

ONLINE ENGLISH CLASS ACTIVITIES DESIGNED ACCORDING TO REVISED BLOOM TAXONOMY

Nurul Frijuniarsi

frijuniarsinurul@gmail.com

Universitas of Indraprasta PGRI, Indonesia

Fitri Senny Hapsari

fitrisennyhapsari@gmail.com

Universitas of Indraprasta PGRI, Indonesia

ABSTRACT

Since the implementation of Learning from Home (LFH) policy, all of the learning activities are carried out online. Both lecturers and students have to deal with virtual class. As the organizer and facilitator, the lecturer in this case must be able to create not only efficient but also interesting class. The use of assistive media that can be accessed by both parties anytime, anywhere should be considered. This writing is composed in order to recommend some English course activities especially designed for online session. The activities are developed based on the Revised Bloom's Taxonomy by utilizing the use of various applications and social media commonly used by students. The learning design is established in accordance with General English Course syllabus for first semester students in Informatics Engineering, Indraprasta University, yet it is also applicable for any classes that have the similarity on the learning target.

Keywords: learning design, online learning, revised bloom taxonomy

INTRODUCTION

Almost every aspect of human life has been impacted by the ongoing global pandemic of coronavirus disease 2019 (COVID-19). In order to adapt to our current environment, we are forced to live in a different manner. All countries, including Indonesia, are attempting to control the spread of the COVID-19 virus. The Indonesian government has imposed some regulations, including in the field of education, in an effort to limit the spread of the virus. In April 2020, the Ministry of Education announced the "Learning from Home" policy, which prohibits students from engaging in face-to-face learning activities as they previously did. This policy is enforced at all levels of education, from elementary to university, both formal and non-formal.

In fact, distance learning is more complicated than it should be. The Lecturers and students should adapt to a new style of teaching-learning activities where all of the act are held virtually or online. It necessitates the commitment of both parties, lectures and students, as well as the availability of a computer device or smart phone with internet access. That's why the activities prepared by lecturers should cover not only learning object effectively but also it must be interesting for the students and it is important to optimize the use of online media and platform. With the prevalence of mobile devices(online media) in modern classroom teaching, technology is increasingly being integrated into many aspects of classrooms to facilitate assessments, improve student engagement, motivation, and learning. Technology is also frequently used to make difficult subjects more interesting and engaging (Prensky, 2001).

Most teachers acknowledge that creating a lively learning environment is a difficult process that they must face in order to maintain students' motivation, engagement, and concentration in a lecture, particularly in higher education with large classes with little interaction (Wang & Tahir, 2020). In order to attract students' participation in distance class activity, a more interactive and communicative way of learning must be considered; therefore, lecturers must be innovative. It has been reported that when it comes to learning innovation, interactive digital-based learning can increase 80 percent of students' interest (Wang, 2015), which makes sense given that human life is now heavily influenced by technology (online media). There has been a significant change in student learning paradigms; first, the computation system has dominated students' lives and influenced their way of thinking, where students not only gain knowledge but also understand the essence of learning (Kereluik et al, 2014). Furthermore, because students are increasingly attached to the internet and computer-based devices in this digital age, teachers and lecturers should view it as an opportunity to increase students' motivation and interest in learning (Bennet, 2008 ; Irwan et al, 2019)

According to the above explanations, online learning media and resources are becoming an increasingly important part of English class. It can assist the lecturer in conducting the learning activity effectively. On the other hand, the question of how lecturers can integrate learning media with learning objectives arises. Lecturers must be able to design appropriate class activities. The

revised Bloom taxonomy can be used in the development of online English class activities as an attempt to design an effective learning activity.

In this research, the writers designed the teaching and learning activity by using revised bloom taxonomy because it covers three domains of learning skill they are cognitive, affective and psychomotor. It also structures skills from low and high, so in revise bloom taxonomy, skill or knowledge is leveled from the lower one to the higher one. It also helps the lecturer to map what activity suit to which learning object.

Table 1.1
The combination of cognitive process and the knowledge dimension

The Knowledge Dimension	The Cognitive Process Dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual Knowledge	List	Summarize	Classify	Order	Rank	Combine
Conceptual Knowledge	Describe	Interpret	Experiment	Explain	Assess	Plan
Procedural Knowledge	Tabulate	Predict	Calculate	Differentiate	Conclude	Compose
Meta-Cognitive Knowledge	Appropriate Use	Execute	Construct	Achieve	Action	Actualize

Designer/Developer - Dianna Fisher

The revised taxonomy divides the original knowledge category's noun and verb components into two distinct dimensions, as shown in the preceding table: the Knowledge Dimension (noun aspect) and the Cognitive Process Dimension (verb aspect). (Anderson et al, 2001). The Revised Taxonomy provides a two-dimensional table (aka the Taxonomy Table) in which the vertical axis contains four sub-categories of knowledge and the horizontal axis contains six verbs that describe what is/can be done with or to the various types of Knowledge in an ordered level of increasing cognitive complexity. It combines the knowledge dimensions (factual, conceptual, procedural, and metacognitive) with the cognitive process dimensions (remember, understand, apply, analyze, evaluate, and create). The revised Bloom taxonomy's knowledge dimension has taken into account new developments in cognitive and educational psychology. As a result, the revised bloom taxonomy includes four rather than three categories in the knowledge dimension. Three of them include the substance of the knowledge subcategories in the Original bloom taxonomy, but they were reorganized and renamed to use the terminology and to recognize cognitive psychology distinctions that have emerged since the publication of the Original bloom taxonomy T. Factual, Conceptual, and Procedural are the new names for these three Knowledge categories. The fourth new category, Metacognitive Knowledge, recognizes a distinction that was

not recognized when the Original Bloom taxonomy was created. Metacognitive Knowledge entails general knowledge about cognition as well as awareness of and knowledge about one's own cognition (Pintrich, 2002).

In terms of the Cognitive Process Dimension, the original bloom taxonomy's number of categories (six) was retained, but with significant changes. Three categories were renamed, the order of two was changed, and the names of those categories that remained were changed to verb form to correspond with how they are used in instructional objectives. The term "knowledge" was renamed. Remember that Comprehension has been renamed Understand, and Synthesis has been renamed Create. Application, Analysis, and Evaluation were kept, but as verbs: Apply, Analyze, and Evaluate. All of the original subcategories were renamed "cognitive processes" after being replaced with gerunds. The Cognitive Process Categories no longer form a cumulative hierarchy in the Revised Bloom Taxonomy. The framework maintains a sort of hierarchy in the sense that the six major categories of the Cognitive Process Dimension are assumed to be ordered in terms of increasing complexity, with Remember being less complex than Understand, which is less complex than Apply, and so on. Unlike the Original Bloom Taxonomy, however, the six categories are allowed to overlap on a scale of judged complexity (Anderson et al., 2001, p. 309). As Krathwohl (2002, p. 215) points out, the categories are permitted to overlap. This is most obvious in the category UnAly Amer Electronic Journal of Research in Educational Psychology. ISSN. 1696-2095. No 8, Vol 4 (1) 2006, pp: 213 - 230. - 221 -derstand. Because its scope has been significantly expanded over Comprehend in the OT, some cognitive processes associated with Understand (for example, Explaining) are more cognitively complex than at least one of the cognitive processes associated with Apply (e.g. Executing).

The Taxonomy Table's two-dimensionality provides a common language for educators all over the world, making it an effective tool for designing the english online class activities for the cognitive processes it engages (Mizbani, Salehi, 13 & Tabatabaei, 2020), conducting content analysis of standardized international language tests (Baghaei, Bagheri, & Yamini, 2020), developing effective lesson plans (Bümen, 2007) because it can be used to analyze the target of a syllabus or a unit, or to classify learning activities based on learning objectives, or to understand the relationship between assessment and learning/ teaching activities, or to examine teaching materials (Amer, 2006), reflecting on classroom practices (Byrd, 2002), (Anderson, 2002). The revised bloom taxonomy could be applied to the implementation of mobile learning in higher education from a constructivist, cognitive, or even developmental perspective on learning (Freysen, 2005:74).

The Revised Taxonomy has grown in popularity among educators and curriculum planners across a wide range of disciplines, including, but not limited to, engineering, due to the many benefits of the revised Bloom Taxonomy (Swart, 2010). As a result, the current study employs Bloom's Revised Taxonomy and online learning media in virtually designing class activities in order to achieve learning objective effectively among university students studying Informatics Engineering at Indraprasta University, Indonesia.

This research is also influenced by the findings of a previous study conducted by Gibreel Sadeq Alaghbary titled "Integrating Technology with Bloom's Revised Taxonomy: Web 2.0-enabled Learning Designs for Online Learning," which found that using the revised bloom taxonomy in designing online learning has a positive impact on developing students' abilities in accordance with learning objectives.

METHODOLOGY

Although this section is described as introducing and discussing the method(s) used to design the class activity in accordance with the revised Bloom taxonomy, it is interpreted broadly, which effectively means that the section will include discussions of how the methods were applied. Given that the following section is titled 'Findings and Discussions,' this is thought to be the correct way of addressing the method(s) section. As a result, the first part of this section will be spent discussing literature reviews, conducting student interviews, observing the syllabus, and designing class activities in accordance with the revised bloom taxonomy, all of which will be completed later.

1. Literature review

Littlejohn (2012) makes a number of important points that can be used to create class activities. One major concern expressed is that examining the syllabus can effectively mean making "general, impressionistic judgments" at the expense of a more detailed examination, resulting in a poor or inappropriate choice (p. 181). He (2012) also contends that it is common for teachers to make implicit judgments about materials and what they "should look like" (p. 143), focusing on the underlying rationale that leads to the creation of materials and how this may align with the needs of English students. According to Tomlinson (2012), the activity should "aim to provide all these ways of acquiring a language for the learners to experience and sometimes select from." In practice, however, asymmetry with these needs may exist because most materials place emphasis on "providing explicit teaching and practice" (p. 143).

Arif Nugroho (2020) in this study concluded that digital English learning activities outside of the classroom are viewed positively by Indonesian EFL learners. Learning activities can be carried out on social networking sites such as YouTube, WhatsApp, Facebook, Instagram, and Google Class. This study demonstrates that digital English learning outside of the classroom is effective in social distancing measures and will be effective if designed based on learning objectives based on the type of activity and cognitive level.

In another study National Research Council, 2001 stated that students learn skills and acquire knowledge more easily when they can apply what they've learned to new or more complex situations, which is more likely to happen once they've developed a thorough understanding of the material. As a result, simply ensuring that a curriculum is aligned with standards will not prepare students for the challenges of the twenty-first century. Teachers must

therefore assign challenging tasks and set challenging goals for all students, structure learning so that students can achieve high goals, and improve both surface and deep learning of content (Hattie, 2002). Bloom's Taxonomy and Webb's depth of knowledge thus play important roles in state-level education reform in terms of standards development and assessment alignment. Because cognitive rigor includes the complexity of content, cognitive engagement with that content, and the scope of planned learning activities, the CR matrix can improve instructional and assessment practices in the classroom. By combining the two cognitive complexity measures, we can analyze the emphasis placed on each intersection of the matrix. As educators become more adept at detecting cognitive rigor.

2. Interview

Researchers conducted this study by interviewing first semester informatics engineering students using a Google Form to determine what learning media they are familiar with, and the majority of them are already installed on their devices. The researchers conducted mapping using the data from the interviews as a reference in selecting learning media that were familiar and easy to use by students.

3. Observing The Syllabus

The syllabus is one of the mandatory learning tools for teachers to use in order to facilitate expected learning. The syllabus is defined as a set of learning implementation plans and assessments that are organized systematically. As a result, the syllabus's components will be interconnected in order to achieve mastery of fundamental competencies.

The syllabus is very important in provide systematic information about the implementation of learning plans and assessments, making it easier for teachers to implement learning. Teachers can see, observe, analyze, and predict the learning process, transforming it into a structured framework. A guideline in the development of learning that serves as the foundation for developing learning management plans. As the primary source of information in the effort to prepare learning plans, so that learning plans can be organized in accordance with procedures.

As a result, syllabus observation, which serves as a guide in implementing learning activities in class, is critical. To determine the revised bloom taxonomy verb, the researcher observes each learning target and indicator in the syllabus.

The syllabus observed in this study was the syllabus for English courses of informatics students where it is general English.

4. Designing Class Activity

After conducting a research review, collecting data from student interviews, and observing the syllabus to determine RBT verbs based on the indicators and learning objectives, the final step is to design online class activities and select the appropriate learning media to support the maximum achievement of the learning objectives.

FINDINGS AND DISCUSSIONS

As a result of a series of methodologies used in this study The following are the findings based on the results obtained: in designing and developing class activities, it is important to pay attention on the learning objectives, the series of targets to be achieved in every meeting. In syllabus, there is also indicator, the scale used as measurement. It consists of several statements that indicate what students are supposed to be able to do. each indicator provides the keyword that will lead to Revised Bloom Taxonomy (RBT) representative verbs in accordance to the combination of the cognitive process dimension and the knowledge dimension displayed on previous table and for further explanation, please study the following table.

Table 3.1
English Syllabus for Informatics Students

No	Learning Objectives	Indicator	RBT Verbs (based on CP and KD)	Recommended activities	Use of media
1	Able to master some functions of present tenses (descriptive text)	<ul style="list-style-type: none"> - Able to introduce themselves - Able to make a short description about other students appearance in present tenses - Able to understand the text descriptive text 	<ul style="list-style-type: none"> - Remember/mention - Describe - Summarize 	<ul style="list-style-type: none"> - Students are required to make short introduction - Students are required to write some sentences describing the appearance of one of their classmates - Students are required to read a passage and make summarize 	<ul style="list-style-type: none"> - Speaking session Via Zoom - Students listen to friends' introduction then type the answer directly on Watsap Group - Students submit the text on Google Classroom
2	Able to master some functions of present tenses (procedure)	<ul style="list-style-type: none"> - Able to order the steps - Able to explain the steps on the previous pictures 	<ul style="list-style-type: none"> - Order - Explain - Predict 	<ul style="list-style-type: none"> - Students are given some random pictures and asked to put them in order - Students are required to explain the steps shown by the previous pictures 	<ul style="list-style-type: none"> - Kahoot - Students answer by Voice note in Watsapp Group - Video taken from Youtube

		<ul style="list-style-type: none"> - Able to predict the next steps of a procedure - Able to make a procedure text 	<ul style="list-style-type: none"> - Create 	<ul style="list-style-type: none"> - Students watch a video provided by lecturer, and asked to predict the next steps - Students are required to write a procedure of "how to make/operate" attached with some pictures 	<ul style="list-style-type: none"> and discussed in Whatsapp Group - Students post the pictures on Instagram and write the text in caption
3	Able to master some basic function of past tenses (recount)	<ul style="list-style-type: none"> - Able to recognize the "verbs and to be" used in past tense - Able to apply past tense to tell about yesterday activity - Able to construct the message of the text 	<ul style="list-style-type: none"> - Identify - Apply - Construct 	<ul style="list-style-type: none"> - The students are given some questions and need to choose the right answer - lecturer ask the some questions like "what did you do yesterday?" and other questions using past tense to each students, and the students answer directly. - Students reads a recount text about someone bad experience in the past, and needs to construct the writers point of view and the message of the text 	<ul style="list-style-type: none"> - Google form - Zoom/ google meet - Students submit the answer on Google Classroom

According to the table above, there are three learning objectives for the general English course. The first learning objective in this case is to master some functions of the simple present tense, so it is about using the simple present tense in the descriptive text. The second learning objective is to master some basic functions of the present tenses in a different type of text than the first learning objective, which is procedure text, and the final learning objective is to master some basic functions of the past tenses in recount text.

There are indicators in each intended learning objective that are markers of achieving specific basic competencies that can be used as a measure to determine learning objective achievement. Indicators and evaluation tools are created using measurable operational verbs. These indicators show lecturers that the indicators implicitly or explicitly state every word/verb that represents the learning objectives or learning activities completed, and each of these objectives can be classified using the revised Bloom's taxonomy. The researcher can recommend activities based on two-dimensional combinations (the cognitive process dimension and knowledge dimension) in the revised bloom taxonomy after analyzing RBT verbs.

Furthermore, the researcher will describe a series of classroom activity designs for each learning objective listed in the syllabus.

First learning objective

In the first learning objective, students are expected to master some functions of the present tense (descriptive text) using three indicators that will be explained one by one.

Indicator 1: Students can introduce themselves on the first indicator. The indicator refers to RBT verb based on CP and KD, so “remember or mention” can be used as the representative. The recommended activity can be determined using RBT verb. Students are required to give a brief introduction using Zoom or Google Meet, so they must recall prior knowledge such as their identity. Students can proceed to the next activity based on the second indicator after passing the first activity on the first indicator.

Indicator 2: students are able to make a short description about other students appearance in present tenses. Based on these indicators, “explain” is a representative of RBT verb that can guide lecturers to recommend activities, so at this part, students are required to explain the steps shown by the previous pictures . the students’ answer can be submitted by voice note in What’s app group.

Indicator 3: students are able to understand descriptive text, so “summarize” is the representative verb of RBT that can lead the lecturers to conduct the recommended activity such as reading a passage and making a summary about one of their classmates' descriptions before and submitting their summary on Google Classroom.

Second learning objective

In this part, students are expected to master some functions of present tenses (procedure). The following is an explanation of how class activities were designed based on each indicators.

Indicator 1: Students are Able to order the steps. The indicator refers to RBT verb based on CP and KD, so “order” can be used as the representative. The recommended activity can be determined using RBT verb. Students are given some random pictures and asked.

Indicator 2: students are able to explain the steps on the previous pictures. Based on these indicators, “describe” is a representative of RBT verb that can guide teachers to recommend activities, so at this stage, students are required to write some sentences describing the appearance of one of their classmates, and they must listen to their classmates while introducing themselves to the activity. Previously, they could directly type the description of the contents of the introduction that their friend had conveyed earlier via what’s app group.

Indicator 3: students are able to predict the next steps of a procedure, so “predict” is the representative verb of RBT that can lead the lecturer to conduct the recommended activity such as watching a video provided by lecturer, and asked to predict the next steps. The video taken from You tube and discussed in Wats app Group.

Indicator 4: The last part of the session, based on the second learning objective, has the indicator to ensure that students can create a procedure text. Because the indicator refers to an RBT verb based on CP and KD, "create" can be used as a representative. The RBT verb can be used to determine the recommended activity. Students must write a procedure for how to make/operate an attachment with some pictures, then post the pictures on Instagram with the text in the caption.

Third learning objective

The student's final learning objective in this case is to master some basic functions of past tenses (recount). The following are a set of class activities based on each indicator:

Indicator 1: Students are able to recognize the “verbs and to be” used in past tense, so “identify” can be used as the representative. The recommended activity can be determined using RBT verb. The students are given some questions and need to choose the right answer on google form.

Indicator 2: students are to apply past tense to tell about yesterday activity. Based on these indicators, “apply” is a representative of RBT verb that can guide lecturers to recommend activities, so at this part, lecturer ask the some questions like “what did you do yesterday?” and other questions using past tense to each students, and the students answer directly on zoom or Google meet.

Indicator 3: students are able to construct the message of the text, so “construct” is the representative verb of RBT that can lead the lecturers to design the activity where the students reads a recount text about someone bad experience in the past, and needs to construct the writers point of view and the message of the text and submit it on Google classroom.

Those explanations are examples of how to design English online class activities in accordance with the revised Bloom taxonomy based on the learning objective. The most important aspect of designing a learning activity using RBT is that the lecturer be able to analyze the learning objectives and indicators. Lecturers can determine which level of RBT skill students must master based on feedback from both parties. Furthermore, lecturers must be mindful of time management, however, it is still possible to emphasize the use of multiple media in a single

session. Actually, the use of media and activities is flexible in accordance with learning objectives; the lecturer can choose the media that will cover the learning objective so that the class activity can be conducted as efficiently and effectively as possible.

CONCLUSION

Designing classroom activities for distance or e-learning can be challenging for teachers or lecturers. It requires comprehensive observation to fulfill what students need as well as what should be achieved on learning objectives. Revised bloom taxonomy can be an alternative reference for teachers, because its low-high level skill oriented can help them determine the knowledge and skills that students should master in accordance to the indicators. Meanwhile, the use of various media or applications as supportive tools is crucial, it does not only attract the students' interest but also help the teacher to create the lively learning atmosphere so that the learning objectives can be achieved. In order to minimize technical problems when carrying out learning activities by using several learning media, lecturers should inform students beforehand.

REFERENCES

- Amer, Aly. (2006). A Lifelong Learning Approach to Pre-Service Teacher Education and In Service Professional Development. Paper Presented at: The Third International Conference: "Towards Better Education of Prospective Teachers" Sultan Qaboos University, College of Education, Muscat, Oman, 1-3 March 2004.
- Anderson, L. W. (2002) Curricular alignment: A re-examination. *Theory Into Practice*, 41(4), pp. 255-260. doi: 10.1207/s15430421tip4104_9.
- Anderson, L., Krathwohl, R., Airasian, P., Cruikshank, K., Mayer, R., Pintrich, P., Raths, J., & Wittrock, M. (Eds.) (2001). *Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy*. New York, NY: Longman
- Arif, N. (2020). Digital Learning of English Beyond Classroom: Efl Learners' Perception And Teaching Activities. *Language Education in Asia*, 2(1), 113–119. https://doi.org/10.5746/leia/11/v2/i1/a09/watkins_wilkins.
- Baghaei, S., Bagheri, M. S., & Yamini, M. (2020). Analysis of IELTS and TOEFL reading and listening tests in terms of Revised Bloom's taxonomy. *Cogent Education*, 7(1). doi: 10.1080/2331186X.2020.1720939
- Bennet, W. L (2008) *Civic Life Online: Learning how digital can engage youth* (Mit Press).
- Bümen, N. T. (2007). Effects of the original versus revised Bloom's taxonomy on lesson planning skills: A Turkish study among pre-service teachers. *Review of Education*, 53, pp. 439-455. doi: 10.1007/s11159-007-9052-1.
- Byrd, P. (2002). The revised taxonomy and prospective teachers. *Theory Into Practice*, 41(4), pp. 244-248. Retrieved January 2021, from <http://www.jstor.org/stable/1477410>

- Churches, A. (2008, April 01). Bloom's taxonomy Blooms digitally. Retrieved December 2020, from Educators' eZine: <https://www.techlearning.com/news/bloom39s-taxonomyblooms-digitally>.
- Fisher, D. (2011). The Taxonomy Table. Retrieved May 24, 2016 from <http://oregonstate.edu/instruct/coursedev/models/id/taxonomy/#table>.
- Freysen, J. B. (2005). M-learning: an educational perspective. *Mobile learning anytime everywhere*, 73.
- Hattie, J. (2002). "What are the attributes of excellent teachers?" Presentation at the New Zealand Council for Educational Research Annual Conference, University of Auckland.
- Krathwohl, D. (2002). A revision of Bloom's taxonomy: An overview. *Theory Into Practice*, 41(4), 212-218.
- Kereluik, K, Mishra P, Fahne, C, and Terry, L (2014) What Knowledge is a most Worth: Teacher Knowledge for 21st Century Learning Abstract. *J. Digit. Learn. Tech. Educ* 29 (page 127-140).
- Littlejohn, A. (1998). The analysis of language teaching materials: Inside the Trojan horse. In B. Tomlinson (Ed.), *Materials Development in Language Teaching* (pp. 190 -216). Cambridge: Cambridge University Press.
- Mizbani, M. , Salehi, H. , & Tabatabaei, O. (2020). Content evaluation of Iranian EFL textbook vision 1 based on Bloom's Revised Taxonomy of cognitive domain. *International Journal of Foreign Language Teaching and Research*, 8(29), 11–24. Retrieved from http://jfl.iaun.ac.ir/article_667892_602c86817155723aad77f6af0cff7631.pdf.
- National Research Council. (2001). Pellegrino, J., Chudowsky, N., & Glaser, R. (Eds.) *Knowing what students know: The science and design of educational assessment*. Washington, D.C.: Academy Press.
- Pintrich, P. (2002). The role of metacognitive knowledge in learning, teaching, and assessing. *Theory Into Practice*, 41, 4, 119-225.
- Prensky, M. (2001). *Digital game-based learning*. New York: McGraw-Hill.
- Swart, A. J. (2010). Evaluation of final examination papers in engineering: A case study using Bloom's taxonomy. *IEEE Transactions on Education*, 53(2), pp. 257-264. doi: 10.1109/TE.2009.2014221.
- Tomlinson, B. (2012). Materials development for language learning and teaching. *Language Teaching*, 45(2), 143-179.
- Wang, A. I (2015) The wear out effect of a game based students response system. *Comput. Educ* 82 (page 217-227).
- Wang, A.I and Tahir, Rabail (2020) The effect of using Kahoot! for learning – A literature review. *Computers and Education* 149, An International Journal (page 1-22).