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# Development RPP Based on Flipped Learning Model Material of Human Respiratory System

**Dina Ratna Kumala [1*], Ospa Pea Yuanita Meishanti [2]**
[1,2]Biology Education, Universitas KH. A. Wahab Hasbullah
[*]Email: kumaladina2@gmail.com

## ABSTRACT
*The existence of the Covid-19 pandemic condition makes learning in each region different, including limited online and face-to-face learning as well as circulars from the government regarding the simplification of lesson plans into 1 sheet with 3 main components, making it a challenge for a teacher to reconstruct lesson plans globally. by adapting to the current situation. The purpose of this study was to develop Reconstruction RPP based on the Flipped Learning Model of Human Respiratory System Material to determine the feasibility of learning design based on a validation questionnaire of learning design experts and the attractiveness of RPP based on student responses. This study uses the ADDIE development model which has five stages, namely: 1) Analyze 2) Design 3) Develop 4) Implement, and 5) Evaluation. The subjects of this study were 2 experts on learning design validation and 10 students of class XI IPA 1 MAN 10 Jombang. The instrument used is a validation questionnaire of learning design experts and student response questionnaires. Data analysis techniques are quantitative and qualitative. The results showed that the validation of learning design experts obtained an average score of 93.75% with appropriate criteria and the results of the student questionnaire obtained a score of 84% with very interesting criteria. Based on these results, this RPP reconstruction can be applied to the respiratory system material in class XI humans at MAN 10 Jombang and it is hoped that in the future this Inspirational RPP reconstruction can be applied to other materials.*

***Keywords***: *RPP Inspiration; Flipped Learning; Human Respiratory.*

## INTRODUCTION
The Covid-19 outbreak has affected the education sector in Indonesia. Surat Keputusan Bersama Menteri Pendidikan dan Kebudayaan, Menteri Agama, Menteri Kesehatan, dan Menteri Dalam Negeri Republik Indonesia tentang Panduan Penyelenggaran Pembelajaran pada Tahun Ajaran 2020/2021 dan Tahun Akademik 2020/2021 di Masa Pandemi Corona Virus Disease 2019 (Covid-19) stipulates that face-to-face learning will be carried out provided that the education unit has been given permission by the local government to carry out learning in accordance with the risk map for the spread of Covid-19. Following up on the decree, the Jombang Regency area is included as an area that will implement face-to-face learning but is limited (transition period) based on Surat Edaran Kementerian Agama Republik Indonesia Kantor Kementerian Agama Kabupaten Jombang. Schools must prepare before the start of limited face-to-face meetings, including health protocol infrastructure and arrange a learning schedule according to the number of days and hours of study with a study group or shift division system. Based on an interview with Mr. Nanang S.Pd as a Biology Teacher at MAN 10 Jombang, according to him, limited face-to-face meetings in schools have not been effective because there has been a reduction in class time and a shift system, even though all learning materials must be delivered.

A teacher must have the ability to design a learning process so that it runs optimally, one of which is making a Learning Implementation Plan (RPP). RPP is a reference for teachers or instructors in carrying out the process of learning activities so that learning activities are more focused and run effectively and efficiently (Nurainun, 2019). There is a change in the preparation of the RPP components from 13 components to 3 main components which are regulated in the Surat Edaran Nomor 14 Tahun 2019 become a challenge for a teacher in constructing lesson plans globally so that it is easy to

understand in translating it during teaching and learning activities (KBM). Reconstructing lesson plans is a process of rearranging or describing learning activities as appropriate (Juliani et al., 2017).

The existence of an inspirational learning design is one of the supporters of the success of a learning, one of which is the flipped learning model. Flipped learning is a learning model that reverses learning procedures, learning activities that are usually carried out in the classroom such as learning materials and concepts, moving are carried out at home, while what is usually done at home as assignments and practice questions are carried out in class, so it is called reverse classroom learning (Igirisa, 2017).

In biology learning, there are several subject matter, one of which is the respiratory system material in humans which is closely related to the current Covid-19 pandemic situation. Covid-19 is caused by the SARS-CoV-2 virus that attacks the respiratory system in humans, so it is necessary to integrate the material with the current situation in order to provide a meaningful learning experience for students (Bari et al., 2020). Based on the background of the above problems, the researcher intends to conduct research on "Reconstruction of RPP based on the Flipped Learning Model of Human Respiratory System Material" to develop Reconstruction RPP based on the Flipped Learning Model for Class XI Human Respiratory System at MAN 10 Jombang in terms of the results of the validation of learning design experts and the results of student responses.

## METHOD

This research is development research (R&D) aimed at producing the development of an online semester learning implementation plan (RPP) based on a flipped learning model of respiratory system material humans in class XI at MAN 10 Jombang. The development of this online RPP uses the ADDIE model development (Analyze, Design, Develop, Implement, Evaluation). The ADDIE model is a model that is commonly used and has been widely applied in developing products to overcome problems in the world of education by development research designs (Widiarta et al., 2019). This development model was chosen because it contains systematic, simple, effective, and efficient steps and is easy to learn.

The development procedure carried out in this study follows the stage of the ADDIE development model. Larson & Lockee (2019) which has five stages, namely: 1) Analyze, the activity of analyzing the problem of the need to develop an Reconstruction of RPP based on the Flipped Learning Model of Human Respiratory System Material. 2) Design, designing or reconstructing online semester lesson plans using a flipped learning model-based study room. 3) Develop (Product Development), testing the product design for the construction of the RPP before it is implemented by being validated first by a learning design expert. 4) Implement (Implementation), RPP development products are implemented directly in a limited trial in class XI at MAN 10 Jombang and the responses of students to the attractiveness of the product are taken. 5) Evaluation, this stage is the stage of collecting and analyzing all the data obtained from the research results including validation by learning design experts and the results of student responses to conclude the feasibility Reconstruction of RPP based on the Flipped Learning Model of Human Respiratory System Material.

The subjects of this development research were 2 learning design experts and 10 students of class XI IPA 1 at MAN 10 Jombang to fill out student response questionnaires. The data collection instrument used was a learning design validation questionnaire sheet and a student response questionnaire sheet. Data analysis in this online semester RPP reconstruction research development uses quantitative and qualitative data analysis techniques. Quantitative data was obtained from the calculation of the score of the validation results and qualitative obtained from the score of the validation results which were analyzed descriptively along with suggestions, comments, and input. Following the research instrument, the data analysis technique was to analyze the assessment of the learning design validator and student responses. At the analysis stage of the learning design assessment using the rating scale in table 1.

**Table 1.** Rating scale

| Category | Score |
|---|---|
| Very Good | 4 |
| Good | 3 |
| Less Good | 2 |
| Not Good | 1 |

(Source: Widoyoko modification, 2012)

The assessment scale is used as a reference for filling out the learning design validation

questionnaire sheet given to the validator. The data obtained were then analyzed and measured using the following formula (Minah et al., 2018).

$$P = \frac{\sum X}{\sum Xi} \; x \; 100\%$$

Explanation:
P : Percentage
$\sum X$ : The average number of learning design expert scores
$\sum Xi$ : Maximum score
100 : Constant number

The results of the percentage assessment obtained from the calculation results are then determined by the category of eligibility criteria according to table 2.

**Table 2.** Eligibility criteria for learning design

| Criteria | Percentage |
|---|---|
| Decent | 76% - 100% |
| Decent Enough | 56% - 75% |
| Less Decent (Revised) | 40% - 55% |
| Not Decent (Revised) | 0% - 39% |

(Source: Modification of Minah et al., 2018)

After the presentation is in the form of percentages and the criteria are determined according to the category of eligibility criteria, then each indicator score or the average result of the total number of indicator scores is analyzed descriptively and concludes each indicator or the entire indicator while taking into account the suggestions and comments validator. At the stage of analyzing student responses using the rating scale in table 3.

**Table 3.** Rating scale

| Category | Score |
|---|---|
| Very Interesting | 4 |
| Interesting | 3 |
| Less Interesting | 2 |
| Not Interesting | 1 |

(Source: Widoyoko modification, 2012)

Furthermore, the student response questionnaire was analyzed and measured using the following formula (Ain modification, 2013).

$$P = \frac{\sum X}{\sum Xi} \; x \; 100\%$$

Explanation:
P : Percentage
$\sum X$ : Number of student responses
$\sum Xi$ : Maximum score
100 : Constant number

The percentage of student responses obtained from the calculation results is then determined by the category of student response criteria in table 4.

**Table 4.** Student Response Criteria

| Criteria | Percentage |
|---|---|
| Very Interesting | 81% - 100% |
| Interesting | 61% - 80% |
| Quite Interesting | 41% - 60% |
| Less Interesting | 21% - 40% |
| Not Interesting | 0% - 20% |

(Source: Riduwan modification, 2013)

After the presentation is in the form of a percentage and the criteria are determined according to the category of student responses, then it is analyzed descriptively.

## RESULT AND DISCUSSION

This research develops reconstruction RPP based on flipped learning model on the human respiratory system which consists of 3 RPP. The development of lesson plans aims to determine the feasibility of lesson plans based on the results of the learning design validation questionnaire which can be seen in table 5 and student responses to determine the level of attractiveness of lesson plans in table 6. The results of the validation questionnaire of learning design experts obtained an average score of 93.75% with appropriate criteria and student responses obtained an average score of 84% with very interesting criteria.

## RESULT

**Table 5.** The results of the validation of the learning design

| No | Criteria | Rating Scale | | | | Percentage | RPP eligibility criteria |
|---|---|---|---|---|---|---|---|
| | | V1 | V2 | X | Xi | | |
| 1. | The compatibility of RPP Inspiration Merdeka Belajar with the Pusat Kurikulum Pembelajaran. | 4 | 4 | 4 | 4 | 100% | Decent |
| 2. | Accuracy of learning objectives with Kompetensi Dasar (KD) that is:<br>3.8 Menganalisis hubungan antara struktur jaringan penyusun organ pada sistem respirasi dalam kaitannya dengan bioproses dan gangguan fungsi yang dapat terjadi pada sistem respirasi manusia.<br>4.8 Menyajikan hasil analisis pengaruh pencemaran udara terhadap kelainan pada struktur dan fungsi organ pernapasan manusia pada studi literatur. | 4 | 4 | 4 | 4 | 100% | Decent |
| 3. | The main components are:<br>a. Learning objectives<br>b. Learning activities<br>c. Assessment | 4 | 4 | 4 | 4 | 100% | Decent |
| 4. | Learning objectives are formulated in easy-to-understand sentences | 4 | 3 | 3,5 | 4 | 87,5% | Decent |
| 5. | Activities contain active student activities during learning. | 4 | 4 | 4 | 4 | 100% | Decent |
| 6. | The assessment contains an overview of bills to measure the achievement of learning objectives. | 3 | 3 | 3 | 4 | 75% | Decent Enough |
| | **Total** | | | **22,5** | **24** | | |
| | **Average** | | | | | **93,75%** | **Decent** |

Explanation:
V1 : Score learning design expert 1
V2 : Score learning design expert 2
X : Average score of learning design experts
Xi : Maximum score

**Table 6.** Results of student response questionnaires

| No | Rating Points | Score | | Percentage | Student Response Criteria |
|---|---|---|---|---|---|
| | | X | Xi | | |
| 1. | The physical appearance of the Reconstruction of the Learning Implementation Plan (RPP) Based on the Flipped Learning Model The material on the Human Respiratory System is interesting to me | 32 | 40 | 80% | Interesting |
| 2. | The learning objectives to be achieved are clear | 33 | 40 | 82,5% | Very Interesting |
| 3. | The Reconstruction of Learning Implementation Plans (RPP) Based on the Flipped Learning Learning Model The material for the Human Respiratory System is easy to use. | 34 | 40 | 85% | Very Interesting |
| 4. | The scope of the respiratory system material is clearly described and easy to follow. | 36 | 40 | 90% | Very Interesting |

| | | | | | |
|---|---|---|---|---|---|
| 5. | The description of the material in the reconstruction of the Learning Implementation Plan (RPP) Based on the Flipped Learning Model The material on the Human Respiratory System is easy to understand. | 31 | 40 | 77,5% | Interesting |
| 6. | Reconstruction of the Learning Implementation Plan (RPP) Based on the Flipped Learning Model Material for the Human Respiratory System makes it easier for independent learning because it is accompanied by an animated learning video | 37 | 40 | 92,5% | Very Interesting |
| 7. | Reconstruction of Learning Implementation Plan (RPP) Based on Study Room Flipped Learning Model Material for the Human Respiratory System can open my thinking insight | 31 | 40 | 77,5% | Interesting |
| 8. | Tasks and quiz questions for evaluation in the reconstruction of the Learning Implementation Plan (RPP) Based on the Flipped Learning Learning Model The material on the Human Respiratory System is easy for me to understand | 29 | 40 | 72,5% | Interesting |
| 9. | The size and type of letters in the reconstruction media of Learning Implementation Plans (RPP) based on the Flipped Learning Model The material for the Human Respiratory System is easy for me to read | 35 | 40 | 87,5% | Very Interesting |
| 10. | The size and type of letters in the reconstruction media of Learning Implementation Plans (RPP) Based on the Flipped Lerning Model The material on the Human Respiratory System is easy for me to read | 38 | 40 | 95% | Very Interesting |
| | **Total** | 336 | 400 | | |
| | **Average** | | | **84%** | **Very Interesting** |

Explanation:
X : Number of student responses
Xi : Maximum score

**DISCUSSION**

Based on the results of the validation of the learning design in table 5. shows that the indicators of design suitability RPP inspiration Merdeka Belajar with the Pusat Kurikulum Pembelajaran obtain from the validation results from validator 1 and validator 2 are 100% with proper criteria. This is supported by Rencana Pelaksanaan Pembelajaran Inspiratif compiled by Tim Pusat Kurikulum dan Pembelajaran Kemendikbud Tahun 2019, page 43 which was modified by the researcher by adjusting the supporting devices for the learning process at the MAN 10 Jombang school and also supported on page 35 which states that learning activitie contain activities according to the syntax of the learning model to achieve predetermined competencies by adjusting class conditions and students In developing this lesson plan, using a flipped learning learning model to adapt to current conditions in the midst of the Covid-19 outbreak which requires students to carry out limited face-to-face learning with a time allocation of 2 meetings in one week on biology subjects, one meeting has a time allocation of 2 x 30 minutes, while the normal time is 2 x 45 minutes in one meeting with quite a lot of material and achievement competencies, so it is very suitable to use the flipped learning model by utilizing information technology. In addition, the application of synchronous and asynchronous methods by utilizing 4 study rooms adapted from the blended learning model so that learning can run effectively and efficiently even in limited face-to-face learning (transition period).

On the indicators of the accuracy of learning objectives with Kompetensi Dasar (KD) that is: 3.8 Menganalisis hubungan antara struktur jaringan penyusun organ pada sistem respirasi dalam kaitannya dengan bioproses dan gangguan fungsi yang dapat terjadi pada sistem respirasi manusia dan 4.8 Menyajikan hasil analisis pengaruh pencemaran udara terhadap kelainan pada struktur dan fungsi organ pernapasan manusia pada studi literatur also obtained a validation result of 100% with proper criteria. This is supported by Rencana Pelaksanaan Pembelajaran Inspiratif compiled by Tim Pusat Kurikulum dan Pembelajaran Kemendikbud Tahun 2019, page 35 which states that learning objectives are derived from basic competencies and are broken down into competencies that will be achieved by students and

suported by Lampiran Permendikbud Nomor 22 Tahun 2016 Tentang Standar Proses Pendidikan Dasar dan Menengah which explains that the formulated learning objectives must be based on Kompetensi Dasar (KD) by using operational verbs that can be observed and measured including knowledge, attitudes and skills. In addition, it is also supported by Buku Saku Tanya Jawab Rencana Pelaksanaan Pembelajaran (RPP) yang compiled by Kemendikbud Dirjen Pendidikan Usia Dini, Pendidikan Dasar, dan Pendidikan Menengah Tahun 2020 page 8-9 which states that learning objectives are the formulation of abilities that must be achieved by students including attitudes, knowledge, and skills and the components of learning objectives based on behaviorism include audience (A) namely who follows the learning process, behavior (B) namely student behavior that can be observed during the learning process, the formulation of behavior in the form of active verbs, conditional (C) is a requirement that must be met so that the expected behavior can be shown by students, and degree (D) is the level of success in achieving behavior which can be in the form of speed, accuracy, quantity or quality, in the development of this lesson plan, the formulated learning objectives have described the formulation of objectives based on the Kompetensi Dasar (KD) 3.8 and 4.8, and using operational verbs, and broken down into competencies that will be achieved by students. In addition, the formulation of learning objectives has described the abilities that must be achieved by students including attitudes, knowledge, and skills and the learning objectives have met the components of the formulation of learning objectives including: audience (A), behavior (B), conditional (C), and degree (D).

The main component indicators contain learning objectives, learning activities, and assessments, and the validation results are obtained by 100% with appropriate criteria, this is supported by Surat Edaran Nomor 14 Tahun 2019 tentang Penyederhanaan Rencana Pelaksanaan Pembelajaran, Rencana Pelaksanaan Pembelajaran Inspiratif compiled by Tim Pusat Kurikulum dan Pembelajaran Kemendikbud Tahun 2019 on page 35 and Buku Saku Tanya Jawab Rencana Pelaksanaan Pembelajaran (RPP) yang compiled by Kemendikbud Dirjen Pendidikan Usia Dini, Pendidikan Dasar, dan Pendidikan Menengah Tahun 2020 on page 4 and 8 which states that there are 3 core components, namely learning objectives, learning steps (activities), learning assessment (assessment) while the other components are supporting, in the development of this lesson plan there are already 3 main components.

In the indicators of learning objectives formulated in easy-to-understand sentences, the validation results obtained are 87.5% with proper criteria. This is supported by Rencana Pelaksanaan Pembelajaran Inspiratif compiled by Tim Pusat Kurikulum dan Pembelajaran Kemendikbud Tahun 2019, in the introductory section, a learning objective must be formulated in easy-to-understand sentences. In addition, it is also supported by Jaya (2019) states that learning objectives must be formulated in clear and easy-to-understand sentences because learning objectives must be expressed in writing and informed to students so that students and educators have the same understanding of what is stated in the learning objectives. The validation results obtained are 87.5% with appropriate criteria because the learning objectives formulated there are non-standard words and there are various naming of terms so that everyone's understanding is different.

Furthermore, on the activity indicators containing active student activities during learning, the validation results are obtained by 100% with feasible criteria. This is supported by Buku Saku Tanya Jawab Rencana Pelaksanaan Pembelajaran (RPP) yang compiled by Kemendikbud Dirjen Pendidikan Usia Dini, Pendidikan Dasar, dan Pendidikan Menengah Tahun 2020 on page 3 which states that the writing of lesson plans contains orientation to students by considering the interests, readiness, and learning needs of students when learning and is also supported by Lampiran Permendikbud Nomor 22 Tahun 2016 Tentang Standar Proses Pendidikan Dasar dan Menengah which explains that one of the principles of preparing lesson plans is student-centered to encourage the spirit of learning, interest, motivation, initiative, creativity, inspiration, independence, and innovation.

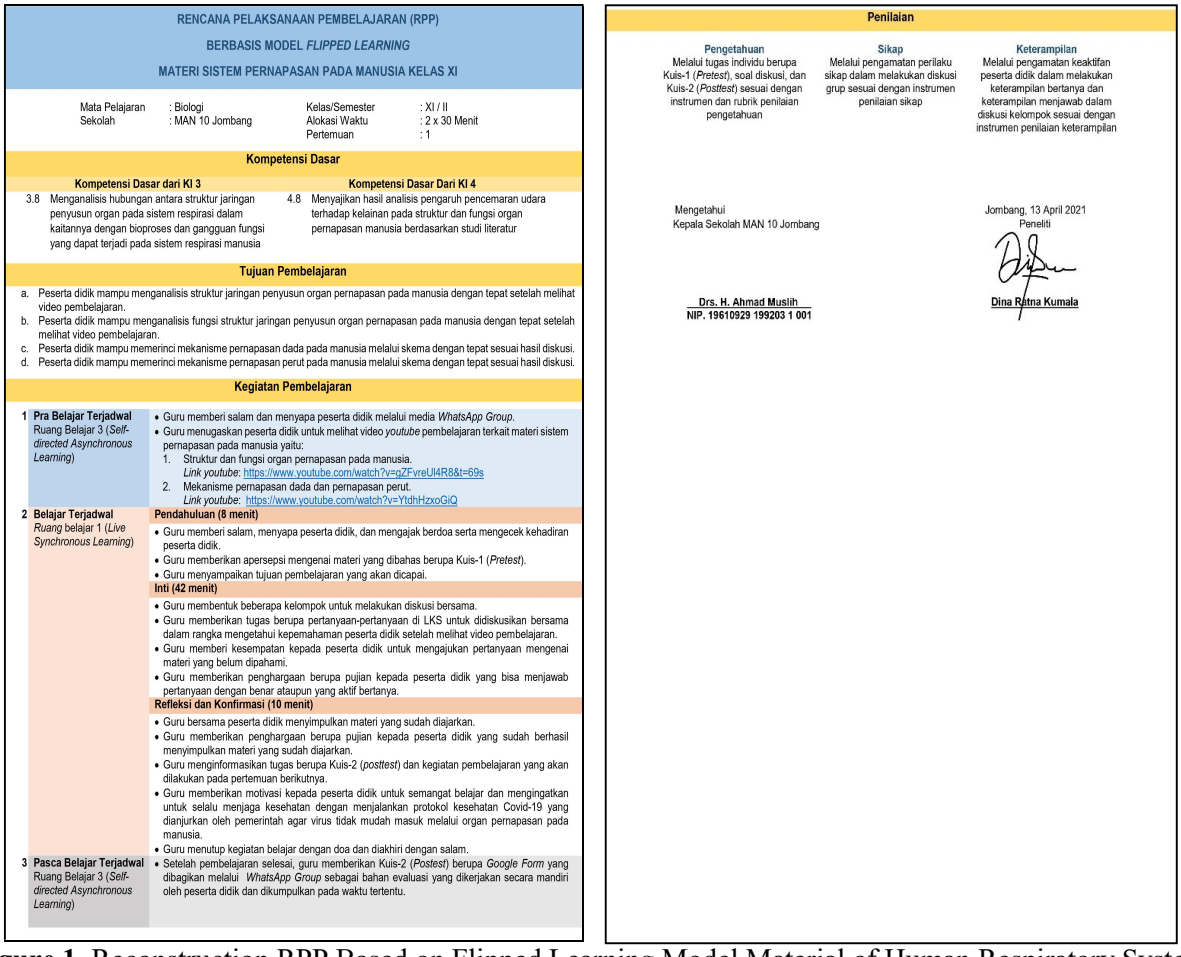
In the assessment containing an overview of the bill to measure the achievement of learning objectives, the validation results are obtained by 75% with the criteria quite feasible. This is supported by Permendikbud Nomor 23 Tahun 2016 Tentang Standar Penilaian Pendidikan and Buku Saku Tanya Jawab Rencana Pelaksanaan Pembelajaran (RPP) yang compiled by Kemendikbud Dirjen Pendidikan Usia Dini, Pendidikan Dasar, dan Pendidikan Menengah Tahun 2020 on page 14 which explains the learning assessment is the process of collecting and processing information in order to measure the achievement of student learning outcomes based on the learning objectives that have been formulated, the learning objectives include the scope of aspects of the assessment of attitudes, knowledge, and skills. In addition, it is also supported by Rencana Pelaksanaan Pembelajaran Inspiratif compiled by Tim Pusat Kurikulum dan Pembelajaran Kemendikbud Tahun 2019, in the introduction explaining that the

assessment is a general description of the bill to measure the achievement of KD. In the development of this lesson plan, the assessment aspect already contains an overview of bills to measure the achievement of learning objectives, this is stated in the lesson plans developed by researchers with the collection of tasks during the limited face-to-face learning process and the collection of Quiz-2 and the task of making video presentations. online, but giving Quiz-2 via google form has not been able to determine the honesty of students in doing it and the provision of a grace period for collecting Quiz-2 and making video presentations provides an opportunity for students to procrastinate work, so that in this aspect they get an average score. an average of 75% with the criteria quite feasible.

Overall, the online semester lesson plan product based on flipped learning got an average score of 93.75% with proper criteria. This is also supported by Juniantari & Suryawan (2017) which states that a learning tool, one of which is lesson plans, before being used in a limited trial, the device must meet the appropriate or valid criteria. In the development of this online semester lesson plan, it has met the appropriate criteria so that this RPP product can be continued on a limited trial by taking into account suggestions, comments, and input.

The limited trial was carried out in class XI IPA 1 MAN 10 Jombang with 10 students to fill out a student response questionnaire to the RPP reconstruction. Following are the results of the learning design validation data in table 6.

Table 6 shows that the results of student responses obtained an average score of 84% with very interesting criteria. Product development of learning tools, one of which is the Learning Implementation Plan (RPP) if it has received an attractiveness assessment from students with predetermined criteria, then the RPP product can be re-applied as a source of teacher learning in implementing classroom learning while still considering the results of the attractiveness criteria (Nurazizah, 2018). Development of reconstruction RPP based on a flipped learning model on respiratory system material humans can be seen in figure 1.



RENCANA PELAKSANAAN PEMBELAJARAN (RPP)

BERBASIS MODEL *FLIPPED LEARNING*

MATERI SISTEM PERNAPASAN PADA MANUSIA KELAS XI

Mata Pelajaran : Biologi
Sekolah : MAN 10 Jombang
Kelas/Semester : XI / II
Alokasi Waktu : 2 x 30 Menit
Pertemuan : 1

**Kompetensi Dasar**

| Kompetensi Dasar dari KI 3 | Kompetensi Dasar Dari KI 4 |
|---|---|
| 3.8 Menganalisis hubungan antara struktur jaringan penyusun organ pada sistem respirasi dalam kaitannya dengan bioproses dan gangguan fungsi yang dapat terjadi pada sistem respirasi manusia | 4.8 Menyajikan hasil analisis pengaruh pencemaran udara terhadap kelainan pada struktur dan fungsi organ pernapasan manusia berdasarkan studi literatur |

**Tujuan Pembelajaran**

a. Peserta didik mampu menganalisis struktur jaringan penyusun organ pernapasan pada manusia dengan tepat setelah melihat video pembelajaran.
b. Peserta didik mampu menganalisis fungsi struktur jaringan penyusun organ pernapasan pada manusia dengan tepat setelah melihat video pembelajaran.
c. Peserta didik mampu memerinci mekanisme pernapasan dada pada manusia melalui skema dengan tepat sesuai hasil diskusi.
d. Peserta didik mampu memerinci mekanisme pernapasan perut pada manusia melalui skema dengan tepat sesuai hasil diskusi.

**Kegiatan Pembelajaran**

| | | |
|---|---|---|
| 1 | **Pra Belajar Terjadwal** Ruang Belajar 3 (*Self-directed Asynchronous Learning*) | • Guru memberi salam dan menyapa peserta didik melalui media *WhatsApp Group*.<br>• Guru menugaskan peserta didik untuk melihat video *youtube* pembelajaran terkait materi sistem pernapasan pada manusia yaitu:<br>1. Struktur dan fungsi organ pernapasan pada manusia. *Link youtube*: https://www.youtube.com/watch?v=gZFvreUI4R8&t=69s<br>2. Mekanisme pernapasan dada dan pernapasan perut. *Link youtube*: https://www.youtube.com/watch?v=YtdhHzxoGiQ |
| 2 | **Belajar Terjadwal** *Ruang* belajar 1 (*Live Synchronous Learning*) | **Pendahuluan (8 menit)**<br>• Guru memberi salam, menyapa peserta didik, dan mengajak berdoa serta mengecek kehadiran peserta didik.<br>• Guru memberikan apersepsi mengenai materi yang dibahas berupa Kuis-1 (*Pretest*).<br>• Guru menyampaikan tujuan pembelajaran yang akan dicapai.<br>**Inti (42 menit)**<br>• Guru membentuk beberapa kelompok untuk melakukan diskusi bersama.<br>• Guru memberikan tugas berupa pertanyaan-pertanyaan di LKS untuk didiskusikan bersama dalam rangka mengetahui kepemahaman peserta didik setelah melihat video pembelajaran.<br>• Guru memberi kesempatan kepada peserta didik untuk mengajukan pertanyaan mengenai materi yang belum dipahami.<br>• Guru memberikan penghargaan berupa pujian kepada peserta didik yang bisa menjawab pertanyaan dengan benar ataupun yang aktif bertanya.<br>**Refleksi dan Konfirmasi (10 menit)**<br>• Guru bersama peserta didik menyimpulkan materi yang sudah diajarkan.<br>• Guru memberikan penghargaan berupa pujian kepada peserta didik yang sudah berhasil menyimpulkan materi yang sudah diajarkan.<br>• Guru menginformasikan tugas berupa Kuis-2 (*posttest*) dan kegiatan pembelajaran yang akan dilakukan pada pertemuan berikutnya.<br>• Guru memberikan motivasi kepada peserta didik untuk semangat belajar dan mengingatkan untuk selalu menjaga kesehatan dengan menjalankan protokol kesehatan Covid-19 yang dianjurkan oleh pemerintah agar virus tidak mudah masuk melalui organ pernapasan pada manusia.<br>• Guru menutup kegiatan belajar dengan doa dan diakhiri dengan salam. |
| 3 | **Pasca Belajar Terjadwal** Ruang Belajar 3 (*Self-directed Asynchronous Learning*) | • Setelah pembelajaran selesai, guru memberikan Kuis-2 (*Postest*) berupa *Google Form* yang dibagikan melalui *WhatsApp Group* sebagai bahan evaluasi yang dikerjakan secara mandiri oleh peserta didik dan dikumpulkan pada waktu tertentu. |

**Penilaian**

| Pengetahuan | Sikap | Keterampilan |
|---|---|---|
| Melalui tugas individu berupa Kuis-1 (*Pretest*), soal diskusi, dan Kuis-2 (*Postfest*) sesuai dengan instrumen dan rubrik penilaian pengetahuan | Melalui pengamatan perilaku sikap dalam melakukan diskusi grup sesuai dengan instrumen penilaian sikap | Melalui pengamatan keaktifan peserta didik dalam melakukan keterampilan bertanya dan keterampilan menjawab dalam diskusi kelompok sesuai dengan instrumen penilaian keterampilan |

Mengetahui
Kepala Sekolah MAN 10 Jombang

Drs. H. Ahmad Muslih
NIP. 19610929 199203 1 001

Jombang, 13 April 2021
Peneliti

Dina Ratna Kumala

**Figure 1.** Reconstruction RPP Based on Flipped Learning Model Material of Human Respiratory System

## CONCLUSION

Based on the results of the development process and trial analysis in research, the Reconstruction RPP Based on Flipped Learning Model Material of Human Respiratory System can be applied to the learning process on the material concept human respiratory system for class XI at MAN 10 Jombang. It can be seen based on the validation results of learning design experts that this online semester lesson plan obtained an average value of 93.75% with appropriate criteria and the results of student responses received an average score of 84% with very interesting criteria.

There are suggestions as follows the reconstruction RPP based on flipped learning model material of human respiratory system can be modified according to the conditions and characteristics of students, and utilizes current information technology, and can be applied to other materials.

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