

## The Effect of Everyone Strategy is A Teacher Here with E-Assessment of Momentum and Vibration Materials on Physics Student Achievement

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### ABSTRACT

One of the learnings in keeping with the 2013 curriculum is that getting to know is greater directed so that teachers manual students to are seeking for through the software of various getting to know strategies orientated to a scientific approach. In reality, instructors have a tendency no longer to differ the gaining knowledge of strategies used (the effects of the trainer's questionnaire in the shape of the use of versions in learning techniques 57.14 are categorized as enough) so that the impact on studying outcomes is low. The solution to those troubles, the researcher uses the every body is a intructor here gaining knowledge of approach as an opportunity in overcoming the problem of low pupil mastering effects. This examine pursuits to assess the impact of the chacperson is a trainer right here strategy with e-evaluation of momentum and vibration cloth on scholar physics getting to know effects. The sort of research implemented in this have a look at is a quasi-experimental research. The pattern on this study turned into class X MIPA 5 because experimental class and sophistication X MIPA 3 as the control class. Sampling was carried out using purposive sampling technique. Primaliry based on the research performed and continued by means of reading the research fact acquired, it shows the proposed running speculation (H1) so that it could be found that there's a considerable effect using all and sundry's method here with e-evaluation of momentum and vibration material on students' physics gaining knowledge of effects.

**Keywords :**Everyone is a teacher here; E-Assessment; Momentum and Vibration.



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## I. INTRODUCTION

The development of statistics era and technological know-how within the twenty first century has modified almost all aspects of lifestyles, one in every of that is in the subject of training. It makes people enhance their abilities to stand tough competition. one of the abilties had to enhance human resources is crucial questioning (critical questioning), collaboration (collaboration), creativity (creativity) and communication (communique) called 4C capabilities[1]. 4C competencies are one of the talents required in contemporary education global. The authorities has made efforts to improve these skills thru the implementation of the 2013 curriculum.

The curriculum used inside the learning system at the moment is the 2013 curriculum. The 2013 curriculum has definitely accommodated twenty first century abilities[2]. The implementation of physics mastering in high faculty based totally on the 2013 curriculum normally makes use of a scientific approach. This clinical method approach is a way of studying this is made in this sort of manner that scholars can play an active function in constructing records, concepts and concepts in studying. In carrying out this technique, teacher guidance is wanted, but the steerage provided will lower in conjunction with the growth in students' analytical abilities.

Teaching is a career that requires unique capabilities. The trainer's duties include educating, coaching and schooling. instructing method persevering with and growing the values of lifestyles. coaching way persevering with and growing science and era[3] whilst education method developing competencies for college students as said in law No. 20 of 2003 regarding the countrywide training gadget, Article 39 paragraph 2[4], specifically: expert team of workers in price of planning and implementing the studying system, assessing studying outcomes, undertaking guidance and education, as well as undertaking research and community service, especially for educators and universities”.

Precise mastering is getting to know that is interesting, powerful and can make students actively participate within the getting to know process. In situations like this, educators must create greater learning that isn't always uninteresting and can maintain up with the times [5]. most of the efforts that may be applied with the aid of educators is to use numerous strategies in gaining knowledge of. getting to know strategies are a chain of gaining knowledge of implementations that encompass all additives of mastering substances and tactics or getting to know stages sports used by teachers if you want to assist college students achieve certain gaining knowledge of targets [6]. teachers and educators are expected with a purpose to use the great gaining knowledge of techniques according to the kid's situation, the child's mastering surroundings, and the carrying capability of the kid.

However, after conducting preliminary studies in the field, it turned out that the real conditions were not according with the expected conditions. The preliminary studies carried out at SMA Negeri 6 Padang became by using filling out a questionnaire by using the trainer. The instructor questionnaire at SMA Negeri 6 Padang became stuffed out with the aid of one physics teacher because there was best one physics instructor coaching in class X. elements assessed within the questionnaire are using techniques inside the mastering method and the evaluation procedure completed inside the learning technique. The effects of the teacher's questionnaire inside the shape of using a ramification of getting to know techniques are 57.14 with a sufficient class. based at the outcomes of the questionnaire, teachers who have filled out the questionnaire have no longer carried out varied studying strategies that make students lively and take part inside the gaining knowledge of procedure. teachers nevertheless use conventional mastering strategies with sports that are most effective instructor-centered due to the fact the teacher does now not apprehend a way to use numerous getting to know techniques that make students active and take part within the gaining knowledge of technique.

Any other real condition is in the evaluation system carried out in the getting to know system. The results of the instructor's questionnaire in the form of an assessment technique are fifty seven.14 with a sufficient class. primarily based on the consequences of the questionnaire, teachers very hardly ever use on-line evaluation (e-evaluation) instructors still use traditional assessment. The assessment process is still traditional because the trainer does no longer recognize nicely approximately the usage of generation. instructors and college students on this modern technology need to be acquainted with era. With era, it need to help and facilitate teachers in the assessment procedure.

Any other real circumstance is received from the studies journal on momentum and vibration fabric. according to analyze conducted by Sufi [7] said that 68% of college students skilled conceptual mistakes inside the material of momentum and impulse. Likewise, according to analyze carried out by way of Kamelia [8] stated that 55.4% of college students skilled conceptual errors in the fabric of simple harmonic vibrations. This idea blunders shows that scholars' information of the concept of momentum and vibration is still low. This pupil concept error takes place due to the fact students do now not recognize and do now not even recognise the standards contained within the concern remember of momentum and vibration [9].

The closing actual situation is scholar learning results at SMA Negeri 6 Padang. this may be visible after being examined and analyzed based totally on the success of the mastery goal, the KKM used in SMA Negeri 6 Padang is seventy five. It turns out that personally and as a whole what's anticipated has not been carried out. beginning from the real scenario that exists, the trainer as one of the components within the learning manner need to be professional in the use of suitable gaining knowledge of tools (models, strategies, media and gadgets). The anybody is a trainer here strategy is one of the lively studying techniques utilized by educators with the purpose of asking college students to all play a position as aid folks or instructors to all their friends in the elegance. This getting to know method comprises college students in practising listening and speaking talents. those sports will create energetic and participating mastering activities [10]. This method gives an opportunity for each scholar to act as a "teacher" to other college students. that is consistent with what Silberman [11] stated that "a few specialists believe that a brand new challenge is absolutely mastered while the learner is capable of teach it to others".

All and sundry is a teacher here is a super way to get class participation as an entire and for my part. This approach gives an possibility for each scholar to behave as a instructor for his buddies [10]. via a question from a student written on a card then the other college students respond and reply [12]. consistent with this opinion, Zaini [13] stated that "this strategy is one of the energetic mastering techniques, due to the fact via the all of us is a trainer right here method, college students who have no longer wanted to be actively involved in getting to know, will participate in energetic getting to know".

The each person is a instructor here mastering method offers students with an know-how that instructors aren't the best supply of understanding. knowledge can also be obtained from peers so that each pupil has the opportunity to share information with colleagues in line with their respective talents [14]. inside the learning

system does not must come from the trainer, students can educate every different with different college students [15].

The cause of the every body is trainer right here learning approach is to boom class participation both individually and as an entire and might activate students and generate pupil responses. The everybody is a teacher here learning strategy additionally trains college students to suppose critically via sports to make questions, dare to explicit critiques in sports to feature buddies' solutions and is likewise capable of grow the character of college students to be chargeable for their responsibilities as a scholar. in step with Ismail [16], the purpose of implementing the anyone is a instructor right here approach is to familiarize college students with active gaining knowledge of personally and to domesticate the character of bold to ask questions, now not feeling inferior and now not scared of being incorrect. So this approach does require college students to be lively in making questions and answers, so it's miles impossible for college students to be sleepy or having a pipe dream all through classes.

The steps of the every person is a trainer here model in keeping with Silberman [11] are as follows.

- 1) Distribute a bit of paper to all college students, every student is requested to jot down a query about the material being studied in magnificence.
- 2) Accumulate the paper, shuffle the paper, then distribute it to each pupil. ensure that no pupil accepts self-written questions.
- 3) Ask college students to voluntarily examine the question and solution it.
- 4) After the answer is given, ask different students to feature it.
- 5) Maintain with different college students or the instructor appoints college students to examine the questions and solution them until all questions are answered.

The benefits of the absolutely everyone is a instructor right here studying approach for college kids are that the questions asked can appeal to and attention attention, educate thinking and memory, and develop braveness and competencies to express critiques. There also are weaknesses within the everyone is a teacher right here strategy, including taking a extraordinarily long term, college students will experience afraid or awkward if the educator is not capable of provide mental strengthening encouragement, and it's miles pretty hard to make questions which are easy for college students to apprehend and in step with their stage of wondering [14]. The blessings of the every body is a teacher right here learning approach are that every student dares to express his opinion thru answers to questions he has made based totally on the analyzing resources supplied, is able to explicit opinions via writing and specific them in the front of the magnificence and is trained in concluding problems and look at outcomes. at the hassle studied [17].

Computers provide the opportunity to apply simulations, manipulate big quantities of up to date and enriched records, boom interaction with facts and make students more participative inside the evaluation process [18]. evaluation with an online machine makes the assessment extra efficient in phrases of time, funding, and accomplishing the evaluation targets [19]. Googleform is a set of GoogleDrive. Googleform is an open source facility that may be owned by every body. One google account has many benefits, considered one of that is being capable of get entry to googleform [20]. Googleform can be used in the global of schooling, for example imparting online assignments/practices, creating registration paperwork, and gathering opinions thru on-line surveys. Googleform is able to update studying evaluation with paper (paper take a look at)[21]. Googleform is an utility that has a easy appearance and is easy to apply (usefriendly) for all and sundry. for this reason, the researcher raised the name "The impact of every body is a instructor right here strategy with E-assessment of Momentum and Vibration materials on college students' Physics getting to know effects".

## II. METHOD

The form of studies implemented on this study is a quasi-experimental research (quasi-experimental) with a randomized manage institution posttest only layout. Researchers need to know whether or not there are outcomes of something imposed at the problem under research. The trick is to examine one or two experimental groups that are handled with one or extra evaluation agencies that do not receive treatment [22]. in this observe the class was grouped into two, namely the experimental elegance and the manipulate elegance. The implementation of the learning technique inside the experimental magnificence uses the all and sundry is a instructor here learning method. meanwhile, within the manipulate elegance, conventional gaining knowledge of techniques are used. After that, the physics challenge matter and the identical test have been given between the manage elegance and the experimental magnificence. The layout of this research layout may be seen in table 1.

Table 1. research layout Randomized control institution Posttest best layout

Class	Treatment	Posttest
Experiment	X	T1
Control	-	T2

Description:

X = Treatment Using Studying Techniques Everyone Is A Instructor Here

T1 = Post test value after being given treatment

T2 = Post test scores without treatment

The population is group contributors who stay together in a single vicinity and are planned to be the target of studies conclusions [23]. The populace in this take a look at had been all college students of sophistication X MIPA SMA Negeri 6 Padang. The studies sample is part of the population taken by way of the researcher to represent the existing populace. The pattern in this look at there are two lessons, specifically the experimental magnificence and the control elegance. Sampling could be accomplished using purposive sampling method. Purposive sampling approach is completed primarily based on certain standards and goals. Researchers take samples based totally on lessons which have an average daily test fee that is near.

Information is a set of crucial information or actual fabric inside the form of records and figures that can be used as the premise for the study. The statistics on this look at had been received from 3 abilities, namely records from understanding competence, ability competence and mind-set competence. The contraptions used were remark sheets for the assessment of the mind-set component, a written test done on the end of the take a look at which consisted of thirty-six questions for expertise competence, and scholar overall performance sheets which were assessed during the getting to know process for the talents thing. The impartial variable on this observe is using the everyone is a trainer right here approach with e-evaluation. The established variable on this look at is the physics gaining knowledge of effects of class X MIPA students at SMA Negeri 6 Padang.

The step that will be taken after the researcher receives the 3 records is information analysis. There are several Strategies in analyzing the information, particularly normality take a look at, homogeneity check, and comparison take a look at of averages. The normality take a look at aims to check the facts acquired from each sample with a ordinary distribution or vice versa. The statistic used on this have a look at is the Lilliefors check. The homogeneity check targets to determine whether the two samples have a homogeneous variance or now not.

The statistic used inside the homogeneity check is the F test.speculation testing changed into achieved after checking out normality and homogeneity. to check the hypothesis can use a evaluation take a look at of two averages. statistics this is generally disbursed and has a homogeneous variance can use the t take a look at to prove whether or now not the speculation is accepted. The system for the t-test is:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s^2}{n_1} + \frac{s^2}{n_2}}} \text{ with } s^2 = \frac{(n_1-1)S_1^2 + (n_2-1) S_2^2}{n_1 + n_2 - 2}$$

Description :

$\bar{X}_1$  = The average price of the experimental class

$\bar{X}_2$  = The common price of the manage magnificence

$S_1$  = The biggest trendy deviation of studying consequences

$S_2$  = The smallest general deviation of getting to know results

S = blended preferred deviation

$n_1$  = the largest number of students getting to know effects  $n_2$  = The smallest number of students learning outcomes

Accept test critera  $H_0$  if  $-t_{1-\frac{1}{2}\alpha} < t < t_{1-\frac{1}{2}\alpha}$  at a significant level ( $\alpha$ ) 0,05 and degrees of freedom (dk) =  $(n_1 + n_2 - 2)$ , while reject  $H_0$  for value t other[24].

### III. RESULTS AND DISCUSSION

The outcomes of this examine are inside the shape of student learning results in learning physics in phrases of know-how, competencies and attitudes on the fabric of momentum and vibration. This assessment records turned into then analyzed using the normality test, homogeneity test and the similarity take a look at of the 2 averages through the t-take a look at. The effects of the look at relate to the effect of using the absolutely everyone is a trainer here strategy with e-evaluation of momentum and impulse fabric on students' physics learning effects protecting components of information, talents and attitudes.

#### **The Effect of Everyone is a Teacher Here Strategy on Knowledge Aspect**

The expertise competence facts of the students was obtained from the very last check (posttest) within the experimental elegance and the manage magnificence on the cease of the look at. Researchers used a written test device inside the shape of more than one desire questions as many as 36 objects. The questions used have been examined on previous questions. The questions that have been tested are endured by way of checking out the

validity, reliability, difficulty stage and differentiating electricity. the description of the studies records for the experimental elegance and manage magnificence can be visible in desk 2.

table 2. effects of information evaluation of college students' know-how aspects

No	Statistical Value	Experiment	Control
1	Avarage	78,02	69,93
2	Maximum Value	97,23	88,89
3	Minimum Value	55,56	44,45
4	Variance	127,69	136,18
5	Standard Deviation	11,30	13,67
6	Normality Test	Normal	Normal
7	Homogeneity Test	Homogeneous	
8	t-Test	9,51	

Desk 2 suggests the students' knowledge for the experimental magnificence and the control elegance. facts at the expertise component is classified as normal and homogeneous. primarily based on this, the similarity take a look at of the two averages become performed, particularly the t-check. The price of  $t_{hitung}$  obtained is greater than  $t_{tabel}$  at the level of significance ( $\alpha$ ) = 0.05 with tiers of freedom  $dk = 67$  which is 1.ninety nine. This suggests that there may be an impact of the usage of the absolutely everyone is a instructor right here method on college students' knowledge competence on the cloth of momentum and vibration. The results of this look at are relevant to the research that has been executed by Ukir [25]. scholar studying results increased after the use of the absolutely everyone is a trainer right here method. before the use of the everybody is a instructor here approach, it become only fifty nine.38 however after the usage of the absolutely everyone is a teacher here strategy it improved to 87.50. students who follow the all and sundry is a instructor here method can be skilled to research actively and take part as defined by means of Suprijono [10] This gaining knowledge of method will accommodate students in training listening and speakme talents for you to create energetic and participating studying sports.

#### **The Effect of Everyone is a Teacher Here Strategy on Attitudes Aspect**

Records for the competence of college students' physics abilities uses the rubric of performance assessment received primarily based on observations in the course of the practicum hobby. The evaluation is done primarily based on the indicators of each aspect that is assessed in step with the talent competency scoring rubric. The fee of the two sample training may be seen in desk 3.

Table 3. effects of records analysis of students' Attitudes factors

No	Statistical Value	Experiment	Control
1	Avarage	89,43	82,73
2	Maximum Value	95,83	89,47
3	Minimum Value	83,34	73,68
4	Variance	16,63	25,67
5	Standard Deviation	4,07	5,06
6	Normality Test	Normal	Normal
7	Homogeneity Test	Homogeneous	
8	t-Test	7,29	

Desk 3 shows the abilities of the scholars for the experimental magnificence and the manipulate elegance. The information on the capabilities component is classed as regular and homogeneous. based on this, the similarity test of the 2 averages turned into achieved, specifically the t-take a look at. The fee of  $t_{hitung}$  acquired is more than  $t_{tabel}$  at the level of significance ( $\alpha$ ) = 0.05 with stages of freedom  $dk = sixty seven$  which is 1.99. This suggests that there's an impact of the usage of the all of us is a instructor here strategy at the competence of college students' abilities within the fabric of momentum and vibration. students who learn to use the each person is a teacher here method will teach students in the capability to express reviews, the potential to research troubles and the ability to write down down their critiques (the organization) after making observations and also the capacity to finish [26].

#### **The Effect of Everyone is a Teacher Here Strategy on Skill Aspect**

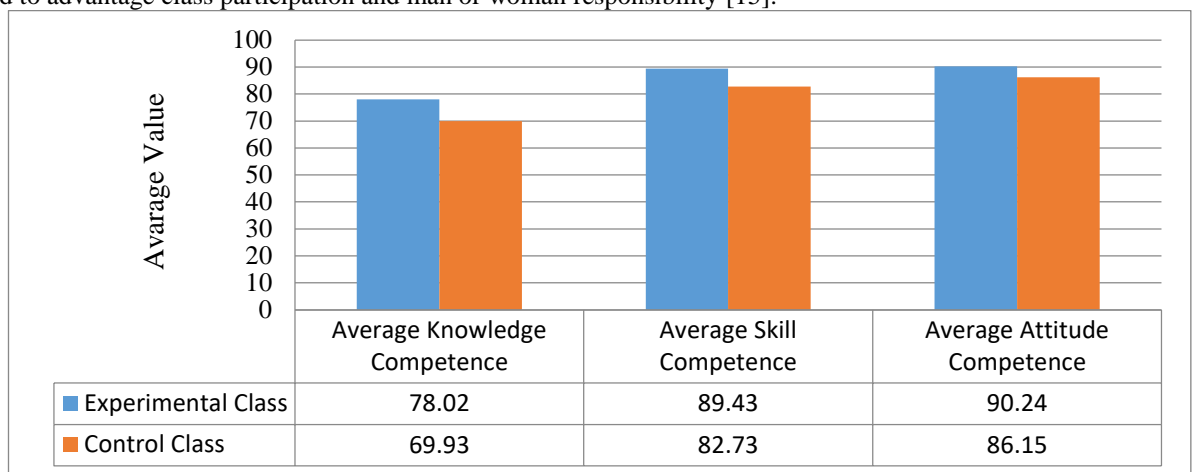
The outcomes of the assessment of students' attitude competence in physics topics inside the experimental magnificence and manipulate elegance had been obtained for the duration of the studying system. facts have been taken the use of remark sheets. aspects of the assessment of attitudinal competence were accomplished on six factors, namely, spiritual attitudes, disciplined attitudes, honest attitudes, cooperative attitudes, self-self assurance, and interest attitudes. the description of this attitude competency records is indicated by the common

value obtained with the aid of students after six face-to-face meetings. the outline of the attitude competence information for the experimental elegance and manage magnificence can be seen in desk 4.

Table 4. results of facts analysis of students' talent components

No	Statistical Value	Experiment	Control
1	Avarage	90,24	86,15
2	Maximum Value	95,83	91,67
3	Minimum Value	85,42	79,16
4	Variance	7,60	13,11
5	Standard Deviation	2,76	3,62
6	Normality Test	Normal	Normal
7	Homogeneity Test	Homogeneous	
8	t-Test	5,01	

Desk four indicates the attitudes of college students for the experimental class and the manage elegance. The facts at the mind-set factor is classed as regular and homogeneous. primarily based in this, the similarity take a look at of the 2 averages became executed, namely the t-test. The price of  $t_{hitung}$  received is extra than  $t_{tabel}$  at the level of importance ( $\alpha$ ) = zero.05 with degrees of freedom  $dk = 67$  that is 1,ninety nine. This shows that there is an effect of the usage of the everybody is a trainer right here approach at the competence of college students' attitudes on the fabric of momentum and vibration. through the implementation of the everyone is a instructor here approach, instructors can help college students in expressing thoughts or ideas in making questions, answering questions and responding to buddies' answers. all of us is a instructor right here is an easy method to advantage class participation and man or woman responsibility [15].



Figur 1. The Average Competence of students

Based totally on the results of the have a look at, it's far proven that the evaluation by using applying online evaluation (e-evaluation) the usage of google shape makes it very smooth for teachers to give grades to students and has a quiz characteristic which can score answers to the questions given. this is applicable to the research that has been done via Septiawan [20] displaying that googleform is very efficiently used inside the method of comparing student learning effects and in studies conducted via Utami [27] showing that the usage of googleform in evaluating scholar mastering outcomes states the category could be very powerful.

Section 1 of 2

## PENILAIAN PENGETAHUAN MOMENTUM DAN GETARAN

Mata Pelajaran : Fisika  
Petunjuk Umum

- 1) Berdoalah terlebih dahulu sebelum mengerjakan soal
- 2) Tuliskan terlebih dahulu nama dan kelas ananda pada tempat yang telah disediakan pada lembar jawaban
- 3) Bacalah soal-soal dengan teliti sebelum ananda menjawabnya
- 4) Dahulukan menjawab soal yang dianggap mudah

Nama Lengkap \*

Short answer text

Kelas \*

Short answer text

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Section 2 of 2

## PENILAIAN PENGETAHUAN MOMENTUM DAN GETARAN

Mata Pelajaran : Fisika  
Petunjuk Umum

- 1) Berdoalah terlebih dahulu sebelum mengerjakan soal
- 2) Tuliskan terlebih dahulu nama dan kelas ananda pada tempat yang telah disediakan pada lembar jawaban
- 3) Bacalah soal-soal dengan teliti sebelum ananda menjawabnya
- 4) Dahulukan menjawab soal yang dianggap mudah

1. Perhatikan pernyataan dibawah ini! (1) Sebuah truk akan lebih sulit berhenti dibandingkan dengan sedan meskipun kelajuan keduanya sama. (2) Sebuah palu terbuat dari besi dengan tujuan paku tertancap lebih dalam. (3) Seorang petinju menggunakan sarung tinju dengan tujuan untuk mengurangi rasa sakit jika mengenai lawan. (4) Ketika dua orang sedang berlari, yang satu kurus, satunya lagi gemuk, jika keduanya berlari dengan laju yang sama, maka orang gemuk akan lebih sulit berhenti dari pada orang kurus. Dari pernyataan diatas, pernyataan yang benar mengenai momentum adalah ...

a. 1), 2), 3)

b. 1) dan 2)

c. 2) dan 3)

d. 1) dan 4)

e. 4 saja

2. Dimensi momentum adalah \*

Figur 2. Knowledge Assessment Googleform View

Based on observations, the great of mastering is growing daily, students are greater active and enthusiastic, particularly within the experimental magnificence because students examine with the absolutely everyone is a instructor here approach. At the beginning of the experimental class studying with the anyone is a instructor right here approach, there had been numerous boundaries, along with students now not getting used to gaining knowledge of to apply the anyone is a trainer here strategy in mastering. This happened at the first meeting and the second one assembly of the have a look at. this will be triumph over by using imparting steering and course to college students with the aid of offering demonstration examples.

The next impediment is the circumstance of the elegance whilst mastering turns into a little tough to control because college students in each institution start to speak about with each other and are enthusiastic in expressing their respective critiques. this could be overcome by reminding college students to keep a more conducive mastering ecosystem and welcoming students to admire each different in organization discussions.

#### IV. CONCLUSION

Based totally on the results of facts analysis and dialogue of the troubles on this look at, it could be visible that the effects reject  $H_0$  and be given  $H_1$ . as a result, the studying outcomes of students taught with the everyone is a instructor here mastering strategy are better than the ones taught with conventional mastering techniques. So it may be concluded that there is a widespread impact of everyone is a trainer right here strategy with e-evaluation of momentum and vibration fabric on students' physics gaining knowledge of outcomes.

#### REFERENCES

- [1] S. Zubaidah, "Mengenal 4C: Learning and innovation skills untuk menghadapi era revolusi industri 4.0," in *2nd Science Education National Conference*, 2018, pp. 1–18.
- [2] I. W. Redhana, "Mengembangkan keterampilan abad ke-21 dalam pembelajaran kimia," *J. Inov. Pendidik. Kim.*, vol. 13, no. 1, 2019.
- [3] A. Sopian, "Tugas, peran, dan fungsi guru dalam pendidikan," *Raudhah Proud To Be Prof. J. Tarb. Islam.*, vol. 1, no. 1, pp. 88–97, 2016.
- [4] U.-U. S. Th, "Bab XI Pasal 39 Ayat 1 & 2," *Jogjakarta: Media Wacana*, 2003.
- [5] R. H. Mardhiyah, S. N. F. Aldriani, F. Chitta, and M. R. Zulfikar, "Pentingnya keterampilan belajar di abad 21 sebagai tuntutan dalam pengembangan sumber daya manusia," *Lect. J. Pendidik.*, vol. 12, no. 1, pp. 29–40, 2021.



- [6] S. Chang, "The Systematic Design of Instruction," *Educ. Technol. Res. Dev.*, vol. 54, pp. 417–420, Aug. 2006, doi: 10.1007/s11423-006-9606-0.
- [7] S. A. Rufaida, "Profil kesalahan siswa sma dalam pengerjaan soal pada materi momentum dan impuls," 2012.
- [8] F. Kamelia, "Analisis Konsepsi Siswa Kelas X pada Materi Getaran Harmonis dengan CRI (Certainty of Response Index) Termodifikasi," *Fak. Sains dan Teknol. Univ. Islam Negeri Walisongo.*, 2019.
- [9] N. M. Y. Suranti, G. Gunawan, and H. Sahidu, "Pengaruh model project based learning berbantuan media virtual terhadap penguasaan konsep peserta didik pada materi alat-alat optik," *J. Pendidik. Fis. dan Teknol.*, vol. 2, no. 2, pp. 73–79, 2016.
- [10] S. Agus, "Cooperative learning teori dan aplikasi paikem," *Yogyakarta: Pustaka Pelajar*, pp. 5–6, 2009.
- [11] M. L. Siberman, *Active learning 101 cara belajar siswa aktif*. Nuansa Cendekia, 2018.
- [12] P. Astuti, "Penerapan Strategi Everyone Is Teacher Here (Setiap Siswa Bisa Menjadi Guru) Dan Hubungannya Dengan Motivasi Belajar Siswa Pada Pelajaran Al-Qur'an Hadits Kelas Viii Mts Darul 'Ulum Kecamatan Reteh Kabupaten Indragiri Hilir." Universitas Islam Negeri Sultan Syarif Kasim Riau, 2010.
- [13] H. Zaini, B. Munthe, and S. A. Aryani, "Strategi pembelajaran aktif," *Yogyakarta Pustaka Insa. Madani*, vol. 89, p. 2008, 2008.
- [14] I. Hidayat, *50 Strategi Pembelajaran Modern*. DIVA PRESS, 2019.
- [15] A. Hamruni, "Strategi Pembelajaran," *Yogyakarta Insa. Madani*, 2012.
- [16] I. SM, "Strategi Pembelajaran Agama Berbasis PAIKEM," *RaSAIL Media Gr.*, 2009.
- [17] M. Musnaeni and N. Nasaruddin, "Pembelajaran Everyone Is Teacher Here Dan Pengaruhnya Terhadap Hasil Belajar Matematika Siswa," *Al-Khwarizmi J. Pendidik. Mat. dan Ilmu Pengetah. Alam*, vol. 4, no. 1, pp. 15–28, 2016.
- [18] P. Santos, J. Cook, and D. Hernández-Leo, "M-AssIST: Interaction and scaffolding matters in authentic assessment," *J. Educ. Technol. Soc.*, vol. 18, no. 2, pp. 33–45, 2015.
- [19] E. Sorensen, "Implementation and student perceptions of e-assessment in a Chemical Engineering module," *Eur. J. Eng. Educ.*, vol. 38, no. 2, pp. 172–185, 2013.
- [20] A. Anjani, D. Fitriani, M. D. Kaputri, and I. Mahmudah, "Efektivitas Penggunaan Google Form sebagai Media Evaluasi saat Penilaian Tengah Semester (PTS)," in *E-Prosiding Seminar Nasional Pendidikan Jurusan Tarbiyah FTIK IAIN Palangka Raya*, 2021.
- [21] R. Arief, "Aplikasi presensi siswa online menggunakan google forms, sheet, sites, awesome table dan gmail," in *Seminar Nasional Sains dan Teknologi Terapan V*, 2017.
- [22] A. Suharsimi, "Dasar-dasar evaluasi pendidikan edisi 2," *Jakarta PT Bumi Aksara*, 2013.
- [23] H. M. Sukardi, *Metode penelitian pendidikan tindakan kelas: implementasi dan pengembangannya*. Bumi Aksara, 2022.
- [24] M. S. Sudjana, "Bandung: Tarsito." Edisi, 2005.
- [25] L. U. Ukir, "Efektivitas penerapan strategi everyone is a teacher here untuk meningkatkan prestasi siswa kelas viii. a smpn 1 gunungsari pada mata pelajaran ipa," *Hydrog. J. Kependidikan Kim.*, vol. 6, no. 1, pp. 9–20, 2018.
- [26] S. P. AMRAL, *Penerapan Everyone is A Teacher Here (ETH) melalui Penelitian Tindakan Kelas (PTK)*. Guepedia.
- [27] L. W. S. Utami, "Penggunaan Google form dalam evaluasi hasil belajar peserta didik Di masa pandemi c0vid-19," *Teach. J. Inov. Kegur. dan Ilmu Pendidik.*, vol. 1, no. 3, pp. 150–156, 2021.