and received input from fellow educators, the principal, and students. Next, the teacher prepares a plan to improve the quality of learning. This ensures teachers continuously refine their teaching, which in turn elevates student quality.

The creation of the independent curriculum has the aim of realizing meaningful and effective learning in increasing faith, devotion to God Almighty, and noble morals as well as developing the creativity, feelings, and intentions of students as lifelong learners with Pancasila characters. In this case, the concept of lifelong learners with Pancasila characters is realized or described in the Pancasila student profile. The formulation of the Pancasila student profile is actually based on considerations of changes in the global context that must be responded to, including those related to the world of work, social, cultural, and political changes, and the existence of national interests related to national culture, nationalism, and the national development agenda which is a mandate of the 1945 Constitution and Pancasila. For this reason, educational units need to implement the Pancasila Student Profile through the diligence and habits of teachers as agents of change. The challenges of the world have begun to experience structural changes towards the era of globalization in various areas of life that are influenced by foreign cultures that are not in accordance with the Pancasila Student Profile. The Pancasila student profile strengthening project can provide students with the opportunity to learn in a fun, interactive situation and be directly involved with the surrounding environment so that it is relevant to life as a means of achieving the Pancasila student profile, providing students with the opportunity to "experience knowledge" as a process of strengthening character as well as an opportunity to learn from the surrounding environment. In this profile project activity, students will have the opportunity to study various important themes or issues such as climate change, anti-radicalism, mental health, culture, entrepreneurship, technology, and democratic life so that students can take real action or apply it in social life and can

p-ISSN 2722-5852
e-ISSN 2746-329X

adjust to their social needs. Skilled, knowledgeable, and technological teachers also play a very important role as agents of change in implementing the Pancasila student profile to students in schools. (Husain, 2020).

Curriculum implementation is a long learning process so that teachers and educational units are given the opportunity to implement the Merdeka Curriculum according to their respective readiness. Just as teachers also learn according to their level of readiness and level of achievement, educators and educational units also need to learn to implement the Independent Curriculum according to their respective levels of readiness, and gradually become more proficient in using it. learning, values, cognition and competencies (microsystem), situations and contexts (macrosystem).

CONCLUSION

The study's findings indicate that all State Senior High Schools in Bandar Lampung City have adopted the independent curriculum. The implementation of this curriculum (IKM) was evaluated based on its planning and instructional execution. Physics teachers in Bandar Lampung City have effectively planned and carried out the learning and assessment frameworks provided by the Ministry of Education, Culture, Research, and Technology, while also tailoring them to their students' specific needs.

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