BUKTI KORESPONDENSI ARTIKEL JURNAL INTERNASIONAL

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Nama Jurnal : European Journal of Education Studies, Volume 7, Nomor 12, November 2020
Penulis : Abdjul Tirtawaty, Ritin Uloli, Citron Payu

No	PERIHAL	TANGGAL
1	Manuscript Acknowledgment	8 Oktober 2020
2	Manuscript Confirmation to be Proceed	9 Oktober 2020
3	Article Acceptance	16 Oktober 2020
4	Galley Proof	27 Oktober 2020
5	Revision on Galley Proof	29 Oktober 2020
6	Artikel Terbit di Volume 7, Nomor 12, Tahun 2020	

Manuscript Acknowledgment

(8 Oktober 2020)

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Affiliation: Department of Physics, Gorontalo State University

Article: THE INFLUENCE OF M-LEARNING BASED RYLEAC LEARNING MODEL TOWARDS STUDENTS' CHARACTER IN SMA 1 STATE SENIOR HIGH SCHOOL IN GORONTALO

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Reviewer's Report

THE INFLUENCE OF M-LEARNING BASED RYLEAC LEARNING MODEL TOWARDS STUDENTS' CHARACTER IN SMA 1 STATE SENIOR HIGH SCHOOL IN GORONTALO, INDONESIA

A. Significance of the topics/issues to the field of research

Extremely significant	**10**	
Important	**8**	**X**
Modest	**6**	
Trivial	**4**	
Unimportant	**2**	

B. Value of writing and other elements (figures, tables, graphical elements)

Superior	**10**	
Good	**8**	**X**
Minor problems	**6**	
Major problems	**4**	
Completely inadequate	**2**	

C. Conceptual consistency (clarity of objectives, treatment of relevant literature, consistency of reasoning, argumentation)

Superior	**10**	**X**
Good	**8**	
Minor problems	**6**	
Major problems	**4**	
Completely inadequate	**2**	

D. Methodological consistency (research design, sampling, data collection/analyses as relevant to qualitative/quantitative data)

Superior	**10**	**X**
Good	**8**	
Minor problems	**6**	
Major problems	**4**	
Completely inadequate	**2**	

E. General discussion and conclusions (implications, limitations, future research, recommendations)

Superior	**10**	X
Good	**8**	
Minor problems	**6**	
Major problems	**4**	
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F. Paper's contribution to research field

Extremely significant	**10**	X
Important	**8**	
Modest	**6**	
Trivial	**4**	
Unimportant	**2**	

G. Recommendations

Accept unconditionally	**(55-60)**	X
Accept conditionally, subject to minor revision, according to my accompanying comments	**(50-54)**	
Encourage revision, according to my accompanying comments	**(40-49)**	
Reject in current form, but allow resubmission of a substantially different version, according to my accompanying comments	**(25-39)**	
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A. Remarks

The research work has a good value of conceptual consistency and a very good coverage of the planned topic, a good research design and clarity of the objectives. The article is accepted for publication unconditionally, without the necessity of major structure and content adjustments.

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(27 Oktober 2020)

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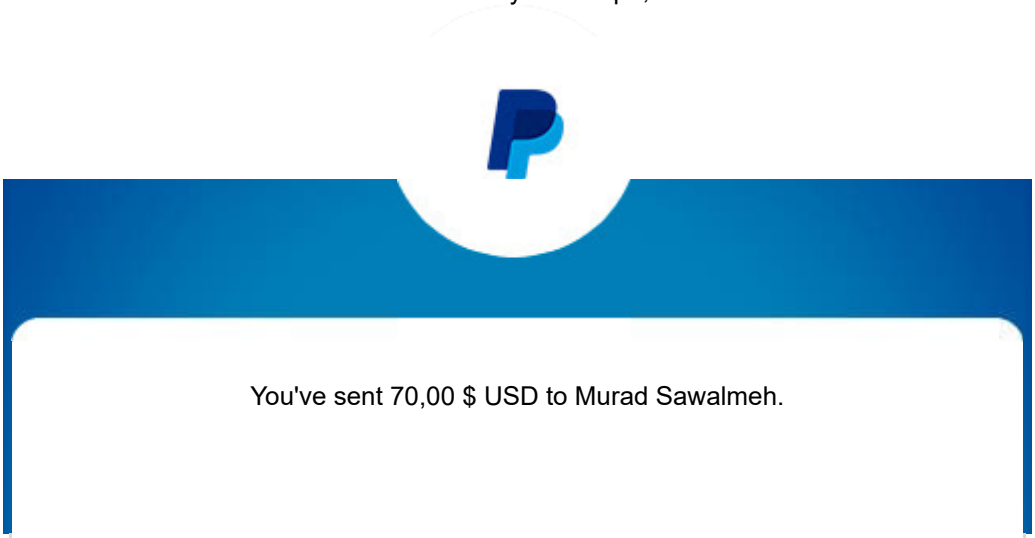

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THE INFLUENCE OF M-LEARNING BASED RYLEAC LEARNING MODEL TOWARDS STUDENTS' CHARACTER IN SMA 1 STATE SENIOR HIGH SCHOOL IN GORONTALO, INDONESIA

Tirtawaty Abdjul[1],
Ritin Uloli,
C. Payu
Department of Physics,
Gorontalo State University,
Indonesia

Abstract:
The present study aimed at investigating the influence of M-learning based Ryleac learning model in dynamic electricity topic towards XII class students' character in SMA 1 state senior high school in Gorontalo. This pre-experimental research employed one-shot case study and quantitative approaches in elaborating the aforementioned learning model's impact towards the students' character. The results showed that the percentage of students' character (comprising honesty, discipline, hard work, and self-reliance) was as follows: 54.05% of the students arrived at very good category, 21.43% were at good category, 15.47% were at moderate category, and 9.05% were at bad category. Meanwhile, no single student showed very bad character. In other words, 75.48% of the students in XII5, XII6, and XII7 class were at very good and good category, while the rest 24.52% were at moderate and bad category. The numbers indicate that the aforementioned learning model was impactful to the students' character.

Keywords: Ryleac learning model, m-learning, students' character

1. Introduction

Education is interpreted as the conscious and planned effort in creating conducive learning situation and learning process so as to encourage students to actively develop ones' potentials regarding the values of religiosity, self-reliance, responsibility, creativity, intelligence, healthiness, noble characteristics, and set of skills that is beneficial for oneself, the community, the nation, and the State (Law of National

[1] Correspondence: email abdjultirta@gmail.com

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Education System No. 20/2003). A quality education reflected in the learning process is capable of producing individuals with high competitiveness and character.

Central to the notion of implementation of physics learning is the character development. It aims to nurture a students' physical and mental development to achieve the ideal civil values within a community and the nation (Damayanti, 2014: 10). The ideal character values are instilled through the stage of learning; the knowledge learned then transforms into set of actions and becomes an individual's habit. Such conduct falls under the responsibility of a teacher, who, aside from transferring knowledge, is obliged to nurture one's students to progress into better human beings.

The actual condition is, however, far from ideal; in most learning activities in schools, the integration of character instilment in education is neglected. Such a problem blames several factors, among others, the teachers' lack of understanding and attitude towards the integration of character education; the teacher's lack of positive outlook towards the students also contributes to the problem. Teachers tend to state the character values in written form.

As the coping strategy of the problem, the teachers are suggested to embed character values in every learning activity; such a conduct is optimized by implementing a learning model that is able to arouse the students' learning motivation. One of the learning models that is able to achieve the aforementioned goal is the M-learning based Ryleac learning model.

Ryleac learning model applies a constructivist approach and involves set of activities that are planned and executed optimally. The model prepares the students to conduct flexible self-experiments to discover the answers or solutions to a problem by themselves. By this model, students will be able to formulate a connecting notion between one discovery to another and compares the acquired concept with that of other students. Such a mechanism encourages the students' active involvement in learning activities such as science experiment (Abdjul, 2019: 42). Ryleac model views the students as the active participants of an intellectual exploration to formulate a synthesis based on one's result of observation.

The involvement of learning media is essential in the delivery process of a learning material. Learning media facilitates the teacher to actualize a meaningful and quality learning activity (Walat, 2010). As a part of electronic learning (E-learning) concept, M-learning allows the teacher to utilize a phone-based media to deliver the learning material as well as to provide the instruction and learning information anywhere and anytime. M-learning is one of the alternatives of learning process that offers the flexibility of time and place (Darmawan, 2012: 15). In line with that, Ally (2009: 1) states that M-learning is the learning process that involves mobile wireless technology that allows everyone to access the learning material and information anywhere and anytime. The model offers itself as the alternative to limited time allocation of particular sets of learning material; it also encourages the students to learn by themselves from the provided resources (Yuniati, 2011). M-learning model supports the approach of student-centered learning, in which the teacher is positioned as the

facilitator that provides learning media to deliver the learning contents in the form of textual, audiovisual, and multimedia platforms (Wibawanto, 2017: 30). Based on the previous notions, the present study aims to investigate the extent of influence of M-learning based Ryleac learning model towards the character of 12th grade students in SMA 1 state senior high school in Gorontalo.

2. Material and Methods

Conducted in SMA 1 state senior high school in Gorontalo, the present study involved the students in XII5 class, XII6 class, and XII7 class of 2020-2021 academic year as the research subjects. The experimental research employed quantitative approach in elaborating the Ryleac learning model's impact on the students' character. In particular, it applied one-shot case study pre-experimental method. The method refers to a pre-experimental design with simple experimental approach; it involves one experiment class and two replication classes. The involvement of replication class is aimed to validate the consistency of students' learning outcomes. The notion is presented in the following table.

Table 1: Research Design

Class	**Treatment**	**Observation result**
Experiment	X_1	O_2
Replication 1	X_1	O_2
Replication 2	X_1	O_2

(Arikunto, 2013: 210)

X_1 was the experiment group, while O_2 was the result of observation of learning process. This study relied on a questionnaire technique to acquire the data. The students' characters that were measured involved honesty, discipline, hard work, and self-reliance. Moreover, the likert scale criteria was applied to measure the extent of implementation of the aforementioned learning model; the scale involved four criteria: highly relevant (HR), relevant (R), irrelevant (I), and highly irrelevant (HI). Therefore, based on the likert scale, the score of each observation item is presented in the following Table 2.

Table 2: Score of Each Observation Item (based on Likert scale)

Answer choice	**Item score**	
	Positive	**Negative**
Highly relevant	4	1
Relevant	3	2
Irrelevant	2	3
Highly Irrelevant	1	4

(Arikunto, 2010: 124)

Following the scoring process of the students' answer was the calculation of the percentage of score of each answer item by applying the following formula:

$$\frac{Obtained\ score}{Total\ score} X\ 100$$

The obtained score percentage was then compared with the score interpretation, as displayed in Table 3 as follows:

Table 3: Assessment Criteria of Observation Sheet

Percentage	Assessment Criteria
81%-100%	Very good
61%-80%	Good
41%-60%	Moderate
21%-40%	Poor
0%-20%	Very poor

(Arikunto, 2010: 14)

3. Results and Discussion

3.1 Questionnaire data of XII5 class students

The data described in the present research comprise data of students' characters obtained within the implementation of M-learning based Ryleac learning model. The students' characters that were measured involve honesty (18 statements), discipline (16 statements), hard work (8 statements), and self-reliance (15 statements). Hence, the total of students character items in all classes (XII5, XII6, and XII7) comprise 57 statements. The questionnaire data are generated from the analyzed result of students' answers. The analysis result of XII5 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 1 below.

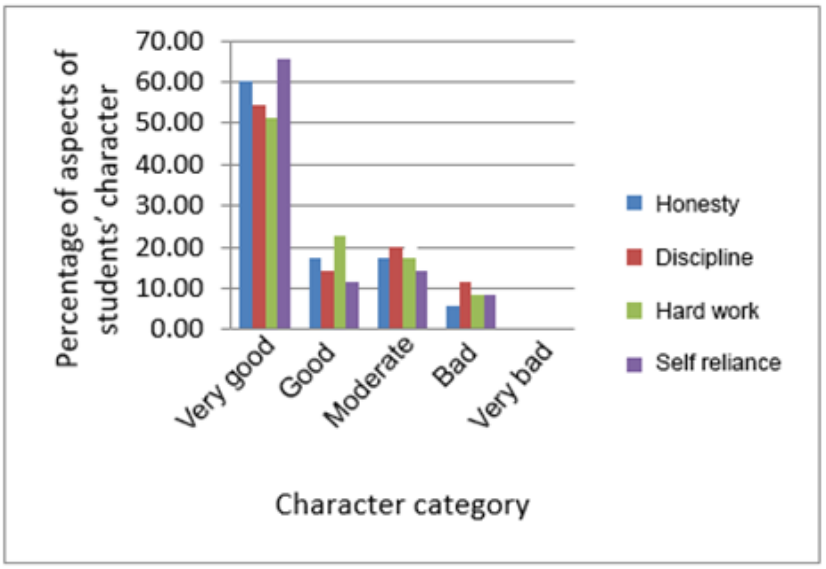

Figure 1: Percentage of XII5 class students' character in the implementation of M-learning based Ryleac learning model

As displayed in Figure 1, the average percentage of students' character was as follows: 54.05% of the students achieved "very good" category, 21.43% were at "good" category, 15.47% scored "moderate" category, and 9.05% arrived at "bad" category. Based on the figure, no single student showed "very bad" character. The numbers indicate that the students' character during the learning process that implemented the focused model was very good in overall.

3.2 Questionnaire data of XII6 class students

The analysis result of XII6 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 2 below.

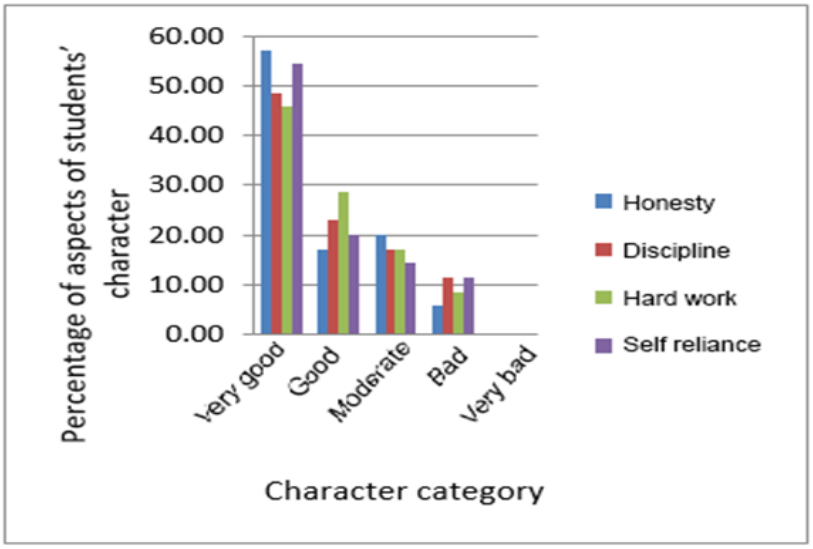

Figure 2: Percentage of XII6 class students' character in the implementation of M-learning based Ryleac learning model

Figure 2 displays that 51.43% of the students achieved "very good" category and 22.14% were at "good" category. Meanwhile, 17.14% of the students scored "moderate" category, and 9.29% arrived at "bad" category. The figure also indicates that no single student showed "very bad" character. The numbers indicate that during the implementation of the focused learning model, the students' character was very good in overall.

3.3 Questionnaire data of XII7 class students

The analysis result of XII7 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 4.3 below.

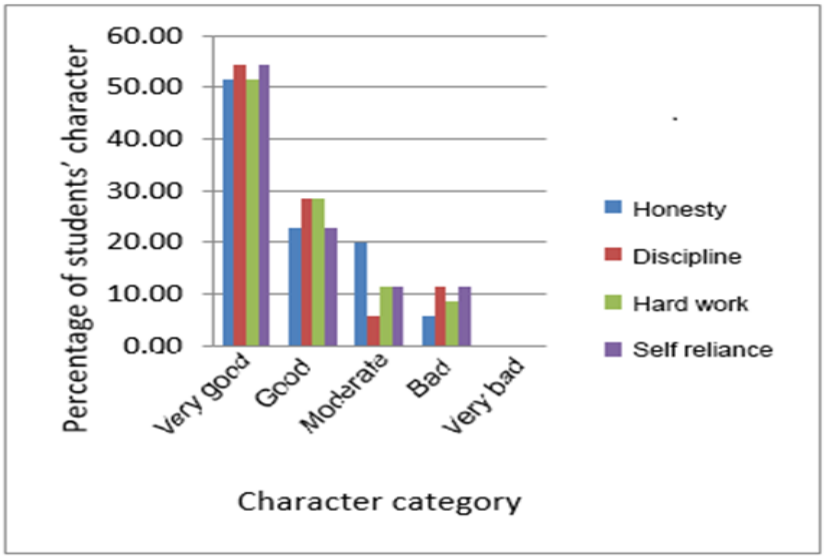

Figure 4.3: Percentage of XII7 class students' character in the implementation of M-learning based Ryleac learning model

As shown in Figure 3, 51.43% of XII7 class students achieved "very good" category, while 22.14% arrived at "good" category. On top of that, 17.14% of the students scored "moderate" category, and 9.29% were at "bad" category. Based on the figure, no single students arrived at "very bad" category. The numbers indicate that during the implementation of the focused learning model, the students' character was very good in overall.

The overall results indicate that in overall, the students' character (honesty, discipline, hard work, self-reliant) in all classes involved (XII5, XII6, and XII7) were very good. Such notion is apparent from the average score of all class; the "very good" and "good" category achieved 75.48%. The aspect of honesty is described by several indicators: student-focused orientation, high level of heroism, self-acknowledgment of one's weakness or limitation, refraining oneself from cheating when working on an assignment, and avoiding plagiarism. The students were discipline in conducting the learning process that implemented the M-learning based media. Most of the students complied with the learning norms and rules made by the school or set by themselves. Moreover, they worked on the assignment routinely and consistently. The students also showed full eagerness and sincerity to conduct the learning process, despite that the learning materials were delivered indirectly.

Regarding aspect of hard work, the students in all classes arrived at "very good" category. They were able to follow the whole process of learning activity with intensive and committed attitude; regarding of learning results, the students also showed very good quality. Further, the implementation of M-learning based Ryleac learning model is regarded to encourage the students' self-reliance. As based on the results, the students were able to identify their own learning needs. Moreover, they were also competent in indicators, such as time management, preference towards individual assignments,

positive competitiveness attitude, effective execution of learning process, and self-evaluation of learning activity results. This is in line with Abdjul et al. (2019: 427), who state that Ryleac learning model is able to facilitate active and direct learning experience. It also boosts the students' ability to solve questions or problems delivered in the form of story or phenomenon. The active learning element of Ryleac learning is also regarded to encourage the students' learning motivation and is capable of reducing cognitive conflicts in students during learning activity. On top of that, guided inquiry learning model is proven successful to develop students' character of hard work, environment-friendly attitude, and curiosity. The aforementioned characters are regarded as influential to the students' result of problem investigation and resolution during a learning process that implement guided inquiry model (Sinaga, 2014: 234). Guided inquiry model is central to the development of fundamental comprehension of concepts, facts, principles, laws, and theories; in addition, it also nurtures an individual's positive attitude towards science (Chiapetta and Adams in Jauhar, 2011: 84-85).

The integration of Ryleac learning model and M-learning based media is deemed as impactful to the students' character during learning process. This is due to the learning method's strength in aspects such as: 1) the delivery of learning material via systematic application that offers ease of use, and 2) interactive-based based media that attracts the students' eagerness to participate in a learning activity (Wulandari et al, 2019: 583). The use of media in learning process is seen as the effort to creating a meaningful and quality learning activity. Incorporated in physics learning, the learning media is proven to aid the students during learning process (Acedo, 2014). As based on the findings, the M-learning based Ryleac learning method nurtures the students' positive characters during learning process, particularly in dynamic electricity topic.

4. Conclusion

The results point out that 75.48% of the students in XII5, XII6, and XII7 class were at "very good" and "good" category, while the rest 24.52% were at "moderate" and "bad" category. This indicates that the M-learning based Ryleac learning model was proven impactful to the students' character.

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Revision on Galley Proof

(29 Oktober 2020)

Re: ARTICLE SUBMISSION: European Journal of Education Studies 10/8/2020 11:55 AM

Tirta Abdjul <abdjultirta@gmail.com> 29 Oktober 2020 pukul 06.07
Kepada: Emil Constantin <oapub.org@gmail.com>

Dear Editorial Team,

Please kindly find the attached file for the fixed version of the document. The revisions that I have made consisted of:
- The changes in third-author name into "Citron Payu"
- The Deletion of the word "Indonesia" in the title.

Best regards,

Authors

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On Fri, Oct 16, 2020 at 5:01 PM Emil Constantin <oapub.org@gmail.com> wrote:

Dear Prof Abdjul, ilmiah Tirta, transbahasa

The article(s)

"THE INFLUENCE OF M-LEARNING BASED RYLEAC LEARNING MODEL TOWARDS
STUDENTS' CHARACTER IN SMA 1 STATE SENIOR HIGH SCHOOL IN GORONTALO"

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THE INFLUENCE OF M-LEARNING BASED RYLEAC LEARNING MODEL TOWARDS STUDENTS' CHARACTER IN SMA 1 STATE SENIOR HIGH SCHOOL IN GORONTALO

Tirtawaty Abdjul[1],
Ritin Uloli,
Citron Payu
Department of Physics,
Gorontalo State University,
Indonesia

Abstract:
The present study aimed at investigating the influence of M-learning based Ryleac learning model in dynamic electricity topic towards XII class students' character in SMA 1 state senior high school in Gorontalo. This pre-experimental research employed one-shot case study and quantitative approaches in elaborating the aforementioned learning model's impact towards the students' character. The results showed that the percentage of students' character (comprising honesty, discipline, hard work, and self-reliance) was as follows: 54.05% of the students arrived at very good category, 21.43% were at good category, 15.47% were at moderate category, and 9.05% were at bad category. Meanwhile, no single student showed very bad character. In other words, 75.48% of the students in XII5, XII6, and XII7 class were at very good and good category, while the rest 24.52% were at moderate and bad category. The numbers indicate that the aforementioned learning model was impactful to the students' character.

Keywords: Ryleac learning model, m-learning, students' character

1. Introduction

Education is interpreted as the conscious and planned effort in creating conducive learning situation and learning process so as to encourage students to actively develop ones' potentials regarding the values of religiosity, self-reliance, responsibility, creativity, intelligence, healthiness, noble characteristics, and set of skills that is beneficial for oneself, the community, the nation, and the State (Law of National

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Education System No. 20/2003). A quality education reflected in the learning process is capable of producing individuals with high competitiveness and character.

Central to the notion of implementation of physics learning is the character development. It aims to nurture a students' physical and mental development to achieve the ideal civil values within a community and the nation (Damayanti, 2014: 10). The ideal character values are instilled through the stage of learning; the knowledge learned then transforms into set of actions and becomes an individual's habit. Such conduct falls under the responsibility of a teacher, who, aside from transferring knowledge, is obliged to nurture one's students to progress into better human beings.

The actual condition is, however, far from ideal; in most learning activities in schools, the integration of character instilment in education is neglected. Such a problem blames several factors, among others, the teachers' lack of understanding and attitude towards the integration of character education; the teacher's lack of positive outlook towards the students also contributes to the problem. Teachers tend to state the character values in written form.

As the coping strategy of the problem, the teachers are suggested to embed character values in every learning activity; such a conduct is optimized by implementing a learning model that is able to arouse the students' learning motivation. One of the learning models that is able to achieve the aforementioned goal is the M-learning based Ryleac learning model.

Ryleac learning model applies a constructivist approach and involves set of activities that are planned and executed optimally. The model prepares the students to conduct flexible self-experiments to discover the answers or solutions to a problem by themselves. By this model, students will be able to formulate a connecting notion between one discovery to another and compares the acquired concept with that of other students. Such a mechanism encourages the students' active involvement in learning activities such as science experiment (Abdjul, 2019: 42). Ryleac model views the students as the active participants of an intellectual exploration to formulate a synthesis based on one's result of observation.

The involvement of learning media is essential in the delivery process of a learning material. Learning media facilitates the teacher to actualize a meaningful and quality learning activity (Walat, 2010). As a part of electronic learning (E-learning) concept, M-learning allows the teacher to utilize a phone-based media to deliver the learning material as well as to provide the instruction and learning information anywhere and anytime. M-learning is one of the alternatives of learning process that offers the flexibility of time and place (Darmawan, 2012: 15). In line with that, Ally (2009: 1) states that M-learning is the learning process that involves mobile wireless technology that allows everyone to access the learning material and information anywhere and anytime. The model offers itself as the alternative to limited time allocation of particular sets of learning material; it also encourages the students to learn by themselves from the provided resources (Yuniati, 2011). M-learning model supports the approach of student-centered learning, in which the teacher is positioned as the

facilitator that provides learning media to deliver the learning contents in the form of textual, audiovisual, and multimedia platforms (Wibawanto, 2017: 30). Based on the previous notions, the present study aims to investigate the extent of influence of M-learning based Ryleac learning model towards the character of 12th grade students in SMA 1 state senior high school in Gorontalo.

2. Material and Methods

Conducted in SMA 1 state senior high school in Gorontalo, the present study involved the students in XII5 class, XII6 class, and XII7 class of 2020-2021 academic year as the research subjects. The experimental research employed quantitative approach in elaborating the Ryleac learning model's impact on the students' character. In particular, it applied one-shot case study pre-experimental method. The method refers to a pre-experimental design with simple experimental approach; it involves one experiment class and two replication classes. The involvement of replication class is aimed to validate the consistency of students' learning outcomes. The notion is presented in the following table.

Table 1: Research Design

Class	Treatment	Observation result
Experiment	X_1	O_2
Replication 1	X_1	O_2
Replication 2	X_1	O_2

(Arikunto, 2013: 210)

X_1 was the experiment group, while O_2 was the result of observation of learning process. This study relied on a questionnaire technique to acquire the data. The students' characters that were measured involved honesty, discipline, hard work, and self-reliance. Moreover, the likert scale criteria was applied to measure the extent of implementation of the aforementioned learning model; the scale involved four criteria: highly relevant (HR), relevant (R), irrelevant (I), and highly irrelevant (HI). Therefore, based on the likert scale, the score of each observation item is presented in the following Table 2.

Table 2: Score of Each Observation Item (based on Likert scale)

Answer choice	Item score	
	Positive	Negative
Highly relevant	4	1
Relevant	3	2
Irrelevant	2	3
Highly Irrelevant	1	4

(Arikunto, 2010: 124)

Following the scoring process of the students' answer was the calculation of the percentage of score of each answer item by applying the following formula:

$$\frac{Obtained\ score}{Total\ score} X\ 100$$

The obtained score percentage was then compared with the score interpretation, as displayed in Table 3 as follows:

Table 3: Assessment Criteria of Observation Sheet

Percentage	Assessment Criteria
81%-100%	Very good
61%-80%	Good
41%-60%	Moderate
21%-40%	Poor
0%-20%	Very poor

(Arikunto, 2010: 14)

3. Results and Discussion

3.1 Questionnaire data of XII5 class students

The data described in the present research comprise data of students' characters obtained within the implementation of M-learning based Ryleac learning model. The students' characters that were measured involve honesty (18 statements), discipline (16 statements), hard work (8 statements), and self-reliance (15 statements). Hence, the total of students character items in all classes (XII5, XII6, and XII7) comprise 57 statements. The questionnaire data are generated from the analyzed result of students' answers. The analysis result of XII5 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 1 below.

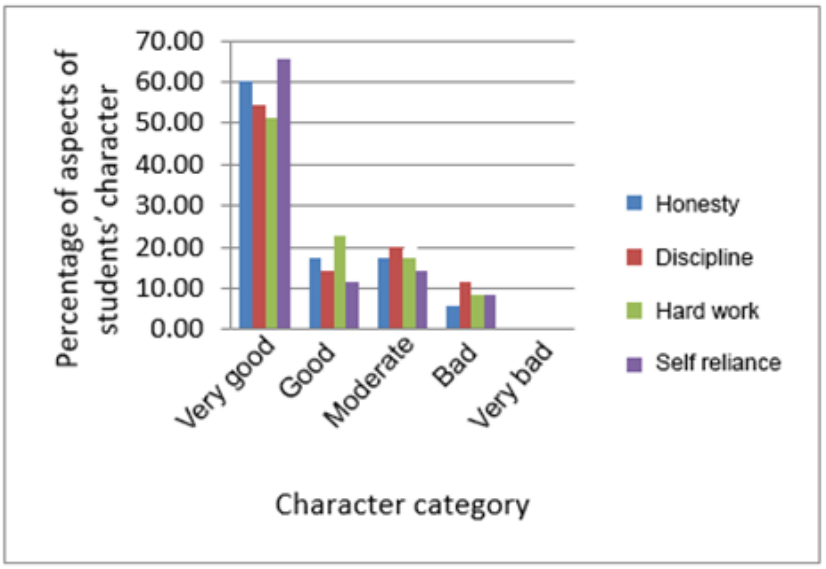

Figure 1: Percentage of XII5 class students' character
in the implementation of M-learning based Ryleac learning model

As displayed in Figure 1, the average percentage of students' character was as follows: 54.05% of the students achieved "very good" category, 21.43% were at "good" category, 15.47% scored "moderate" category, and 9.05% arrived at "bad" category. Based on the figure, no single student showed "very bad" character. The numbers indicate that the students' character during the learning process that implemented the focused model was very good in overall.

3.2 Questionnaire data of XII6 class students

The analysis result of XII6 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 2 below.

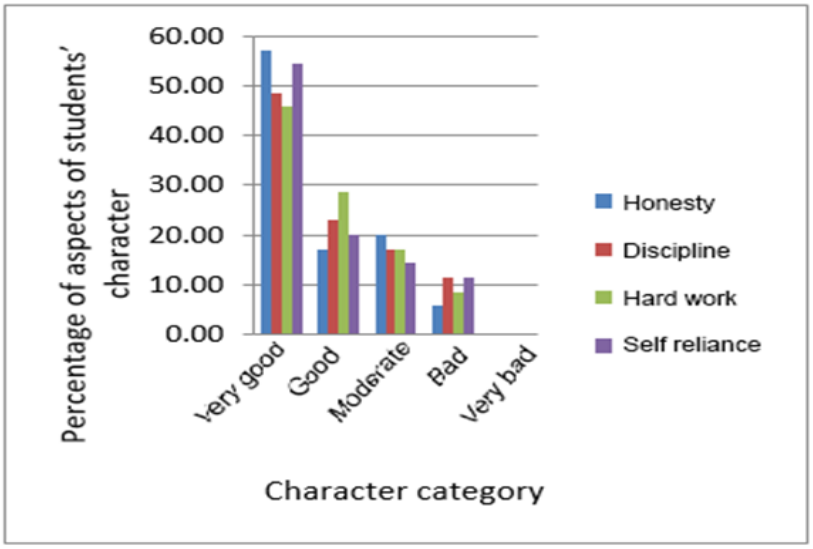

Figure 2: Percentage of XII6 class students' character
in the implementation of M-learning based Ryleac learning model

Figure 2 displays that 51.43% of the students achieved "very good" category and 22.14% were at "good" category. Meanwhile, 17.14% of the students scored "moderate" category, and 9.29% arrived at "bad" category. The figure also indicates that no single student showed "very bad" character. The numbers indicate that during the implementation of the focused learning model, the students' character was very good in overall.

3.3 Questionnaire data of XII7 class students

The analysis result of XII7 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 4.3 below.

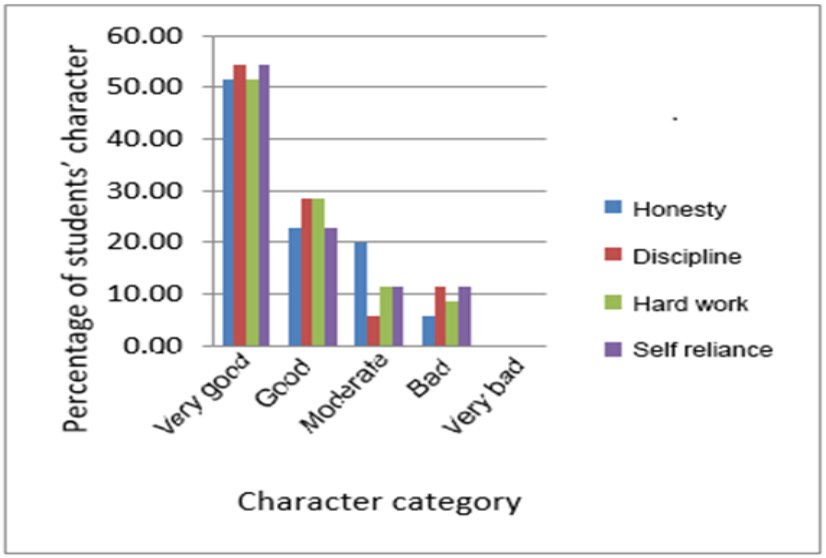

Figure 4.3: Percentage of XII7 class students' character
in the implementation of M-learning based Ryleac learning model

As shown in Figure 3, 51.43% of XII7 class students achieved "very good" category, while 22.14% arrived at "good" category. On top of that, 17.14% of the students scored "moderate" category, and 9.29% were at "bad" category. Based on the figure, no single students arrived at "very bad" category. The numbers indicate that during the implementation of the focused learning model, the students' character was very good in overall.

The overall results indicate that in overall, the students' character (honesty, discipline, hard work, self-reliant) in all classes involved (XII5, XII6, and XII7) were very good. Such notion is apparent from the average score of all class; the "very good" and "good" category achieved 75.48%. The aspect of honesty is described by several indicators: student-focused orientation, high level of heroism, self-acknowledgment of one's weakness or limitation, refraining oneself from cheating when working on an assignment, and avoiding plagiarism. The students were discipline in conducting the learning process that implemented the M-learning based media. Most of the students complied with the learning norms and rules made by the school or set by themselves. Moreover, they worked on the assignment routinely and consistently. The students also showed full eagerness and sincerity to conduct the learning process, despite that the learning materials were delivered indirectly.

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Conflict of Interest

The authors declare that there is no conflict of interest.

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Re: ARTICLE SUBMISSION: European Journal of Education Studies 10/8/2020 11:55 AM

Emil Constantin <oapub.org@gmail.com> 3 November 2020 pukul 16.47
Kepada: Tirta Abdjul <abdjultirta@gmail.com>

Dear Professor Tirta Abdjul

Here is your published article:

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THE INFLUENCE OF M-LEARNING BASED RYLEAC LEARNING MODEL TOWARDS STUDENTS' CHARACTER IN SMA 1 STATE SENIOR HIGH SCHOOL IN GORONTALO

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Abstract:
The present study aimed at investigating the influence of M-learning based Ryleac learning model in dynamic electricity topic towards XII class students' character in SMA 1 state senior high school in Gorontalo. This pre-experimental research employed one-shot case study and quantitative approaches in elaborating the aforementioned learning model's impact towards the students' character. The results showed that the percentage of students' character (comprising honesty, discipline, hard work, and self-reliance) was as follows: 54.05% of the students arrived at very good category, 21.43% were at good category, 15.47% were at moderate category, and 9.05% were at bad category. Meanwhile, no single student showed very bad character. In other words, 75.48% of the students in XII5, XII6, and XII7 class were at very good and good category, while the rest 24.52% were at moderate and bad category. The numbers indicate that the aforementioned learning model was impactful to the students' character.

Keywords: Ryleac learning model, m-learning, students' character

1. Introduction

Education is interpreted as the conscious and planned effort in creating conducive learning situation and learning process so as to encourage students to actively develop ones' potentials regarding the values of religiosity, self-reliance, responsibility, creativity, intelligence, healthiness, noble characteristics, and set of skills that is beneficial for oneself, the community, the nation, and the State (Law of National Education System No. 20/2003). A quality education reflected in the learning process is capable of producing individuals with high competitiveness and character.

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Central to the notion of implementation of physics learning is the character development. It aims to nurture a students' physical and mental development to achieve the ideal civil values within a community and the nation (Damayanti, 2014: 10). The ideal character values are instilled through the stage of learning; the knowledge learned then transforms into set of actions and becomes an individual's habit. Such conduct falls under the responsibility of a teacher, who, aside from transferring knowledge, is obliged to nurture one's students to progress into better human beings.

The actual condition is, however, far from ideal; in most learning activities in schools, the integration of character instilment in education is neglected. Such a problem blames several factors, among others, the teachers' lack of understanding and attitude towards the integration of character education; the teacher's lack of positive outlook towards the students also contributes to the problem. Teachers tend to state the character values in written form.

As the coping strategy of the problem, the teachers are suggested to embed character values in every learning activity; such a conduct is optimized by implementing a learning model that is able to arouse the students' learning motivation. One of the learning models that is able to achieve the aforementioned goal is the M-learning based Ryleac learning model.

Ryleac learning model applies a constructivist approach and involves set of activities that are planned and executed optimally. The model prepares the students to conduct flexible self-experiments to discover the answers or solutions to a problem by themselves. By this model, students will be able to formulate a connecting notion between one discovery to another and compares the acquired concept with that of other students. Such a mechanism encourages the students' active involvement in learning activities such as science experiment (Abdjul, 2019: 42). Ryleac model views the students as the active participants of an intellectual exploration to formulate a synthesis based on one's result of observation.

The involvement of learning media is essential in the delivery process of a learning material. Learning media facilitates the teacher to actualize a meaningful and quality learning activity (Walat, 2010). As a part of electronic learning (E-learning) concept, M-learning allows the teacher to utilize a phone-based media to deliver the learning material as well as to provide the instruction and learning information anywhere and anytime. M-learning is one of the alternatives of learning process that offers the flexibility of time and place (Darmawan, 2012: 15). In line with that, Ally (2009: 1) states that M-learning is the learning process that involves mobile wireless technology that allows everyone to access the learning material and information anywhere and anytime. The model offers itself as the alternative to limited time allocation of particular sets of learning material; it also encourages the students to learn by themselves from the provided resources (Yuniati, 2011). M-learning model supports the approach of student-centered learning, in which the teacher is positioned as the facilitator that provides learning media to deliver the learning contents in the form of textual, audiovisual, and multimedia platforms (Wibawanto, 2017: 30). Based on the previous notions, the present study aims to

investigate the extent of influence of M-learning based Ryleac learning model towards the character of 12th grade students in SMA 1 state senior high school in Gorontalo.

2. Material and Methods

Conducted in SMA 1 state senior high school in Gorontalo, the present study involved the students in XII5 class, XII6 class, and XII7 class of 2020-2021 academic year as the research subjects. The experimental research employed quantitative approach in elaborating the Ryleac learning model's impact on the students' character. In particular, it applied one-shot case study pre-experimental method. The method refers to a pre-experimental design with simple experimental approach; it involves one experiment class and two replication classes. The involvement of replication class is aimed to validate the consistency of students' learning outcomes. The notion is presented in the following table.

Table 1: Research Design

Class	**Treatment**	**Observation result**
Experiment	X_1	O_2
Replication 1	X_1	O_2
Replication 2	X_1	O_2

(Arikunto, 2013: 210)

X_1 was the experiment group, while O_2 was the result of observation of learning process. This study relied on a questionnaire technique to acquire the data. The students' characters that were measured involved honesty, discipline, hard work, and self-reliance. Moreover, the likert scale criteria was applied to measure the extent of implementation of the aforementioned learning model; the scale involved four criteria: highly relevant (HR), relevant (R), irrelevant (I), and highly irrelevant (HI). Therefore, based on the likert scale, the score of each observation item is presented in the following Table 2.

Table 2: Score of Each Observation Item (based on Likert scale)

Answer choice	**Item score**	
	Positive	**Negative**
Highly relevant	4	1
Relevant	3	2
Irrelevant	2	3
Highly Irrelevant	1	4

(Arikunto, 2010: 124)

Following the scoring process of the students' answer was the calculation of the percentage of score of each answer item by applying the following formula:

$$\frac{\text{Obtained score}}{\text{Total score}} \text{X } 100$$

The obtained score percentage was then compared with the score interpretation, as displayed in Table 3 as follows:

Table 3: Assessment Criteria of Observation Sheet

Percentage	Assessment Criteria
81%-100%	Very good
61%-80%	Good
41%-60%	Moderate
21%-40%	Poor
0%-20%	Very poor

(Arikunto, 2010: 14)

3. Results and Discussion

3.1 Questionnaire data of XII5 class students

The data described in the present research comprise data of students' characters obtained within the implementation of M-learning based Ryleac learning model. The students' characters that were measured involve honesty (18 statements), discipline (16 statements), hard work (8 statements), and self-reliance (15 statements). Hence, the total of students' character items in all classes (XII5, XII6, and XII7) comprise 57 statements. The questionnaire data are generated from the analyzed result of students' answers. The analysis result of XII5 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 1 below.

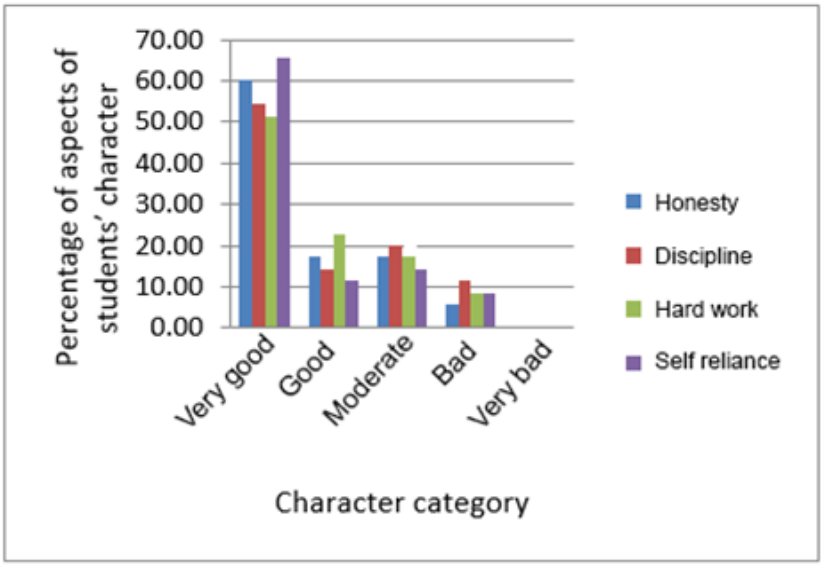

Figure 1: Percentage of XII5 Class Students' Character
in the Implementation of M-learning Based Ryleac Learning Model

As displayed in Figure 1, the average percentage of students' character was as follows: 54.05% of the students achieved "very good" category, 21.43% were at "good" category, 15.47% scored "moderate" category, and 9.05% arrived at "bad" category.

Based on the figure, no single student showed "very bad" character. The numbers indicate that the students' character during the learning process that implemented the focused model was very good in overall.

3.2 Questionnaire data of XII6 class students

The analysis result of XII6 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 2 below.

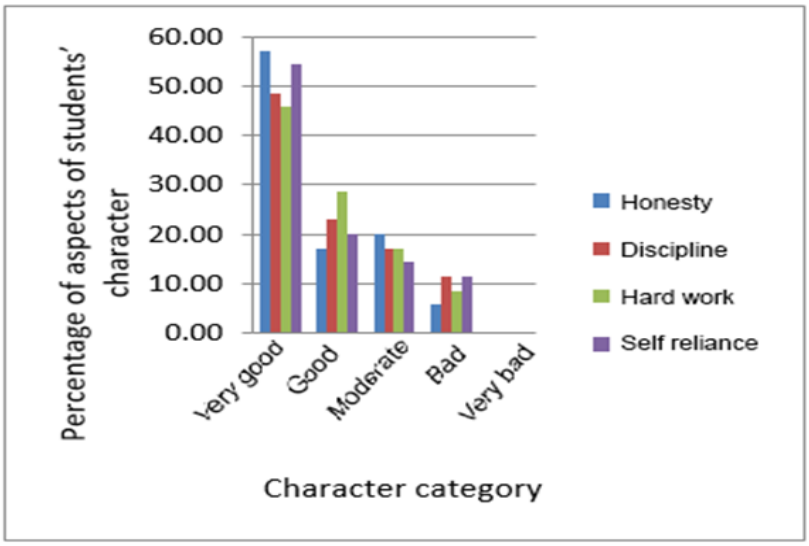

Figure 2: Percentage of XII6 Class Students' Character
in the Implementation of M-learning Based Ryleac Learning Model

Figure 2 displays that 51.43% of the students achieved "very good" category and 22.14% were at "good" category. Meanwhile, 17.14% of the students scored "moderate" category, and 9.29% arrived at "bad" category. The figure also indicates that no single student showed "very bad" character. The numbers indicate that during the implementation of the focused learning model, the students' character was very good in overall.

3.3 Questionnaire data of XII7 class students

The analysis result of XII7 class students' characters during the implementation of M-learning based Ryleac learning model is presented in Figure 4.3 below.

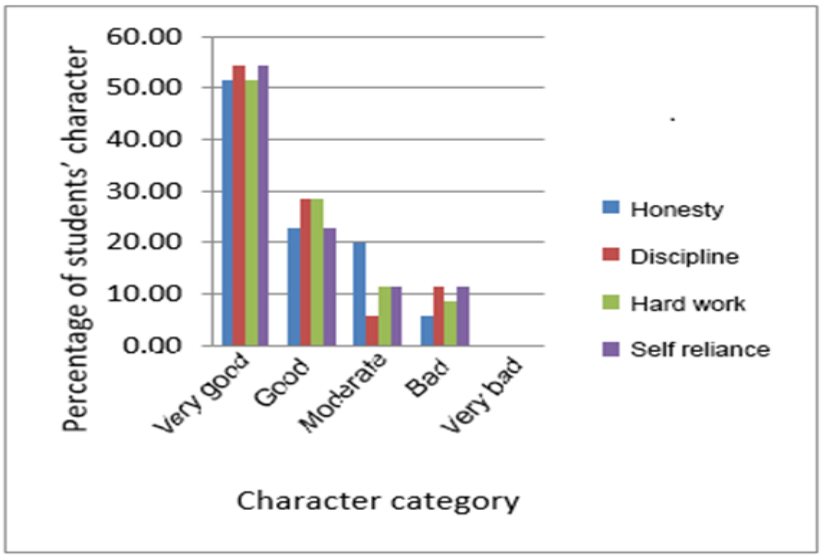

Figure 4.3: Percentage of XII7 Class Students' Character
in the Implementation of M-learning Based Ryleac Learning Model

As shown in Figure 3, 51.43% of XII7 class students achieved "very good" category, while 22.14% arrived at "good" category. On top of that, 17.14% of the students scored "moderate" category, and 9.29% were at "bad" category. Based on the figure, no single students arrived at "very bad" category. The numbers indicate that during the implementation of the focused learning model, the students' character was very good in overall.

The overall results indicate that in overall, the students' character (honesty, discipline, hard work, self-reliant) in all classes involved (XII5, XII6, and XII7) were very good. Such notion is apparent from the average score of all class; the "very good" and "good" category achieved 75.48%. The aspect of honesty is described by several indicators: student-focused orientation, high level of heroism, self-acknowledgment of one's weakness or limitation, refraining oneself from cheating when working on an assignment, and avoiding plagiarism. The students were discipline in conducting the learning process that implemented the M-learning based media. Most of the students complied with the learning norms and rules made by the school or set by themselves. Moreover, they worked on the assignment routinely and consistently. The students also showed full eagerness and sincerity to conduct the learning process, despite that the learning materials were delivered indirectly.

Regarding aspect of hard work, the students in all classes arrived at "very good" category. They were able to follow the whole process of learning activity with intensive and committed attitude; regarding of learning results, the students also showed very good quality. Further, the implementation of M-learning based Ryleac learning model is regarded to encourage the students' self-reliance. As based on the results, the students were able to identify their own learning needs. Moreover, they were also competent in indicators, such as time management, preference towards individual assignments, positive competitiveness attitude, effective execution of learning process, and self-

evaluation of learning activity results. This is in line with Abdjul et al. (2019: 427), who state that Ryleac learning model is able to facilitate active and direct learning experience. It also boosts the students' ability to solve questions or problems delivered in the form of story or phenomenon. The active learning element of Ryleac learning is also regarded to encourage the students' learning motivation and is capable of reducing cognitive conflicts in students during learning activity. On top of that, guided inquiry learning model is proven successful to develop students' character of hard work, environment-friendly attitude, and curiosity. The aforementioned characters are regarded as influential to the students' result of problem investigation and resolution during a learning process that implement guided inquiry model (Sinaga, 2014: 234). Guided inquiry model is central to the development of fundamental comprehension of concepts, facts, principles, laws, and theories; in addition, it also nurtures an individual's positive attitude towards science (Chiapetta and Adams in Jauhar, 2011: 84-85).

The integration of Ryleac learning model and M-learning based media is deemed as impactful to the students' character during learning process. This is due to the learning method's strength in aspects such as: 1) the delivery of learning material via systematic application that offers ease of use, and 2) interactive-based based media that attracts the students' eagerness to participate in a learning activity (Wulandari et al, 2019: 583). The use of media in learning process is seen as the effort to creating a meaningful and quality learning activity. Incorporated in physics learning, the learning media is proven to aid the students during learning process (Acedo, 2014). As based on the findings, the M-learning based Ryleac learning method nurtures the students' positive characters during learning process, particularly in dynamic electricity topic.

4. Conclusion

The results point out that 75.48% of the students in XII5, XII6, and XII7 class were at "very good" and "good" category, while the rest 24.52% were at "moderate" and "bad" category. This indicates that the M-learning based Ryleac learning model was proven impactful to the students' character.

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