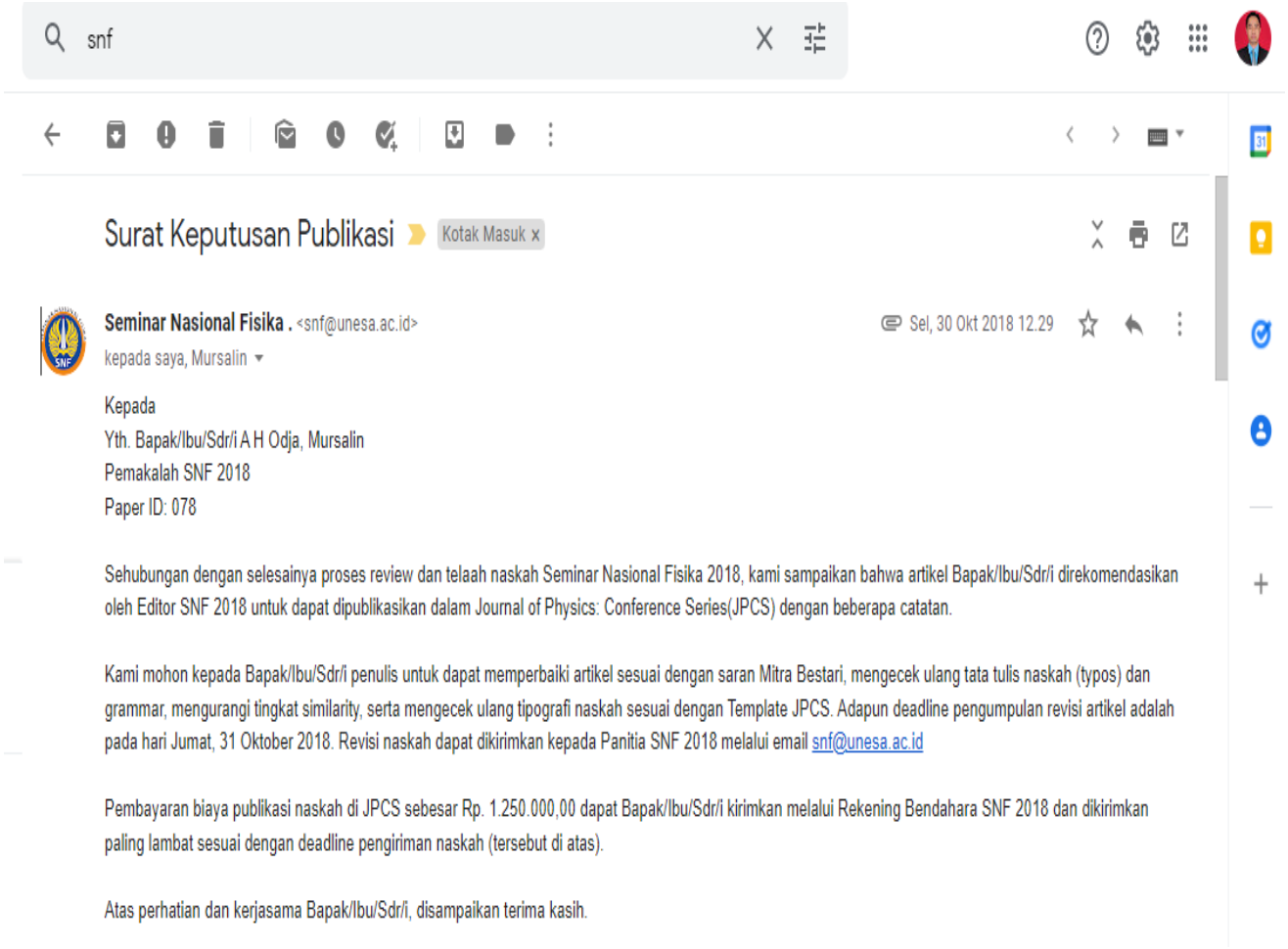
5.**The Effectiveness of Implementation Cooperative Learning Model oriented Life Skills for the 21st Century to Improve Writing Science Skills in Physics Concepts**



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Seminar Nasional Fisika . <snf@unesa.ac.id> Sel, 30 Okt 2018 12.29

kepada saya, Mursalin

Kepada
Yth. Bapak/Ibu/Sdr/i A H Odja, Mursalin
Pemakalah SNF 2018
Paper ID: 078

Sehubungan dengan selesainya proses review dan telaah naskah Seminar Nasional Fisika 2018, kami sampaikan bahwa artikel Bapak/Ibu/Sdr/i direkomendasikan oleh Editor SNF 2018 untuk dapat dipublikasikan dalam Journal of Physics: Conference Series(JPCS) dengan beberapa catatan.

Kami mohon kepada Bapak/Ibu/Sdr/i penulis untuk dapat memperbaiki artikel sesuai dengan saran Mitra Bestari, mengecek ulang tata tulis naskah (typos) dan grammar, mengurangi tingkat similarity, serta mengecek ulang tipografi naskah sesuai dengan Template JPCS. Adapun deadline pengumpulan revisi artikel adalah pada hari Jumat, 31 Oktober 2018. Revisi naskah dapat dikirimkan kepada Panitia SNF 2018 melalui email snf@unesa.ac.id

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Atas perhatian dan kerjasama Bapak/Ibu/Sdr/i, disampaikan terima kasih.

SEMINAR NASIONAL FISIKA 2018
UNIVERSITAS NEGERI SURABAYA
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
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No : 067/PAN-SNF/X/2018
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Pemakalah SNF 2018
Paper ID: 78

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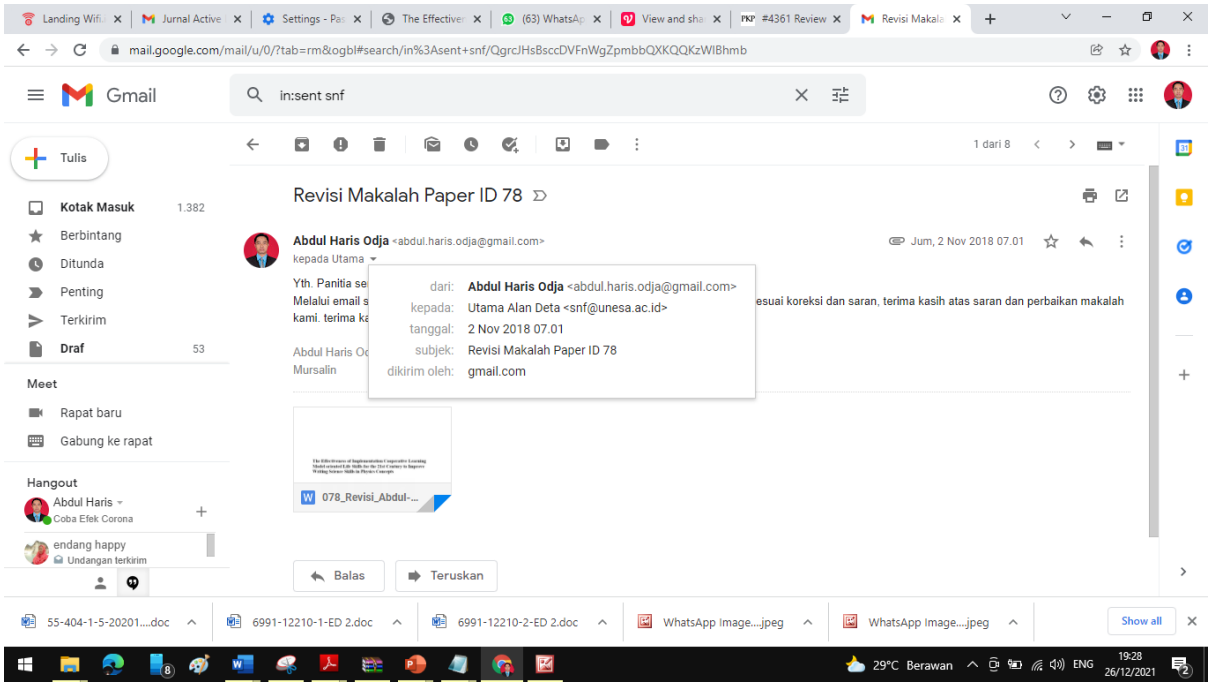
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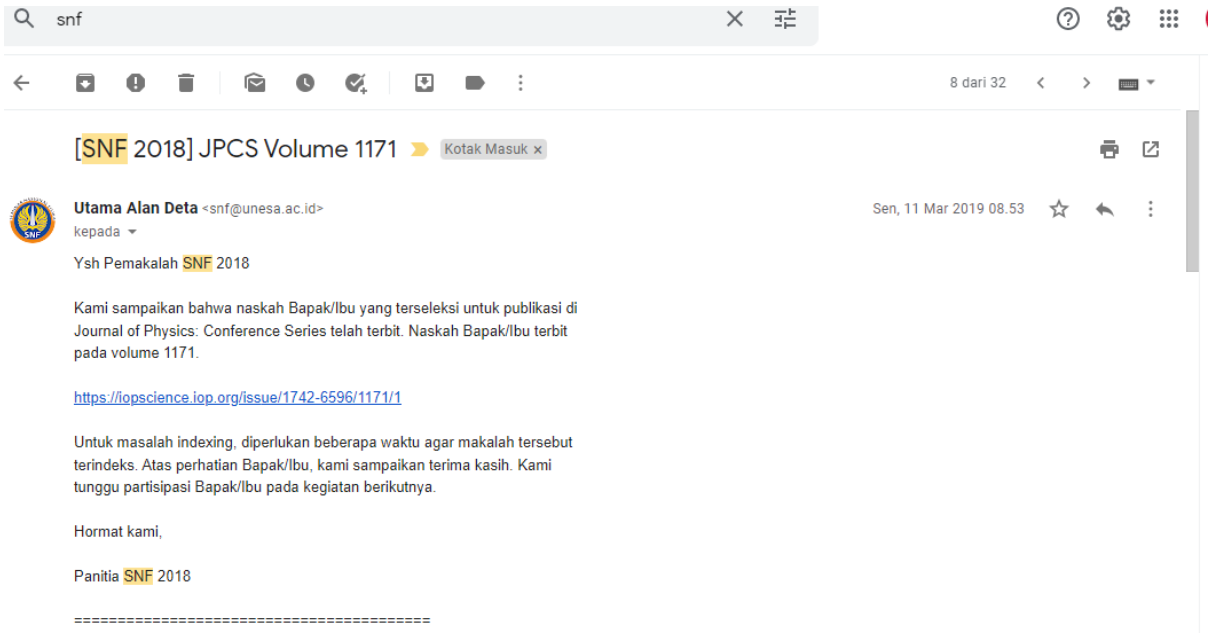
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Kami sampaikan bahwa naskah Bapak/Ibu yang terseleksi untuk publikasi di Journal of Physics: Conference Series telah terbit. Naskah Bapak/Ibu terbit pada volume 1171.
https://iopscience.iop.org/issue/1742-6596/1171/1
Untuk masalah indexing, diperlukan beberapa waktu agar makalah tersebut terindeks. Atas perhatian Bapak/Ibu, kami sampaikan terima kasih. Kami tunggu partisipasi Bapak/Ibu pada kegiatan berikutnya.
Hormat kami,
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Form Telaah Artikel Seminar Nasional Fisika 2018

Paper ID : 078
Judul Artikel (*Title*) : The Effectiveness of Implementation Cooperative …

A. Penilaian Artikel

No	Penilaian	Nilai			
		1	2	3	4
1	Dampak ilmiah (*scientific impact*)		v		
2	Orisinalitas (*originality*)			v	
3	Kebaruan (*novelty*)		v		
4	Akurasi dan kebenaran hasil penelitian (*accuracy and correctness*)			v	
5	Keterbacaan naskah (c*larity of expression*)		v		
6	Judul dan Abstrak (*title and abstract*)		v		
7	Pendahuluan (*introduction*)	v			
8	Metode Penelitian (*research methods*)			v	
9	Hasil dan Pembahasan (*results and discussion*)			v	
10	Informasi pendukung (*table, figure, etc*)		v		
11	Kesimpulan (*conclusion*)			v	
12	Daftar Pustaka (*references*)			v	

Keterangan:
1. Rendah atau kurang baik (i*nadequate*)
2. Cukup (*adequate*)
3. Baik (*good*)
4. Sangat tinggi atau sangat baik (*excellent*)

B. Hasil cek similarity turnitin …… % (diisi oleh editor)

C. Keunggulan dan kelemahan naskah (*strengths and weaknesses of the manuscript*)

Too many sentences in introduction section.
Recheck grammatical errors and typos

D. Saran untuk naskah (*suggestions for the manuscript*)

Use JPCS template and citation style.
Consider to delete non-important and/or common sense information in the text
Write the paper more carefull, revise all of the text, especially in the citation.

E. Catatan dalam naskah (*notes in manuscript*): Ada / ~~Tidak Ada~~*

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Saran Editor

Rekomendasi Editor secara umum untuk seluruh naskah:

1. Pastikan bahwa format revisi naskah yang dikirimkan dalam format .doc atau .docx agar mempermudah pengeditan naskah.
2. Cek kembali tata tulis (typos) dan grammar Bahasa Inggris. Naskah wajib berbahasa Inggris dengan baik dan benar agar dapat dipublikasikan di JPCS. Pastikan tidak ada bagian dalam naskah yang berbahasa Indonesia kecuali ada alasan tertentu yang mengharuskannya.
3. Cek kembali format penulisan artikel agar sesuai dengan Template JPCS.
4. Mengurangi tingkat similarity (maksimal 25 %).
5. Jumlah halaman tiap artikel minimal 6 halaman dan maksimal 10 halaman.
6. Resolusi gambar pada artikel harus tinggi (minimal 300 dpi) serta tulisan pada gambar/grafik/diagram/tabel harus terbaca (jika ada).

Online Proceedings

– Use JPCS template!

PAPER ID : 78

The Effectiveness of Implementation Cooperative Learning Model oriented Life Skills for the 21st Century to Improve Writing Skills Science in Physics Concepts

→ give introduction before the research objective!

Abstract – This study aimed to describe the improvement of writing science skill after the implementation of the Life Skills oriented learning model in the 21st Century. This research was conducted at several State Junior High Schools in Bone Bolango District, Gorontalo Province in the even semester of 2017/2018. This research was experimental research with One Group pre-test-post-test design. The assessment instruments used writing science test and observation sheet. The results showed that students' writing science skill improved with the N-gain value in the medium category. The improvement of writing science skill occurred in all writing science indicators which were science vocabulary comprehension, identifying investigated problems, providing evidence for solving problems or questions and providing evidence-based explanations.

Introduction → reduce the introduction! Too many!

Life in the 21st century is characterized by a shift in life through digitalization of various life activities. The involvement of technology in daily activities has a positive impact on life including shortened time to become more efficient. A routine activity can be automatically done and even the complex one could be easier because of current technology. Also, information could be obtained by a person rapidly without being limited by space and time. The eases is shown in several examples of activities such as shopping that initially performed in the market or shops into online stores such as lazada and bukalapak as well as purchase and payment of tickets is now went online through certain apps for traveloka, online transportation such as Uber, Gojek and Grab and many more. In brief, lots of activities done digitally make everything more efficient and effective.

Citation?

However, the positive impacts of digitalization era of the 21st century are in line with the presence of negative impacts, such as considerable high crimes that use digital technology in carrying out activities such as hoax, pornography, drugs, human trafficking, data piercing, hate speech and others. Criminal activity by using a computer and digital devices is known as cybercrime. Instead of crimes, the effects of digitization in the 21st century may raise some negative impacts in which one of them is that people who get used to being with digital technology mostly communicating through digital technology rather than direct communication. The activity is usually done by posting and sharing an activity or information through social media such as Facebook & line, WhatsApp, telegram and internet browsing such as through google and yahoo.

Citation?

The educators either teachers or lecturers need to master the various development of information technology as aforementioned. The information from the media above is just like two-edged sword. One side of the information contains the truth while

This paper is not written ~~seriously~~ carefully

another one contains lying information that can be misleading. Various information can be accessed and shared by these media regardless of whether the information is true or not. The incorrect information is currently known as "hoax." Such information often disturbs society so that ways to cope with the case is indispensable.

According to the previous case, it is necessary to develop life skills, especially in students' social skills both in learning and daily life. Integration in learning activities can develop social skills both from the aspect of cooperation and communication. The integration of social skills can be performed through integrated learning that has been introduced in Indonesia but it is rare to be applied. Lately, an integrated learning policy is regulated by the government in the implementation of 2013, particularly for Natural Science and Social Science based on the connected type. [1] states that integrated learning has 10 types of integration models.

Nowadays, integrated learning is known only in Elementary School (SD) through thematic in which if it is studied more widely, and it is applicable to all levels of education including Higher Education (PT). Research by [2] showed that sequenced integrated learning can improve the writing science ability of Junior High School students. [3] research (2014) also showed that connected integrated learning can improved the science literacy ability. Thematic, connected and sequenced integrated learning just a few types of integrated learning model according to [1] comprising 10 types.

When studying science, it is likely doing observation and practice activities. We will have many opportunities to communicate, either sometimes verbally or written. Forms of oral communication on science learning are through presentation or discussion of observation and practice results. Meanwhile, the writing is done through reports of observations and practice. The reports can be published through seminars and scientific meetings. Science communication is an important part of science. This is as stated by [4] which stated that science communication is a major component of science but only received less attention.

Hoax ', other crimes through cybercrime is a result of the lack of community preparedness with life skills in the 21st century. Learning is an appropriate means to practice life skills especially associated with good communication. A good communication can be done through learning oriented to the skills that support the life skills of learners in the 21st century. Through life-skills-oriented learning, it is expected that learners can develop social skills in the form of cooperation and communication both orally and written. According to [5], life skills encompass five types, namely: (1) self-knowing skill, (2) thinking skill, (3) social skill, (4) academic skill, and (5) vocational skill. Four life skills can be applied as entirely in learning, but the vocational skill is just to be applied to vocational schools. The social skills encompassed communication skill and collaboration skill.

Communication is sending and receiving messages or news between two or more people so that the intended message can be understood [6] (Kamus Besar Bahasa Indonesia). [7] states that communicating with others can make learners use and test

the thinking ability. When studying science, we will have numerous opportunities to communicate, either verbally or written. Scientific communication may occur orally. Scientists often share ideas directly and through a phone. We can also have the opportunity to talk about science topics when working in small groups or doing presentations in front of the classroom. Most scientific communication takes place through writing or printed. New research is most frequently reported in a printed form, and it generally goes in scientific journals. Likewise, you may write down the procedures and results of your experiment in a lab report. Lab reports usually contain the following sections: problems or questions, hypothesis, lists of tools and materials, procedures, observations (organized in data tables), analysis (including any calculations and graphs) and conclusions[8].

Then, [8] states more than the instructions for communication in science include: 1) describing the observation honestly and completely. It should be writing down events that are actually being observed, not what one would expect to see or hope to happen; 2) writing observations clearly and as efficiently as possible, for example, using data table; 3) making a written record of the procedure, including any changes that have been made at work and always be ready to communicate the procedure to others.

Communication in today's era is associated with the term hoax. The term hoax is associated with information obtained from various online media such as Facebook, WhatsApp, line, google, yahoo, and others. Hoax is an attempt to deceive or to outsmart the reader/ listeners to believe in something, while the fake news creator knows that the news is definitely fake [9]. According to [10] survey (2017), most people define hoax as a deliberate lie. Writing is a large percentage of hoax used in social media.

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Writing is one of the communication forms used from elementary school to college level ([11]; [12]). It is also associated with thinking activity as revealed by [13] who stated that writing is an activity of the entire brain using the right hemisphere (emotional) and left hemisphere (logic). It is also an important aspect of science literacy ([14]; [15]). Writing skill is one of the language skills taught in an integrated with three other language skills, namely listening, speaking, and reading [16]. Listening and reading skills are receptive, while speaking and writing are productive. Writing skill is productive because a person produces, manifests, and expresses his/her thoughts and feelings through written language symbols to be read by others. Writing skill, according to [17], is one of the productive and expressive language skills that is used to communicate indirectly and not face-to-face with others.

Method

The is an experimental research with a one-group pretest-posttest design [18] as in Figure 1.

.Group	*Pre-Test*	*Treatment*	*Post-Test*
A	O1	X	O2

Figure 1. ***The One-Group Pretest-Posttest Design***

O_1 = Pre-Test Writing Science Skills
O_2 = Post-Test Writing Science Skills
X = Implementation Cooperative Learning Model oriented Life Skills

This research was conducted at one of Junior High Schools in Gorontalo District, Gorontalo Province. The instruments apply writing science test adapted from [19] and [8]. The components of writing science comprise an understanding of the vocabulary of science, the ability to identify problems to be investigated, the ability to respond questions with solutions, and the ability to provide evidence-based explanations. The improvement analysis is performed with a normalized N-gain analysis which aims to categorize the amount of improvement of students' writing science skills after implementation of life skills-oriented cooperative learning in the 21st century. The N-Gain equation is shown in the following equation 1.

$$< g \geq = \frac{\%\ actual\ gain}{\%\ potensial\ gain} = \frac{\%\ score\ post\ test - \%\ score\ pre\ test}{100 - \%\ score\ \ pre\ test} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

The Assessment Criteria of N-gain analysis according to [20] is based on the following criteria.

Table 1. N-gain Test Assessment Criteria

N-Gain Score	Criteria
Score ≤ 0,3	"Low-g"
0,3 < score ≤ 0,7	"Medium-g"
Score ≥ 0,7	"High-g"

Findings and **Discussion**

The finding of this research is pre-test and post-test data regarding writing science ability based on the entire indicator and mean as shown in Table 2

.Table. 2 ***Average Score of Post Test and Pre Test***

No	Indicator	*Average* Post-Test	*Average* Pre-Test
1	Indicator 1	78.10	15.69
2	Indicator 2	64.37	39.08
3	Indicator 3	78.45	29.31
4	Indicator 4	82.33	0.00
	Average	75.81	21.02

Indicator 1 = Understanding of science vocabulary.
Indicator 2 = Ability to identify issues to investigate,
Indicator 3 = Ability to respond to inquiries with solutions,
Indicator 4 = Ability to provide evidence-based explanations.

Table 2. shows an improvement in average score of writing science skills either reviewed from four indicators or overall. The sequence of the percentage of

indicators from the highest average to the lowest averages are the indicator of explanatory ability, ability to respond to question with a solution, an understanding on the vocabulary of science and is the ability to identify the problem or question to be investigated.

Meanwhile, improvements in overall writing science skills improve with Medium categories. The improvement of each indicator is varied as shown in Figure 1.

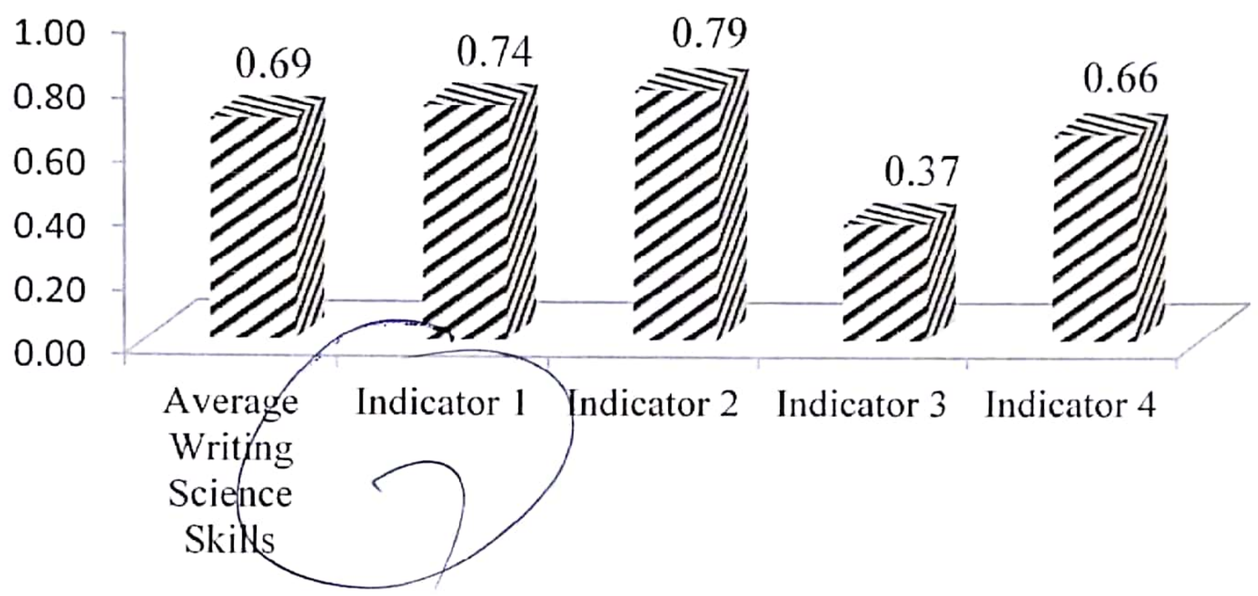

Figure 2. Improvement of Writing Science Skills as Entire and Indicators

The Figure 2 shows that the overall average students' writing science skill obtains a score of 0.69 or includes in the medium category. The highest improvement was in the second indicator obtains a score of 0.79 or includes in the high category while the lowest indicator was on the 3rd indicator obtains a score of 0.37 or includes in the medium category. Meanwhile, the indicator 1 obtains a score of 0.74 or includes in high category and indicator 4 obtains a score of 0.66 or includes in the medium category.

The improvement of writing science skill is likely due to in life skill oriented cooperative learning, students are trained to cooperate in scientific activities through simple experiment by first asking problem, formulating a hypothesis, designing experiment, analyzing experiment result and finally communicating the result of activity both orally and written. Problem-solving activities and communicate the results both oral and written facilitated by the teacher through some help (scaffolding). Thus students can develop self-regulated learning or metacognitive. These findings are based on previous research by [21] which expresses that Self Regulated Learning-oriented Natural Science learning can improve writing science skills. Additionally, the cooperative learning is an alternative to learning done in a heterogeneous class to solve complex cognitive problems such as writing science. This result, as demonstrated by [22], that states cooperative learning with metacognitive training is an alternative to heterogeneous classroom learning in solving complex problems in reasoning, and mathematical communication suggested to be tried on other concepts.

Scientific activities which apply continuous cooperative learning makes students easy to recommunicate things that have been done either orally or written. Through oral discussion activities, students communicate experimental results in front of their friends orally. Then, it is followed by writing activities for each of the students. Writing activities based on events that have been done either in the form of narration or experimental reports with the format specified by previous teachers. The writing on the concept of science either in the form of presentation or experimental reports is displayed at the end of every subject. Students are also asked to post in the social media group, and they are expected to get a response from their classmates or different classes.

It is hoped that through this kind of activity, students' post in the social media is avoided from the hoax's element as shown by [10] survey results (2017) that states hoax has become national problem, and comprises several forms including writing for 62%; picture for 37,50%, and video for 0.40%. The survey results show that writing is the most widely used form to spread hoax information. Hoax writings are easily shared without correction of the information being spread. Through life skill oriented cooperative learning activities in the 21st century, students are expected to communicate through social media based on facts and able to provide a rational explanation.

Life skill oriented cooperative learning activities in the 21st-century trains students with various literacy that is integrated with one another, such as science, math, reading (writing) and technology literacy. This is in accordance with [23] which states that the core of teaching STEM in the 21st century is technological and technical literacy that is not just making and using technology artifacts but embodies the knowledge and skills needed to create a global environment. Students in 21st century an era of industrial revolution 4.0 should be able to use and understand the use of technology in developing the skills of thinking and communicating for example by publishing scientific activities in the form of writing about science performed through social media to get response from classmates or other classes to create scientific discussion without being limited by space and time.

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Conclusions and recommendations

Based on research and data analysis, some things can be concluded which are.

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1. The implementation of life skill oriented cooperative learning in the 21st century can improve students' writing science skills which are in a medium category.
2. Improvement of writing science skills is different for every indicator, from the highest to the lowest indicators is as follows: the indicator of ability to identify a problem, understanding on science category, providing an explanation and the last indicator is providing a solution to the question proposed.

Reference

use JPCS citation style

[1] Fogarty, R. (1991). How to Integrate the Curicula. Platine: Skylight Publishing-Inc.

[2] Odja, A. H., (2016).Model Konseptual Pembelajaran Terpadu Di SMP Untuk Meningkatkan Kemampuan Menulis: Seminar Nasional HFI DIY- Jatteng Salatiga Satyawajana.

[3] Odja, A. H., & Payu, C. (2014). Analisis awal Kemampuan literasi sains. *Seminar Nasional Kimia.* Surabaya: Jurusan Kimia UNESA.

[4] Nielsen, L.H, Jorgensen, N.T, Jatsen, K. & Bjerg, S. 2006. *Credibility of Science Commuication*. Roskilde University, Basic Studies in Natural Science.

[5] Puskur (Pusat Kurikulum), (2002). Pengembangan Model Pendidikan Kecakapan Hidup. Jakarta Pusat.

[6] Kamus Bahasa. Komunikasi. [online]. https://kbbi.web.id/komunikasi

[7] Woolfolk, A. (2007). *Educational psychology.* USA: Pearson Education, Inc

[8] Nur, M. (2011). *Modul keterampilan-keterampilan proses sains.* Surabaya: PSMS UNESA.

[9] Wikipedia.org. Pemberitaan Palsu. [online]. https://id.wikipedia.org/wiki/Pemberitaan_palsu

[10] Mastel (Masyarakat Telematika) (2017), Hasil Survey Mastel Tentang Wabah Hoax Nasional.

[11] Fulwiler, T. (2002). College Writing; A Personal Approach to Academic Writing. HEINEMANN: Boynton/Cook Publishers.

[12] Myrlshireman. (2009). Developing Science Writing Skills. Mark Twain Media.

[13] De Porter, Bobbi & Hernacki, Mike. 2006. Quantum Learning. Membiasakan Belajar Nyaman dan Menyenagkan. Penerbit Kaifa.

[14] Hand, B., Prain, V., & Wallace, C. (2002). Influences of Writing Tasks on Students' Answers to Recall and Higher-Level Test Questions. Research in Science Education, 19-34.

[15] Dlugokienski, Amy, & Sampson, V. (2008). Learning to write and writing to learn in science: refutational texts and analytical rubrics. Science Scope. 32.3 (Nov 2008).

[16] Coleman, James A. and John Klapper. 2005. *Effective Learning and Teaching in Modern Languages*. London and New York: Routledge.

[17] Tarigan, Henry Guntur. 2008. *Menulis sebagai Salah Satu Keterampilan Berbahasa.* Bandung: Angkasa.

[18] Fraenkel, J., & Wallen, N. (2003). *How to design and evaluate research in Education.* New York: McGraw-Hill, inc.

[19] Wang, J.-R., Chen, S.-F., Tsay, R.-F., Chou, C.-T., Lin, S.-W., & Kao, H.-L. (2011). Development of an Instrument for Assessing Elementary School Students' Written Expression in Science. The Asia-Pacific Education Researcher, 276-290.

[20] Hake, R. R. (2002). Relationship of individual student normalized learning. *The physics education research conference.* Boise, Idaho.

[21] Odja, A. H. Supardi, Z.A, Jatmiko, B. 2016. *Using Science Oriented Self Regulated Learning to Improve Student's Writing Skill in Science and Conceptual Understanding*. Man In India, 96 (9) : 2627-2636.

[22] Mevarech, Zemira R. (1999). *Effects of Metacognitive Training Embedded in Cooperative Settings on Mathematical Problem Solving*. Journal The Journal of Educational Research. Volume 92, 1999 - Issue 4.
[23] Jones, Virginia. R. (2014) *Teaching STeM: 21st century skills*. Children's technology and engineering.