FAKULTAS KEGURUAN DAN ILMU PENDIDIKAN
UNIVERSITAS PASUNDAN

PROGRAM STUDI

PENDIDIKAN PANCASILA DAN KEWARGANEGARAAN	(TERAKREDITASI A)
PENDIDIKAN EKONOMI	(TERAKREDITASI A)
PENDIDIKAN BAHASA DAN SASTRA INDONESIA	(TERAKREDITASI A)
PENDIDIKAN BIOLOGI	(TERAKREDITASI A)
PENDIDIKAN MATEMATIKA	(TERAKREDITASI B)
PENDIDIKAN GURU SEKOLAH DASAR	(TERAKREDITASI UNGGUL)
PENDIDIKAN PROFESI GURU (PPG)	(TERAKREDITASI B)

SURAT TUGAS

Nomor:21/Unpas.FKIP D/ST/V/2020

Dekan Fakultas Keguruan dan Ilmu Pendidikan Universitas Pasundan Bandung, dengan ini menugaskan kepada:

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Sebagai Dosen Pelaksana PKM : Sosialisasi Pengembangan Perangkat Pembelajaran Melalui Lesson Study di SMA Pasundan 7 Bandung.

Adapun mahasiswa yang terlibat:

1. Eneng Mindasari
2. Fitria Novalia
3. Desy Fitri Astuti

Demikian surat tugas ini dibuat untuk dilaksanakan dengan penuh rasa tanggung jawab.

Bandung, 11 Mei 2020
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BERITA ACARA

Pada hari ini : **Senin, pukul : 09.00 s.d. selesai, tanggal : 11, bulan : Mei, tahun 2020**, Program Studi Pendidikan Biologi Fakultas Keguruan dan Ilmu Pendidikan Universitas Pasundan, telah melaksanakan kegiatan : **Sosialisasi Pengembangan Perangkat Pembelajaran Melalui Lesson Study di SMA Pasundan 7 Bandung.**

Adapun tujuan kegiatan yang sudah dilaksanakan adalah sebagai berikut :

1. Sosialisasi Pengembangan Perangkat Pembelajaran
2. Pelatihan Lesson Study

Demikian berita acara ini dibuat sebagai arsip program studi sesuai dengan kegiatan yang telah dilaksanakan dengan sebenar- benarnya, serta ditandatangani oleh pihak-pihak terkait.

Bandung, 11 Mei 2020

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Hari/Tgl : 11 Mei 2020
Waktu : Pukul 09.00 s.d Selesai
Tempat : SMA Pasundan 7 Bandung
Judul : Sosialisasi Pengembangan Perangkat Pembelajaran Melalui Lesson Study

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14.	Eneng Mindasari	Nama dan Identitas Mahasiswa yang dilibatkan	
15.	Fitria Novalia	Nama dan Identitas Mahasiswa yang dilibatkan	

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Nomor : 019/Unpas.FKIP D/G.1/III/2019

Antara

Pusat Pengabdian Kepada Masyarakat FKIP Unpas

dengan

Dosen

Tentang

Pengabdian Kepada Masyarakat Dosen

Pada hari selasa, tanggal dua puluh satu bulan Maret tahun dua ribu dua puluh dua, kami yang bertanda tangan di bawah ini :

1. Dr. H. Uus Toharudin, M.Pd. : Dekan FKIP Unpas, beralamat di Jalan Tamansari Nomor 6-8 Bandung, Selanjutnya disebut PIHAK KESATU
2. Cita Tresnawati, M.Pd : Adalah Ketua Kelompok Dosen Peneliti dalam Bidang Kepakaran dari Program Studi Pendidikan Biologi beralamat di Jalan Tamansari Nomor 6-8 Bandung, selanjutnya disebut PIHAK KEDUA

Pasal 1

PIHAK KESATU menyetujui proposal yang diajukan oleh PIHAK KEDUA yang merupakan Kelompok Pengabdian Kepada Masyarakat Kepakaran

Pasal 2

Tugas yang dilaksanakan dalam hal ini melaksanakan kegiatan pengabdian Kepada Masyarakat dengan judul "Sosialisasi Pengembangan Perangkat Pembelajaran Melalui Lesson Study di SMA Pasundan 7 Bandung"

Pasal 3

a. Pelaksanaan kegiatan Pengabdian Kepada Masyarakat sebagaimana dimaksud dalam Pasal 1 (satu) Surat Perjanjian Kontrak ini, dimulai tanggal 11 Mei ditandatanganinya Surat Perjanjian Kontrak ini dan harus sudah selesai tanggal tiga puluh, bulan July tahun dua ribu dua puluh dua.
b. PIHAK KEDUA diwajibkan melaksanakan seminar di fakultas/jurusan dan memperbaiki laporan sesuai hasil seminar, serta menyerahkan laporan tentang hasil Pengabdian Kepada Masyarakat sebagaimana dalam pasal 3, butir a Surat Perjanjian Kontrak ini kepada PIHAK KESATU.

Pasal 4

Atas jasa PIHAK KEDUA dalam pelaksanaan Pengabdian Kepada Masyarakat kelompok tersebut dalam pasal 1 (satu) Surat Perjanjian Kontrak ini, PIHAK KESATU akan memberikan dana sebesar Rp. 5.000.000,00 (*lima juta rupiah*) yang penyerahannya dilakukan dalam dua tahap sebagai berikut:

a. Tahap pertama diberikan sebesar Rp 3.500.000,00 (*tiga juta lima ratus rupiah*) pada saat penandatanganan Surat Perjanjian Kontrak ini.
b. Tahap kedua diberikan sebesar Rp Rp 1.500.000,00 (*satu juta lima ratus rupiah*) bilamana pekerjaan telah selesai 100% (seratus persen), serta telah melaksanakan seminar dan atau telah melakukan publikasi ilmiah di jurnal ISSN/Nasional/Internasional dan menyerahkan laporan akhir dengan baik kepada PIHAK KESATU sebagaimana dalam pasal 3 (tiga) butir b.

Pasal 5

a. Untuk pekerjaan Pengabdian Kepada Masyarakat Kelompok seperti tersebut pada pasal 2 (dua) PIHAK KEDUA tidak dibenarkan mengajukan klaim berupa kenaikan biaya perhitungan.
b. Hal-hal yang terjadi karena sesuatu sebab di luar dugaan atau kekuasaan PIHAK KEDUA yang dianggap ***Force Majeure*** sehingga mengakibatkan bagi PIHAK KEDUA seperti :
   - Bencana alam
   - Huru-hara
   - Wabah penyakit
   - Yang disebabkan oleh faktor ekstern yang mengganggu kelancaran jalannya penulisan buku ajar/ Pengabdian Kepada Masyarakat harus telah diberitahukan secara tertulis kepada PIHAK KESATU yang akan menyelesaikan berdasarkan penyelidikan secara seksama.

Pasal 6

Jika terjadi perselisihan antara PIHAK KESATU dengan PIHAK KEDUA akan diselesaikan oleh kedua belah pihak secara musyawarah.

Pasal 7

Hal-hal yang belum diatur dalam perjanjian ini akan ditentukan kemudian oleh kedua belah pihak secara musyawarah.

PIHAK KESATU Dekan,	PIHAK KEDUA Dosen,
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COLLABORATION OF TPACK (Technological Pedagogical Content Knowledge) BIOLOGICAL LEARNING DEVICES IN ASSESSING STUDENT ACTIVITIES IN HIGH SCHOOL PASUNDAN 1 BANDUNG

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Abstract—The study aimed to describe student activities during collaborative learning based on TPACK in Pasundan 1 High School Bandung. Collaboration Technological Pedagogical Content Knowledge (TPACK) based learning tools which were developed in the form of RPP, instructional materials, LKS and Multimedia animation. The instrument developed was an instrument of student activity during learning. The method used is "Quantitative Descriptive" involving 38 students of class X in Pasundan 1 High School Bandung. The results of data analysis show 1). Student activity at the beginning of learning in the category of quite active with a mean score of 2.05 including listening, listening and answering questions from the teacher, but asking activities rarely appear at the beginning of learning. 2) Student activities during the core learning activities in the active category with a mean score of 3.25 including active / good categories in listening, listening, submitting opinions, answering teacher questions, writing, discussing, collaborating with peers, collaborating and being able to solve problems. The core activities are identified as being less active in activities. Demonstrating complex thinking skills, processing information, effective reasoning. Effective communication. 3) student activity at the end of learning in the less active category with a mean score of 1.25 Listening to the teacher's explanation, Asking, Summing up. Collaborative learning tools as a whole improve student learning activities to be more active, meaningful and complete. In particular teacher collaboration with lecturers is able to create quality, effective and innovative learning. (*Abstract*)

Keywords—component, formatting, style, styling, insert (key words)

INTRODUCTION

The role of the teacher is very complex, develops in accordance with historical developments and times from time to time, changes in paradigm and values in the 21st century, teacher standards are more emphasized on their professional abilities. An effective teacher is a qualified person and can build good relationships with students, understand basic knowledge about teaching and learning, can carry out learning activities well, have the attitude and skills needed to reflect and solve problems, and ensure that learning is a process throughout life. In addition, effective teachers can develop strategies, methods and skills to achieve success.

The learning process in each primary and secondary education unit must be interactive, inspiring, fun, challenging, and motivating students to actively participate and provide sufficient space for initiative, creativity and independence in accordance with the talents, interests, and physical and psychological development of student.

Students as subjects in learning activities and learning activities, are required to always be active in processing and processing their learning gains. To be able to process and process the acquisition of learning effectively, learners are required to be active physically, intellectually, and emotionally. The implication of the principle of activeness for students is in the form of behaviors, such as searching for various sources of information needed, analyzing the results of experiments, wanting to know the results of a chemical reaction, making writing, making clippings, and similar behavior. The implication of the principle of activeness for students further demands the involvement of students in the learning process.

Effective and experienced teachers have the capacity to change and apply subject matter to forms that students can understand. The capacity to change depends on the combination of content and pedagogy as Pedagogical Content Knowledge (PCK).

The results of research conducted by Chapoo [4] that understanding and practice of teachers Pedagogical Content Knowledge is analyzed based on 5 components: 1) orientation towards teaching science; 2) knowledge of the curriculum; 3) knowledge of assessment; 4) knowledge of students' understanding of science; 5) knowledge of instructional strategies. The result is Suriya Chapoo's research, et.al. : 2013 shows that when teachers do not have sufficient content knowledge in Biology and have some difficulties in teaching their class about the subject, their inability to design appropriate teaching and assessment activities is also a very concerning problem.

This collaboration of learning tools is realized based on the desire to improve the quality of learning by combining ideas and ideas between lecturers and teachers, especially Biology subjects. The ideas that emerge come from the teaching and teacher's teaching experience so that collaboration learning tools are created that are based on students' needs.

Based on the results of interviews with Biology subject teachers during this time related observations on increasing student activity still lack special attention, this is due to 1). Not enough observation time is available so the teacher is more focused on delivering the material, 2). Requires long enough observation, 3). Instruments not available, 4). The large number of students makes it difficult to observe students individually, 5). Allocation of observation time that requires a long time. The interview results identified symptoms that often appear when learning biology related to student activity shows students are less active in listening to the teacher's explanation, eyes are less focused, when working in groups, writing or recording activities are less active, less active reading, less active observing tables, diagran and chart and less able to conclude.

In this study the researcher will describe the activities of students during learning with a Technological Pedagogical Content Knowledge (TPACK) approach designed with learning tools, so that information can be obtained about student activities during learning. The purpose of designing student learning activities specifically so that all potential students are optimal in learning.

For teachers, Technological Pedagogical Content Knowledge (TPACK) can also be used as the main pillar in self-development and innovation. Furthermore, the great hope to become a professional teacher who is able to integrate ICT and technology can help students' problems to more easily understand the material contained in the curriculum. Whereas in the process of learning ICT becomes the main attraction. Teachers are also expected to improvise especially in improving the learning process.

METHOD

The method used in this study is descriptive quantitative method, with a type of correlational study, which describes the activities of students during biology learning based on Technological Pedagogical Content Knowledge (TPACK). Descriptive research (descriptive research) is a research method aimed at describing existing phenomena, which occur at this time or in the past [6]. The research was carried out in SMA Pasundan 1 Bandung, the research subjects were high school students of class X.

This research took 2 basic competencies with 4 meetings on material for viruses and monsters. Collaboration of Technological Pedagogical Content Knowledge (TPACK) based learning tools is specifically designed using Chapter design and lesson design during learning. In each step of the activity in this study, instruments are needed according to needs. The instrument in this study is an instrument that assesses students' activities in learning.

RESULT

Based on observations of students' learning activities at the time of collaborative learning, the learning tools between the lecturer and the teacher based on TPACK were as much as 2 Basic Competencies with 4 meetings on the material of viruses and monkeys observed by student activities as shown in the following table:

TABLE VII. STUDENT ACTIIVITY

No	Lesson Activity	Student Activity	Mean	Categories	Information
1	Beginning	1. Listen to the teacher's explanation 2. Listen 3. Asking 4. Answering teacher questions	2,05	Quite Active	Satisfactory
2	Core Activity Learning-based devices TPACK, Learning animation, Presentation	1. Listen to the teacher's explanation 2. Listen 3. Submit an opinion 4. Answering teacher questions 5. Write 6. Discuss 7. Cooperate with colleagues 8. Collaborate 9. Solve the problem 10. Demonstrate complex thinking skills 11. Processing information 12. Effective reasoning 13. Effective communication	3,25	Active	Good
3	Ending	1. Listen to the teacher's explanation 2. Asking 3. Conclude	1,25	Less Active	Less Satisfactory

Based on observations when learning shows diverse student activities, this is marked by student activity recorded and observed during collaborative learning as follows:

The initial learning activities based on observations identified the activities of students in the mean score of 2.05 with the category of being active enough in listening to the teacher's introduction, this is the beginning of very good learning, students seem to focus more on focusing on the teacher, the teacher's ability to do apperception at the beginning of learning is key successfully directing students' concentration into lessons in the next material.

Symptoms that are less active are observed when the beginning of learning shows: 1) Students have not been able to connect the previous material with the material to be studied, this can be seen from the concentration of students who are lacking when listening to the initial explanation of the teacher. 2) the ability of students to answer questions is still general and even tends not to focus on the questions posed by the teacher. 3). Students have not seen many who ask about the material being studied.

The core learning activities based on observations identified the activities of students in the mean score of 3.25 with active/good categories in listening, listening, submitting opinions,

answering teacher questions, writing, discussing, working with peers, collaborating and being able to solve problems. Collaboration of Technological Pedagogical Content Knowledge (TPACK) -based learning tools in directing students to learning include activities: 1) demanding problem-solving abilities by analyzing the relationship of concepts with the animation media of biology learning that is displayed at the core of learning. 2) demanding complex thinking skills where students are able to comprehend the material comprehensively between teacher explanations, learning theories and animations displayed, 3) demanding the ability to process information where students process information from what they learn, 4) demanding communication skills where students are able to communicate it information received and poured into presentation.

Student activities that were identified when discussing groups of students were able to collaborate with peers. This was indicated by students being able to brainstorm about the material delivered by analyzing the animation shows and being feedbeck in the cognitive acquisition of students. Student activities with teachers during teaching and learning activities, identified the ability of teachers in directing students to think critically is a determining factor students are able to gain new knowledge based on their learning experience and become the key to the success of student learning outcomes.

Student activities that appear less when the core activities of learning animation learning are identified: 1) slow in interpreting and linking the material with animated video shows this is marked by a time allocation that is not in accordance with the plan. 2) slow to describe observations with theoretical findings, 3) lack the courage to communicate observations and rely on friends, 4) problem solving skills are less visible, this is characterized by students unable to think solutions to problems posed by lecturers.

According Rusman [3], in every learning process students always show activeness, activeness can be in the form of physical activities or psychic activities. Physical activity can be in the form of reading, listening, writing, practicing skills, and so on. As for psychic activities, for example using knowledge possessed in solving problems encountered, comparing one concept with another, concluding the results of the experiment and other psychic activities.

The final learning activities based on observations identified student activities in the mean value of 1.25 with the category of being less active in asking this is possible at the end of the learning students have learned the material delivered by the lecturer, but for the ability to conclude the students cannot be observed as a whole, the need for related research the ability of students to conclude.

Symptoms that appear less when the final learning activity shows students are not focused on listening to the teacher's explanation and asking this is possible students have understood the material learned in this activity. According to Rusman [3], be able to cause learning activeness in students, teachers can implement the following behaviors: 1) using multimethods and multimedia, 2) giving assignments in groups or individuals, 3) giving opportunities to students to carry out experiments in groups small (with no more than people), 4) giving assignments to read learning materials, noting things that are not clear, 5) holding questions and answers and discussions.

CONCLUSION

Collaboration of TPACK-based learning tools (Technological Pedagogical Content Knowledge) as a whole can improve student learning activities in active categories, this indicates that during teaching and learning activities the teacher is able to generate student learning activities in good conditions. The active activities that arise during learning include listening, listening, submitting opinions, answering teacher questions, writing, discussing,

collaborating with peers, collaborating and being able to solve problems. The author identifies student activities that require thinking skills such as complex thinking, information processing, reasoning and less communication when learning occurs.

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