

# NUMBERED HEADS TOGETHER LEARNING MODEL WITH ANDROID-BASED CROSSWORD PUZZLE ACCOUNTING TO IMPROVE BANKING LEARNING OUTCOMES

## ***MODEL PEMBELAJARAN NUMBERED HEADS TOGETHER BERBANTU CROSSWORD PUZZLE ACCOUNTING BERBASIS ANDROID UNTUK MENINGKATKAN HASIL BELAJAR PERBANKAN***

**Dyah Ayu Rahmadani**

Accounting Education Study Program Faculty of Economics Yogyakarta State University  
[dyahayurahma98@gmail.com](mailto:dyahayurahma98@gmail.com)

**Prof. Sukirno, S.Pd., M.Si., Ph.D.**

Lecturer Accounting Education Study Program Faculty of Economics Yogyakarta State University  
[Sukirno@uny.ac.id](mailto:Sukirno@uny.ac.id)

**Abstract: Numbered Heads Together Learning Model With Android-Based Crossword Puzzle Accounting To Improve Banking Learning Outcomes.** This study aims to improve the Basic of Banking Learning Outcomes with the Implementation Of Numbered Heads Together Learning Model With Android-Based Crossword Puzzle Accounting. The results of this study indicate improvements on the average Learning Outcomes of Deposit Fund Competence increased pre test in cycle I about 50,4 increases become 66,2 in the post test or improved 15,8. the mastery of Deposits Fund Competencies Learning Outcome in pre test is 70. The improvement of the learning mastery of Deposits Fund Competencies Learning Outcome in pre test 70,8 become 87 in post test. The learning Outcome Mastery in cycle I is 12,12% improves to 36,36%. In the cycle II, the mastery of Learning Outcome in the amount number of 39,39% becomes 93,94.

**Keywords:** Banking Learning Outcomes, Numbered Heads Together Learning Model, Android-Based Crossword Puzzle Accounting

**Abstrak: Model Pembelajaran Numbered Heads Together Berbantu Crossword Puzzle Accounting Berbasis Android Untuk Meningkatkan Hasil Belajar Perbankan.** Penelitian ini bertujuan untuk meningkatkan Hasil Belajar Perbankan dengan Implementasi Model Pembelajaran Numbered Heads Together Berbantu Crossword Puzzle Accounting Berbasis Android. Media pembelajaran ini dikembangkan oleh Retno Kurni Asih pada tahun 2018. Hasil penelitian ini menunjukkan rata-rata Hasil Belajar Kompetensi Simpanan Dana Deposito meningkat pada pre test siklus I sebesar 50,4 meningkat menjadi 66,2 pada post test atau meningkat 15,8. Pada siklus II, ketuntasan Hasil belajar kompetensi Simpanan Dana Deposito pada pre test 70,8 meningkat menjadi 87 pada post test atau meningkat sebesar 16,2. Peningkatan ketuntasan Hasil Belajar Kompetensi Simpanan Dana Deposito pada pre test 70,8 meningkat menjadi 87 pada post test atau meningkat sebesar 16,2. Ketuntasan Hasil Belajar siklus I sebesar 12,12% meningkat menjadi 36,36% atau meningkat 24,24%. Pada siklus II, ketuntasan Hasil Belajar sebesar 39,39% menjadi 93,94% atau meningkat 54,55%.

**Kata Kunci:** Hasil Belajar Perbankan, Model Pembelajaran Numbered Heads Together Berbantu Crossword Puzzle Accounting

## INTRODUCTION

Learning process is one of the activities in education. Based on Rusman (2011:379), learning activity is a fundamental activity in a whole learning process in which an achievement of learning objective depends on how the learning process are professionally designed and conducted by a teacher. This affirms that all things related to the process of educating and learning must gain a serious attention. There are factors affecting the learning process such as teacher, learning media, learning method, motivation, and learning environment. Those factors are interrelated and supporting each other in realizing the expected goal of education and learning outcomes (Thobroni & Musthofa, 2013:31-34).

One of the factors affecting the learning process and outcome are learning method and learning media. Besides, based on a pre-research result conducted towards students of grade X AKL 1 and X AKL 2 of Vocational High School 7 Yogyakarta showed that 55 of 68 students saying that Accounting presumably hard and complicated. This makes the learning process needs an interesting learning activity in order to improve the learning outcomes.

Based on the observation conducted in Vocational High School 7 Yogyakarta has utilized some learning medias such as power point, worksheet, and textbook. Most of the learnings are using lecturing method and

continuing by giving assignments to the students. This makes them feel bored with the learning process. Even though, the availability of facilities and supporting learning media are great, teachers have not applied learning model and media that can support a student-centered learning. In some learning process, it is shown that teachers still become the main source of learning (teacher centered), whereas in the current 2013 curriculum requires the tudents to be more dominant in the learning process.

Based on the interview result with one of the teachers of Vocational High School 7 Yogyakarta, its students are allowed to bring cell phone to school. Although they are allowed to do so, they are prohibited to play with it during the learning hours unless they are searching for learning resources. However, during the learning process, there seems to be some students who are checking on their phones in the middle of the learning process without the teacher noticing. Teachers have not yet utilized media like android, even it can be said that 98% of accounting students of Vocational High School 7 Yogyakarta have android. Actually, this condition can be one of the opportunities for teachers to attract the students' attention by using android as a way to get them interested with the learning material.

According to the pre-research result, it seems that students are more interested in using phones as a learning media. As when

they use Kahoot, they answer the questions easily. From the result of doing the test manually, most of students only can answer 6 questions, and after using kahoot, they can answer 8 questions even 3 students can answer 10 questions correctly. Meanwhile, in grade X AKL 1, most of the students can answer 3 questions manually whereas when they are using kahoot, they can answer 5 questions..

Game has potency in improving the students' interest in the learning material and involving them in a class discussion (Haywood, et al:2004). Crossword is a game that requires the player to fill in the blank squares with the suitable letters to the given questions whether it is down or across questions. It can be used as a good strategy in the learning process and can be an exciting media in learning without losing the essential of the learning material itself (Zaini, 2008). Even, this strategy can involve the participation of students actively from the beginning. This can be interesting for students, because it is presented in a form of game in android. Since it is served in a peculiar model, the learning outcomes of students can improve.

With the android-based Crossword Puzzle Accounting learning media (Kurniasih,2018) and field condition, the researcher chooses to use Numbered Heads Together (NHT) learning media. Number Heads Together (NHT) learning media is a

learning model prioritizing activity and participation of students in learning. In this model, the teacher will divide students into groups. Numbered heads Together Learning model is useful for quickly reviewing objective material in a fun way. The students in each team are numbered (each team might have 4 students numbered 1, 2, 3, 4). Students coach each other on material to be mastered. Teachers pose a question and call a number. Only the students with that number are eligible to answer and earn points for their team, building both individual accountability and positive interdependence. This may be done with only one student in the class responding (sequential form), or with all the numbers, 3's for instance, responding using an Every Pupil Response technique such as cards or handsignals (Kagen, 2011:1).

By using Numbered Heads Together learning model, the learning process will not centralize fully to the teachers anymore. Besides, students will pay attention more in the material, since the number will be mentioned randomly so that they have to prepare themselves as they can be called anytime to answer the given questions. Huda (2015:130) stated that random calling can make sure the students to be really involved in the discussion. This can make them understand the material, so the learning outcome can be maximal.

This research is expected to be able to improve the teachers' creativity in teaching, improve the learning variation, and liven up the class. It is also expected that the students of grade X AKL 1 can improve their learning outcome on deposit funds competence through the implementation Numbered Heads Together (NHT) learning model with android-based Crossword Puzzle Accounting.

## **LITERATURE REVIEW**

Arifin (2017: 298) said that learning outcome is a result of learning action interaction and teaching activity. In addition, Sudjana (2016: 22) added that learning outcome is an ability owned by students after they receive a learning experience. Deposit Fund Competence is one of the competences appeared in a learning material of Basic of Banking. The learning outcome of Deposit Fund competence is a competence obtained by students from the interaction during the learning process. Learning materials in Deposit Fund include its definition, deposit's characteristic, deposit's certificate, deposit on call, the difference between time deposit and certificate deposit, and deposit counting.

Numbered Heads Together (NHT) is one of kinds of cooperative learning that is first developed by Spencer Kagen (1993). It Arikunto (2016: 41) who divide it into four steps: planning, implementation (execution), observation, and reflection.

is one of types of cooperative learning model that can be one alternative in order to improve the students' understanding on the learning material. It is one of the cooperative learning models that has four stages used to review facts and basic information and functions to manage the students' interaction. It can become one of the alternatives to improve the students' understanding on the learning material. Implementing Numbered Heads Together (NHT) learning model can train the students to act sportively and be responsible towards the result of the group's work.

According to Sanjaya (2013: 163), learning media is a whole tool and material that can be used to achieve the education goal. The criteria in choosing media can be considered based on the needs and learning goal that wants to be achieved. Crossword Puzzle Accounting application contains deposit fund material started from the definition until deposit fund counting and recording. This material is chosen for the students to be able to understand the basic concept of deposit fund material with crossword puzzle accounting as the learning media.

## **METHOD**

The researcher uses steps explained by This research is conducted twice of the cycle at minimal. If there is no improvement in the learning outcome, so

there will be a third cycle and forth until the target has been reached.

Data analysis technique of this research uses quantitative and qualitative research. Quantitative technique is obtained from the test result given to students in a form of crossword by counting and recording the students' score, counting the score average, and the percentage. Qualitative technique is used to analyze non-test data. This is obtained from data observation of students' behavior changes through interview, observation, and documentation. For instance, the students understand more of the learning material, and they are more enthusiastic, also look interested during the lesson hours.

The implementation of Numbered Heads Together (NHT) Learning Model with android-based Crossword Puzzle Accounting is considered to be success if the students get minimal score of Minimum Mastery Standard Criteria more than 75%.

## RESULT AND DISCUSSION

Table 1. Data of Class X AKL 1

Data of Class X AKL 1	
Male	0
Female	34
Total	34

This class has 34 students which consist of 34 female students. The classroom located in the third floor of the school building and have complete

facilities. The condition of class has the uncontrollable students and have low learning outcomes.

The learning process through the implementation of Numbered Heads Together Learning Model with Android based Crossword Puzzle Accounting showed there are an improvement of Deposit Fund Competency learning result especially on cognitive side. The improvement of learning result average of Deposit Fund Competency in cycle I and cycle II could be seen in the table below:

Table 2. The improvement of learning result average

Cycle	Average		Improvement
	<i>Pre Test</i>	<i>Post Test</i>	
I	50,4	66,2	15,8
II	70,8	87	16,2

According to the above table and diagram, there are an improvement of the Learning results average of Deposit Fund Competency of cycle I and cycle II after the implementation of Numbered Heads Together learning model with Android based Crossword Puzzle Accounting. The learning result average of Deposits Fund competency in the cycle I pre test about 50,4, it improved become 66,2 in the post test or improved about 15,8. In the cycle II, the learning result mastery of Deposits Fund Competency in the pre test was 70,8 improved become 87 in the post test or improved about 16,2. If the learning result

mastery of Deposits Fund Competency of cycle I and Cycle II had been seen so, for each cycle, the pre test and post test improved regularly.

This research proved that the implementation of Numbered Heads Together Learning Model with Android based Crossword Puzzle Accounting improved the Students Learning Outcome of Deposits Fund Competency. In accordance with Silberman theory (2016: 247) that said, by using the Crossword Puzzle create the unforgettable learning, so that the students easily remember about the core material that was taught. The result of this research was appropriated with the Spacing Effect theory that the Learning Model of Numbered Heads Together may cause the students work harder in mind to solve the problems. This was improved the students understanding which led to improve the students learning outcomes.

The improvement of this learning outcomes was in accordance with Sanjaya theory (2013: 163) that was told that the learning media could achieve the educational goals. Moreover, Sudjana dan Riva'i (2013:2) add that the teaching media improved the learning outcomes which achieved by the students. The results of this research supported by the result of Sanjay Gupta's research (2006: 7) which was said that, the students score improved by the use

of crossword puzzle accounting learning media.

## **CONCLUSION & SUGGESTION**

According to the improvement of the Deposits Fund Competencies Learning Outcome averages and the improvement of the Learning Outcome mastery of Deposits Fund Competencies from the cycle I to the cycle II, the action is reads "The Implementation of Numbered Heads Together Learning model with android based Crossword Puzzle Accounting improve the students Learning is accepted.

For the Teacher The Implementation of Numbered Heads Together Learning model with android based Crossword Puzzle Accounting uses as one of alternatives media and learning model which can be applied by the teacher to improve learning process. For the next Reseacher can implement the Classroom Action research with the various learning model and learning media, doing the research about students responses towards the Implementation of Numbered Heads Together Learning Model with Android based Crossword Puzzle Accounting and do the better preparation with the teacher and students before implementing the classroom action research.

## **REFERENCES**

Anni. (2006). *Psikologi Belajar*. Semarang: Unnes Press.

- Arifin. (2017). *Evaluasi Pembelajaran*. Bandung: PT Remaja Rosdakarya.
- Arikunto. (2013). *Prosedur Penelitian Suatu Pendekatan Praktis*. Jakarta: PT Rineka Cipta.
- Arikunto & Supardi. (2016). *Penelitian Tindakan Kelas*. Jakarta: PT Bumi Aksara.
- Arsyad. (2015). *Media Pembelajaran*. Jakarta: Rajawali Pers.
- Daryanto & Mulyo. (2012). *Model Pembelajaran Inovatif*. Yogyakarta: Gava Media.
- Daryanto. (2016). *Media Pembelajaran: Peranannya Sangat Penting Dalam Mencapai Tujuan Pembelajaran*. Yogyakarta: Gava Media.
- Daryanto. (2018). *Penelitian Tindakan Kelas dan Penelitian Tindakan Sekolah*. Yogyakarta: Gava Media.
- Depdikbud. (2003). Undang-Undang RI Nomor 20, Tahun 2003, tentang Sistem Pendidikan Nasional.
- Dimiyati & Mudjiono. (2015). *Belajar dan Pembelajaran*. Jakarta: Raja Grafindo Persada.
- Fathurrohman. (2015). *Model-Model Pembelajaran Inovatif: Alternatif Desain Pembelajaran yang Menyenangkan*. Yogyakarta: Ar Ruzz Media.
- Gupta, Elson, & Ostapski. (2014). The puzzle: A novel approach to teaching accounting. Valdosta State University.
- Hendryadi. (2014). Content validity (validitas isi). Teori online Personal Paper. No.1
- Haywood., McMullin., & Wygal. (2004). Using game to enhance student understanding of ethical responsibilities. *Issues in Accounting Education*,9,(2),301-318
- Huda. (2015). *Cooperative Learning*. Yogyakarta: Pustaka Pelajar.
- Jamal. (2016). *Tipe Efektif Cooperative Learning*. Yogyakarta: Diva Press.
- Kagen. (2011). Cooperative learning model type numbered heads together. *International Journal of Cooperative Learning*. Vol.1, No.5. [http://www.cooperative\\_learning.com.pdf](http://www.cooperative_learning.com.pdf). Diunduh 17 Februari 2019.
- Kurniasih. (2018). Pengembangan media pembelajaran crossword puzzle berbasis android pada mata pelajaran dasar perbankan untuk kelas x akuntansi SMK YPKK 1 sleman tahun ajaran 2017/2018. *Skripsi*. Yogyakarta: Universitas Negeri Yogyakarta.
- Klementine. (2018). Penerapan model pembelajaran kooperatif tipe numbered head together (NHT) untuk meningkatkan hasil belajar kompetensi dasar membukukan jurnal penyesuaian siswa kelas X AK 1 SMK YPKK 2 sleman tahun ajaran 2017/2018.
- Latifah. (2019). Pengembangan media pembelajaran aplikasi teka-teki silang akuntansi (ttsa) berbasis android pada materi siklus akuntansi perusahaan jasa untuk siswa kelas xii mipa 2 sman 1 wonosari tahun ajaran 2018/2019. Yogyakarta: Universitas Negeri

- Yogyakarta.
- Majid. (2008). *Perencanaan Pembelajaran*. Bandung: Rosdakarya.
- Marinda. (2011). Penerapan media teka-teki silang pada pembelajaran stenografi dengan model pembelajaran berkelompok tipe nht (numbered heads together) untuk meningkatkan semangat belajar siswa bidang administrasi perkantoran kelas xi ap 1 di smk tamansiswa kudus. *Skripsi*. Semarang: Universitas Negeri Semarang.
- Miller. (2012). iTeaching and learning. *Library Technology Reports*. Vol 48, No. 8.
- Mulyasa. (2010). *Kurikulum yang Disempurnakan: Pengembangan Standar Kompetensi dan Kompetensi Dasar*. Bandung: PT Remaja Rosdakarya.
- Mulyasa. (2010). *Praktik Penelitian Tindakan Kelas*. Bandung: PT Remaja Roskadaya.
- Mursilah. (2017). Penerapan metode pembelajaran crossword puzzle dalam meningkatkan hasil belajar ips kelas xii smk nurul huda sukaraja. *jurnal ilmiah pendidikan ekonomi*. vol. 1, no. 1, hal 38. STKIP nurul huda suaraja oku timur sumatera selatan. *Skripsi*. Sumatera Selatan.
- Nurkholis. (2013). Pendidikan dalam upaya memajukan teknologi. *Jurnal Kependidikan*. Vol.1, No.1.Hal 25-26. STAIN Purwokerto.
- Permendikbud. (2015). Peraturan menteri pendidikan dan kebudayaan Republik Indonesia no. 53 tahun 2015 tentang penilaian hasil belajar oleh pendidik dan satuan pendidikan pada pendidikan dasar dan menengah.
- Purwanto. (2013). *Evaluasi Hasil Belajar*. Yogyakarta: Pustaka Pelajar.
- Rahmawati. (2017). Implementasi model pembelajaran kooperatif tipe numbered heads together (nht) untuk meningkatkan aktivitas belajar akuntansi siswa kelas x akuntansi 2 di SMK Muhammadiyah 2 Moyudan tahun ajaran 2016/2017. *Skripsi*. Yogyakarta: Universitas Negeri Yogyakarta.
- Ravista. (2018). Penerapan media teka-teki silang untuk meningkatkan motivasi dan hasil belajar siswa kelas XI MIPA 1 SMAN 2 Ngaglik pada materi sistem imun. *Skripsi*. Yogyakarta: Universitas Sanata Dharma.
- Rusman. (2011). *Manajemen Kurikulum*. Jakarta: PT. Raja Grafindo Persada.
- Sanjaya. (2013). *Strategi Pembelajaran Berorientasi Standar Proses Pendidikan*. Jakarta: Kencana Prenada Media Group.
- Slameto. (2015). *Belajar dan Faktor-faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta.
- Sudjana & Ibrahim. (2009). *Penelitian dan Penilaian Pendidikan*. Bandung: Sinar Baru Algesindo.
- Sudjana & Rivai. (2013). *Media Pengajaran*. Bandung: Sinar Baru Algesindo.
- Sudjana. (2016). *Penilaian Hasil Proses Belajar Mengajar*. Bandung: PT



Remaja Rosdakarya.

Sugiyono. (2015). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta.

Zaini., Munthe., & Aryani. (2008). *Strategi Pembelajaran Aktif*. Yogyakarta: Pustaka Insan Madani.

Zuliana & Padli. (2013). Aplikasi pusat panggilan tindakan kriminal di kota medan berbasis android. *Jurnal*. IAIN Sumatera Utara Medan.