Online-Based Simple Cooperative Learning Design (SCL-D) for Accounting

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Abstract

This paper aims to provide an alternative design for Simple Cooperative Learning on online learning by accommodating a variety constraints and difficulties faced by teachers and students and answer weaknesses of existing methods. This study used research and development method using ADDIE (Analysis, Design, Development, Implementation, and Evaluation) design to produce an online-based cooperative learning model, namely SCL-D (Simple Cooperative Learning Design). The survey was conducted on a sample of 153 students at state and private vocational schools in Malang city. The results of this research are a learning model. Therefore, this method is suitable for completing research objectives, namely producing an SCL-D learning model that is suitable for learning accounting for vocational high schools with 3M requirements 'easy, cheap, and attractive'. Online-based learning has many advantages as well as weaknesses. Various e-learning platforms make it easy for teachers and students to interact in online learning. The teacher's ability to design attractive distant learning is a determining factor for the success of the learning process. The test results of the SCL-D model show that through this simple cooperative learning design improves student learning achievement.

How to Cite

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INTRODUCTION

In early 2020, the world was shocked by a deadly virus, which spreads very rapidly, Covid-19 (Salman et al., 2020). Covid-19 is caused by the Coronavirus acute respiratory syndrome first identified in Wuhan, Hubei, China in December 2019 and March 11 2020 the World Health Organization (WHO) declared COVID-19 as a pandemic (WHO, 2020). In Indonesia, the Covid 19 case began in early March 2020 with the case of 2 Indonesian citizens who were exposed after a trip to Malaysia. Until 18 October 2020 the number of people exposed to it was 361,867 people, 285,324 recovered, and 12,511 people died (Tribunnews.com, 18 October 2020).

Indonesia as a country with a very high number and population density level, has become one of the affected countries with very high number of positive patients Covid 19. The government has taken various efforts and policies to deal with the spread of Coronavirus 19 in Indonesia, ranging from lockdown policies to new normal. This government policy greatly influences the economic, social, political and educational aspects. In the field of education, the government strictly prohibits face-to-face learning from primary to tertiary education.

In the era of digitalization of technology, learning methods are increasingly varied, fun and effective, because of the relationship with several other important factors in the learning process (Prasetyo & Anggraeni, 2020). Learning in schools and colleges applies online learning by utilizing information & communication technology. Online learning is a relatively new concept for developing countries (Nandakumar et al., 2020). This also happened in Indonesia, especially in Malang, East Java.

Even though in the pre-Covid 19 period, many secondary schools in Malang had taken advantage of certain e-learning platforms, teachers in new schools made use of this information technology to send learning materials and not many have used it to design the learning process. Therefore, when learning has to be done fully online, many teachers have difficulty, especially in fulfilling the learning achievements of the 21st century skills for their students. This is in line with the statement of Wieser et al. (2018) who said that although online learning offers many advantages compared to offline learning, many educational institutions still struggle with issues such as how to foster student collaboration on the one hand and reduce feelings of isolation social on the other hand.

One of the challenges of online learning is that teachers are able to provide skills and collaborate with students in learning. Two skills that needed in the global era, considering in all work is currently done using team-based organizations (West & Markiewicz, 2008). In practice, there are 5 dimensions of collaborative competence in cooperative learning, namely collective efficacy, planning, goal setting, problem solving and conflict management (Hebles, Yaniz & Jara, 2019). So, the important learning role is to work together. Many companies conduct various training to practice group work skills. However, McClellan (2016) stated that the most appropriate method for training active learning, such as cooperative learning (CL) is at school or college.

Cooperative learning refers to learning using small groups in which students work together with the aim of enhancing their learning (Slavin, 2009; Johnson & Johnson, 2009). Conceptually, it is very easy to do when learning is done offline, but it will not be easy to do when learning is done fully online with various limitations both from the student and teacher side. The factors faced by teachers are lack of technical knowledge, negative attitudes, integration of learning with technology, and lack of motivation (Nandakumar et al., 2020).

The question that arises is how difficult it is to design cooperative learning in online learning? The results of the study Strauß & Rummel (2020) state that collaborative learning can be done in online learning, but design is required instructional concern. In addition, the constraints that come from students have to become teacher attention in designing cooperative learning. Students will be more effective in learning and communicating in class compared to online learning (Saleh et al., 2013). Students still prefer the class offline rather than online classes, because there are many obstacles that students face when learning online, such as lack of motivation, understanding of the material, decreased levels of communication between students and teachers and feelings of isolation caused by online learning (Alawamleh et al., 2020).

With the development of technology and communication that is very fast, cooperative or collaborative interactions can be done by utilizing information and communication technology (ICT). Various ICT-based applications have provided a means of learning that facilitates students to be involved in long distance discussions. The use of ICT in learning is a requirement to balance the X generation learning styles as the internet generation, which is very friendly to communi-
cation technology. The results showed that the millennial generation is very fluent in technology, very intent on interacting through social media with all groups, expressive, and easily accepts differences.

The results of the research Rastati (2018) show that video and social media are effective ways to inform X generation. Social media is a source of education that is able to enhance student learning experiences, improve communication, collaboration, personal development, and offer new sources of reference (Goode, 2020). Apart from social media, information technology which is specifically provided for online learning activities is an e-learning platform. This platform has a format that has been adapted to the learning needs of schools / campuses. The results of the study Parker et al, (2020) found that students prefer blended learning which is learning that combines from traditional classroom with online learning methods.

Electronic learning (E-learning) is one of the learning innovations that can be used in the learning process, not only in the delivery of material but also changes in the competence abilities of students. The use of e-learning for students does not only for listening to material descriptions from the teacher but students are also actively observing, doing, demonstrating, and others. Teaching materials can be virtualized in various formats so that they are more attractive and can motivate students to explore various knowledge during the learning process. E-learning is a learning technology that allows students to learn anytime and anywhere (Dahiya et al., 2016).

E-learning has started in the 1970 (Waller & Wilson, 2001). Various terms are used to express opinions about e-learning, namely: online learning, internet-based learning, virtual learning, or web-based learning. There are 3 (three) requirements in e-learning activities, namely: (a) the learning process is carried out by utilizing the network, in this case it is limited to the use of the internet, (b) the availability of learning support services that can be utilized by students, for example external hard drives, flash disk, CD-ROM, or hardcopy material, and (c) the availability of support services from tutors for students who have difficulty.

In addition to the conditions previously mentioned, there are several other conditions that can be added, such as: (a) educational institutions capability of organizing and managing e-learning activities, (b) positive attitudes of students and education personnel towards the development of computer and internet technology, (c) the ability to design learning systems that can be learned and mastered by every student, (d) an evaluation system of the results or progress of learning or student development, and (e) a feedback mechanism developed by educational institutions.

E-learning can also present a new atmosphere in various developments and learning processes. The use of good e-learning will be able to increase the maximum learning outcomes of students. Some of the benefits of using e-learning according to Rohmah (2016) include: (a) learning using the e-learning system is able to maximize learning time and save learning costs, (b) E-learning facilitates interaction between students and the material being studied, (c) Students can share information one another and can access learning material any time and repeatedly, with this condition students can further strengthen their mastery of learning material, (d) the use of e-learning also makes the knowledge development process occur not only in the classroom, but also outside the classroom with the help of computers and networks, so that students can be actively involved and repeat the material that has been learned during the teaching and learning process.

Slavin (2014) defines cooperative learning as a learning that invites learners to work together in various groups to master the material presented by the teacher. In line with Solihatin (2008) which stated that cooperative learning is a collective behavior in working or helping in groups that use an orderly collaboration structure, Shoimin (2016) argues that cooperative learning is learning in groups to work together to help each other and solve existing problems.

Sanjaya (2008) added that cooperative learning is a series of learning activities to achieve specific goals that have been formulated by students in certain groups. It is explained that cooperative learning has an influence in positive social groups because of the feeling of being connected. The cooperative learning model requires an agreement to be reached with friends to share with others in differences (Zeinolabedini & Gholami, 2014). Based on the description that has been stated previously, what is meant by cooperative learning in this research is learning that is carried out in groups arranged in certain learning series to work together and help each other in mastering the material and solving problems given by the teacher with feelings that are connected to one another.

The objective of cooperative learning emphasizes cooperation in mastering material rather than individual academic abilities. Cooperative learning has special characteristics and
principles. Sanjaya (2008) describes some characteristics of cooperative learning. First, team learning, where the team is able to make each member learn and help one another to achieve goals. Second, it is based on cooperative management which has main functions such as planning, organizational, implementation and control function. Third, the willingness to work together, each member has their respective roles which need responsibility and also help each other. Fourth, the skills to work together, students are encouraged to carry out activities and learning activities such as want to interact and communicate with other members.

In addition to characteristics, cooperative learning also has the principles put forward by (Sanjaya, 2008). First, the principle of positive interdependence, in this case the successful completion of group assignments is determined by the performance of each member so that each member is interdependent. Second, the individual responsibility (individual accountability) for the success of the performance of each member of the group determined that all the members should have the responsibility in accordance with his duties.

Third, face to face interaction, each group member provides information and teaches each other face to face. Fourth, participation and communication, it can train students to actively participate and communicate in learning activities that can be used as provisions for students in the future social life. According to Sanjaya (2008) and Shoimin (2016) cooperative learning has several advantages. First, increase confidence in the ability to think, find information and learn from other students. Second, develop the ability to express ideas / opinions and then compare them with the ideas / opinions of others.

Third advantage, teach children to respect others and recognize all limitations and accept differences. Fourth, helping students to be more responsible in learning. Fifth, improve academic achievement as well as social skills. Sixth, develop the ability to test ideas and receive feedback. Seventh, improve students’ learning abilities from abstract to real. Eighth, increase motivation and provide stimulation to think. Ninth, prevent aggressiveness in the system of competition and alienation. Tenth, increase the feeling of pleasure in learning and friends in the place of study. So, SCL-D could give all of benefits in cooperative learning, even in online learning.

Cooperative learning also can be collaborated with problem-based learning to get results that suit the needs. Kusmuriyanto & Astuti (2020) stated that one of the demands of the curriculum is that students have academic and/or professional abilities, in accounting education according with the science and information technology development as well as working conditions. This paper seeks to provide an alternative design for Simple Cooperative Learning Design (SCL-D) in online learning, by accommodating a variety of constraints and difficulties faced by teachers and students in accounting learning, and answer weaknesses in existing methods.

METHODS

This study used a research and development method. As explained by Gay & Mills (2012), research & development in education do not formulate and test theories but develop products that can be used in schools effectively. Therefore, this method is suitable for completing the research objectives, which is to produce an SCL-D learning model. To achieve this goal, the research steps were carried out following the ADDIE design (Analysis, Design, Development, Implementation, Evaluation). It was explained by Cheung (2016) that the ADDIE model is suitable for the development of learning materials and learning activities.

This research was carried out in the following steps: first, analysis phase. At this stage the researcher identifies the needs, problems, and sources of problems in online learning activities, and determines the solution. To find out the problems and root causes of online learning, researchers used a semi-structured questionnaire given to students and teachers in accounting subjects. In addition, researchers also study the curriculum, especially the subject syllabus, in order to obtain information about Basic Competencies (KD) and the allocation of time provided to achieve these competencies.

The results of this stage are a list of basic competencies, difficulties and supporting factors for online learning activities which are used as the basis for developing the model SCL-D. Second, design stage. Based on the analysis results of the problems and needs required in the first stage, is designed SCL-D. At this stage a prototype model is produced which contains (KD to be used, learning design including material design, media, and learning evaluation tools, as well as determining the technology used).

Third, development stage. At this stage the SCL-D model is developed, learning steps, along with learning tools that include learning materials, learning media, student worksheets,
and learning evaluation tools. To strengthen the product development results, at this stage a model evaluation is carried out by learning experts and teachers in schools. Based on the results of this evaluation, it is used to perfect the final product.

Fourth, implementation stage. At this stage the SCL-D model is implemented in the real class (2 schools are used, namely State Vocational High Schools and Private Vocational Schools). To test the effectiveness of the model, it was carried out using a quasi-experimental design, namely one sample pre and post-test design. The implementation of the model is carried out by the teacher together with the researcher.

Fifth, evaluation phase. Before evaluating the learning outcomes, a pre-test is conducted to determine students’ initial abilities before participating in learning. The evaluation of the SCL-D model was carried out using a formative and summative evaluation design. Formative evaluation is carried out at the end of each meeting in the class. The goal is to see the achievement of learning at the meeting. Summative evaluation is carried out at the end meeting to achieve the established of Basic Competencies. Experts gave the comments for the design of this model. The goal is to find out whether the basic competencies that have been established can be achieved by students.

Research data was collected using the following methods: (1) The survey method is used to collect data about needs, problems, and sources of problems in online learning activities. The survey was conducted online using a semi-structured questionnaire. The population of this research is the students of Vocational High School Accounting Study Program in Malang. The research sample was taken using cluster purposive random sampling technique, namely students who were in the 11th and 12th grade of the Accounting Study Program, with the consideration that they relatively had sufficient learning experience in vocational high school (both online and offline).

The survey was conducted on a sample of 153 students of State and Private Vocational Schools in Malang City. (2) Semi-structured questionnaire to determine the feasibility of the cooperative learning model developed. The questionnaire was given to 2 (two) learning experts and 3 (three) teachers at school. In addition, a questionnaire was also given to 153 students at school to find out the acceptability of the model developed. (3) Giving tests are used to determine the ability of students before and after simple cooperative learning, done online. The test was given to 2 groups of students who were used as samples in experimental activities at State and Private Vocational Schools in Malang City with a total of 153 students.

The data analysis of this study is divided into 3 groups, namely: (1) Quantitative descriptive analysis to analyze survey data using percentage analysis. (2) Quantitative descriptive analysis to analyze data from the evaluation of the SCL-D prototype model conducted by experts learning and teachers in schools. (3) T-test to measure the effectiveness of the developed model.

RESULTS AND DISCUSSION

The results of this study are described based on ADDIE design, namely: analysis, design, development, implementation and evaluation.

Analysis

This section presents the data on the results of questionnaire analysis from students, the results of validation and development results, as well as the t test analysis results and the source of the problem of online learning activities. Questionnaires about online learning were given to students in grades 11 and 12 in 2 (two) schools, namely Vocational High School 1 Malang and Muhammadiyah Vocational High School 3 in Singosari. The following shows the results of a descriptive analysis of the ability and acceptance of ICT by students and teachers.

Based on Table 1, it is known that all vocational high school students (100%) in Malang already have smartphone or computer to access online learning, but only 2% students who stated that the cost of the internet was very cheap and 53, 6% stated that it was very expensive. In addition, as many as 79.7% of students used personal internet packages, 17.6% used home internet, and 2.6% used free internet facilities.

The data also shows that teachers use the e-learning platform used by schools, google classrooms, and WhatsApp to facilitate the implementation of learning in schools. However, online learning is lacking and very unacceptable by the majority of students (92.8%) and only 7.2% of students happily accept online learning. Most students do not enjoy learning online for various reasons, including: (a) Less able to understand the subject matter, because the teacher does not explain, (b) The task of the teacher is more than when learning face to face.

(c) Saturation in learning, because of learning activities just doing chores. (d) There must
| Category                                      | Number of Students | Percentage (%) |
|----------------------------------------------|--------------------|----------------|
| Course using online learning                 |                    |                |
| All                                          | 153                | 100            |
| Mostly                                       | 0                  | 0              |
| Fraction                                     | 0                  | 0              |
| Have of smartphone or computer facilities    |                    |                |
| Have                                         | 153                | 100            |
| Does not have                                | 0                  | 0              |
| Internet fee                                 |                    |                |
| Very cheap                                   | 2                  | 1.3            |
| Cheap enough                                 | 69                 | 45.1           |
| Very expensive                               | 82                 | 53.6           |
| Internet Load                                |                    |                |
| Not burdensome                               | 47                 | 30.7           |
| Aggravating                                  | 52                 | 34.0           |
| Very burdensome                              | 54                 | 35.3           |
| How to access the internet                   |                    |                |
| Internet at home                             | 27                 | 17.6           |
| Private internet package                     | 122                | 79.7           |
| Free internet facilities                     | 4                  | 2.6            |
| The e-learning facility used                 |                    |                |
| School e-learning (Moodle)                   | 100                | 65             |
| Google Classroom                             | 53                 | 35             |
| Whatsapp                                     | 153                | 100            |
| Email                                        | 22                 | 14             |
| Acceptability of online learning             |                    |                |
| Very acceptable                              | 11                 | 7.2            |
| Less accepted                                | 113                | 73.9           |
| Not accepted (disliked)                      | 29                 | 19.0           |
| Reasons for not liking online learning       |                    |                |
| Less able to understand the subject matter, because the teacher does not explain | 113 | 73 |
| The task of the teacher is more than when learning face to face | 153 | 100 |
| Saturated in learning, because learning activities only do assignments | 145 | 94 |
| There must be an additional data packet fee  | 121                | 79             |
| Difficulty interacting / discussing with friends | 140             | 91             |

Source: Processed Data (2020)

Data presented in Table 2 shows that most (90.8%) students do not experience difficulties in utilizing e-learning facilities. This illustrates the ability of students as the millennial generation who are very intelligent in the use of technology.
Table 2. Implementation of Online Learning

| Category                                                                 | Number of Students | Percentage (%) |
|-------------------------------------------------------------------------|--------------------|-----------------|
| Ease of use of media                                                    |                    |                 |
| Easy                                                                    | 139                | 90,8            |
| Difficult                                                               | 12                 | 7,8             |
| Very Hard                                                               | 2                  | 1,3             |
| Ease of understanding of online teaching materials                       |                    |                 |
| Very easy                                                               | 3                  | 2,0             |
| Easy enough                                                             | 110                | 71,9            |
| Very Difficult                                                          | 40                 | 26,1            |
| How teachers teach in online learning:                                  |                    |                 |
| Students are asked to learn the material independently                  | 153                | 100             |
| Students are asked to study material in groups                           | 0                  | 0               |
| The teacher explains online                                             | 0                  | 0               |
| How to understand the material:                                         |                    |                 |
| Self-study                                                              | 47                 | 30,7            |
| Asking parents / siblings                                               | 52                 | 34,0            |
| Asking friends                                                          | 54                 | 35,3            |
| Asking the teacher                                                      | 28                 | 18              |
| Miscellaneous                                                           | 14                 | 9               |
| The form of assignments that are often given by the teacher:            |                    |                 |
| Individual                                                              | 153                | 100             |
| Group                                                                   | 0                  | 0               |
| Others                                                                  | 0                  | 0               |
| How to do assignments:                                                  |                    |                 |
| Do it yourself                                                          | 2                  | 1,3             |
| Discussion with friends                                                 | 69                 | 45,1            |
| Copying with a friend’s work                                            | 82                 | 53,6            |
| Others                                                                  | 0                  | 0               |
| Evaluation form:                                                        |                    |                 |
| Daily test                                                              | 27                 | 17,6            |
| Quiz                                                                    | 122                | 79,7            |
| Individual tasks                                                        | 4                  | 2,6             |
| Task Group                                                              | 153                | 100             |
| Others                                                                  | 0                  | 0               |
| Media that are often used in online learning:                           |                    |                 |
| Google form                                                             | 11                 | 7,2             |
| Kahoot 113 online quiz                                                  | 113                | 73,9            |
| Whatsapp                                                                | 29                 | 19,0            |
| Email                                                                   | 22                 | 14              |

Source: Processed Data (2020)

(Willis et al., 2019) and 73.9 students find it easy to understand online material. Some reasons students do not like learning as presented in Table 1 are supported by data as much as 100% of students state that in online learning the teacher only assigns students to study independently. Alawamleh et al. (2020), however, stated that students still prefer offline classes rather than
online classes due to the many problems they face when taking online classes, such as lack of motivation, understanding of the material, decreased communication levels between students and their instructors and feelings of isolation caused by the online class.

To be able to understand the business learning material carried out by 30.7% of students is doing self-learning, 34% of students ask relatives / parents, 35.3% of students ask friends, and none of the students try to ask questions to the teacher. In addition, 100% of students stated that the teacher gave individual assignments and there were no group assignments. To complete the task, as many as 53.6% of students imitated friends’ work, 45.1% of students had discussions with friends, and only 1.3% of students did it alone.

Design

Results of the implementation of online learning in schools in general can be summarized at Figure 1. Based on the results, the researchers conclude that there are 3 good online learning requirements, namely “cheap, easy, and fun.” The survey results show that in terms of the existence of computer or android facilities, both teachers and students have adequate facilities. However, the high cost of data packages makes students choose ICT facilities that save data packages. The element of convenience is also a consideration in selecting ICT facilities. The problem in online learning is the learning model itself. Students are less enthusiastic in online learning because they cannot meet friends, are full of assignments, and are not explained by the teacher. Therefore, choosing technology for learning needs to consider the 3 things (Figure 1).

Development

In general, the selection of learning designs that adapt basic competences and learning objectives, as well as technology are as follows at Figure 2.

![Figure 1. Design of SCL-D Model](image1)

![Figure 2. Development of SCL-D Model](image2)

Based on the evaluation of the expert field of teaching and teacher educators experienced, presented following learning process stage of SCL-D.

The results of the evaluation of learning experts show that the SCL-D learning model is suitable for do in learning of accounting in vocational high schools. The assessment component includes aspects of the ease of technology, aspects of cost, and aspects of the attractiveness of learning designs.

Implementation

The developed model was implemented in 2 groups of students in 2 schools, namely for Financial Accounting Subjects and Service Company Accounting Practicum. By using one sample pre-test - post-test design, the following results are obtained:

**First**, financial accounting subject. The test group is a class XI student with a total of 45 people and learning is carried out to achieve Basic Competence 3.1 Analyze the recording of financial transactions of merchandise on credit, money orders, and installment sales. Basic Competence 4.1. Recording of financial transactions of merchandise on credit, draft, and installment sales. The mean of pre-test score was 72.51 and the post-test score was 83.00. The results of the T test on the pre-test and post-test values obtained the t count of 4.160 with a significant 0.00%.

**Second**, service company financial accounting practicum subject. The test group is class XII students with a total of 91 people and learning to achieve basic competence 3.1 Analyze source documents and supporting documents at service companies, up to basic competence 3.8 Analyze accounts for compiling closing journals and trial balance after closing for service companies. The
Table 3. Stages of Learning Process

|   | A Preparation phase                                                                 | Information                                                                 |
|---|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 1 | Teachers design and compile short, dense, but interesting teaching materials         | Modules, Power point, videos and more                                       |
|   | according to the Basic Competencies to be achieved                                  |                                                                            |
| 2 | Teachers upload teaching materials into the e-learning platform                      | Include Study Instructions                                                  |
| 3 | Teachers compile and upload assignments / quizzes / tests into the e-learning        | Include words of encouragement                                              |
|   | platform                                                                            |                                                                            |
| 4 | Teachers form a Whatsapp Group (WAG) or Telegram Group for classes                 |                                                                            |

|   | B Learning Stage                                                                    | Information                                                                 |
|---|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 1 | Opening                                                                            | Walid                                                                     |
|   | The teacher greets students and encourages them (2-5 minutes)                       | G-Meet                                                                    |
|   | The teacher divides groups (3-5 people) per group                                   |                                                                            |
|   | Students pay attention to the teacher who explains a brief overview of the material  |                                                                            |
|   | to be studied by students (maximum 15 minutes)                                      |                                                                            |
| 2 | Main                                                                               |                                                                            |
|   | Students independently learn the material that has been presented by the teacher    | Independently offline                                                     |
|   | in the e-learning platform                                                          |                                                                            |
|   | Students per group form a WAG by involving the teacher and scheduling discussion    |                                                                            |
|   | activities. If possible, use G-meet.                                               |                                                                            |
|   | Students discuss in groups for material that is not yet understood,                 |                                                                            |
|   | accompanied by the teacher                                                          |                                                                            |
|   | Student complete assignments independently                                          |                                                                            |
| 3 | Closing                                                                            |                                                                            |
|   | Through the WAG students get information on test implementation                    | Online                                                                    |
|   | Students complete the test given by the teacher online                              | Online                                                                    |
|   | Students get information on the results of learning evaluations from the teacher    | Online                                                                    |
|   | and follow-up actions that must be done by students                                 |                                                                            |

Source: Processed Data (2020)

The mean of pre-test score was 80.05 and the post-test score was 87.74.

The results of pre-test and post-test for of T test obtained the t count of 5.433 with a significant 0.00%. Based on the results of this analysis, it can be seen that the pre-test scores in the two groups are relatively high because the Basic Competencies achieved are repeating and strengthening of Basic Competencies in class. Furthermore, the results of the t test in the two groups indicated that the use of the SCL-D model was able to improve student achievement.

Evaluation

The results of learning experts’ evaluation, the SCL-D learning design developed in this study has adapted the needs, desires, and limitations of students. The SCL-D model has considered the student’s need to collaborate and socialize with friends and teachers. Collaborative learning via online is beneficial for students both to socialize and to have a social presence (Strauß & Rummel, 2020). Students are not only given material for independent study, but actively construct their knowledge by interacting with friends.

Through SCL-D students can meet their needs to interact with their peers. Students feel that the cooperative approach is useful in developing generic skills (Ballantine & Larres, 2007). In addition, the SCL-D Model has fulfilled the desire of students to get material explanations from the teacher or from classmates, so that learning is not boring. In order to stay interesting, online learning must provide opportunities for students to exchange knowledge in the discussion area (Wang & Bing, 2017).
The presence of teachers in group discussions has been able to reduce feelings of alienation in online learning. This supports research (Crisanto, 2018) which states that students are more motivated and enjoy participating in technology-based cooperative learning, because learning rests on a learning theory called connectivity, which transfers individual power into groups. The main obstacle experienced by students in online learning from the result observation is the student’s internet quota.

It cannot be denied that some vocational high school children are from the middle to lower economic class. They chose vocational education because they wanted to work immediately. Therefore, the additional cost of internet is very burdensome for students and their parents, while in online learning the main key to success is largely determined by the adequacy of internet quota owned by teachers and students). The results of the evaluation of learning experts show that the SCL-D learning model has considered the cost of the internet. The use of WA group (WAG) and Instagram facilities to hold small and large group discussions is able to present a cooperative learning model while reducing internet costs.

WAG is able to provide opportunities for its users to socialize online and stay connected at a relatively low cost (Gazit & Aharony, 2018). Currently, WhatsApp is more popular among students and teachers because of its wider capabilities and allows students to interact in various ways such as video calls, posting videos or photos, sending and receiving documents, multimedia exchanges and online discussions / conferences (Alshammari et al., 2018). Research results Malhotra & Bansal (2017) also show that around students said that the use of WhatsApp had affected the student learning process by 28 percent and more than 60 percent of students saw that the use of WhatsApp had a positive impact on their lives.

Even though there are limitations, through WAG or Instagram groups students can use this group to communicate. With these two media students can take advantage of the chat data package which costs lower. The trial results show that students prefer to use WAG facilities than other media, because it is easy to use and students are accustomed to using it.

The test results of the SCL-D model show that through this simple cooperative learning design it can improve student learning achievement. This is as a result of students’ enthusiasm in following each stage of the learning process. Group assignments are given with a mutual correction system, where student work results will be corrected by their friends group in sequence. Discussion is used to convey the differences in the work results and the results of each correction.

The presence of the teacher in the discussion makes / forces students to be involved in the discussion. It is explained by Ballantine & Larres (2007) that instructors can increase the interdependence of group members so that they have an interest in working together to be successful in completing tasks. Effective communication occurs when the result of an intentional or unintentional exchange of information that is communicated by different individuals and carried out in a desired manner. This effect also ensures that there is no distortion of the message during the contact process. Effective communication will achieve the desired effect and sustain it, with the potential to increase message effect.

CONCLUSION

Online-based learning has many advantages as well as weaknesses. Various e-learning platforms make it easy for teachers and students to interact in distant learning. However, environmental conditions become an obstacle for the implementation of online learning, especially the limited internet quota. In addition, the teacher’s ability to design attractive distant learning is a determining factor for the success of the learning process. The data shows that 100% of students do not like online learning because the teacher only gives individual assignments, the teacher does not explain, and there is no face-to-face interaction with the class and the teacher that makes students feel isolated during the learning process.

The SCL-D model was developed into account above the weaknesses. This model was implicated for the alternative online learning which used cooperative learning. To reduce internet costs, online learning media is carried out by utilizing facilities that are familiar to students, namely WA, Telegram and e-learning platform that is owned or commonly used by schools or google classroom. This platform is only used for deliver teaching material and upload student work. Meanwhile, media for group discussions utilizes WAG and / or Telegram media.

For the next research could be develop another online learning model in another course or subject. Furthermore, in order to reduce feelings of isolation, group discussion designs were created by creating interdependence among group members, so that connectivity with group members and teachers is maintained.
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