

Student Respond Systems (SRSs)

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Introduction

Student Response Systems: Instructional Technologies

Clickers, also known as Personal Response Systems (PRS), Student Response Systems (SRS), and Automated Response Systems (ARS), are one of the powerful interactive technologies in the classroom that can be used to encourage active learning (Bojinova & Oigara, 2011; Martyn, 2007; Chien, Chang & Chang, 2016). They are small transmitters that look like a television remote control and they allow students to quickly answer questions presented in class. This technology, which has been in development since the 1960s (Judson & Sawada 2002), allows the instructor to pose questions to a



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class using electronic presentation software such as PowerPoint. Questions are usually prepared in multiple choice or true/false formats (Aljaloud, Gromik, Kwan & Billingsley, 2019). When students answer the questions, the clickers' codes appear on the screen and students know their answers are recorded. A computer summarizes the responses and the results are automatically displayed in graphic form, usually a histogram. Depending on the teacher's preference, the answers can be shown anonymously or the teacher can view which students the answers belong to. Student Response Systems devices may differ in terms of use. Students can use a special device such as a remote control, their computer or cell phone, to answer questions. These response systems consist of three parts;

1. Clickers (small remote control-like devices used by students)
2. Receivers (which receive Clickers' signals),
3. A software program installed on the teacher's computer

Clickers emit infrared signals that are received by a receiver and sent to the teacher's computer. (Meedzan & Fisher, 2009). After the questions are answered by the students using one of these various devices, the student answers are immediately displayed on the screen for everyone to see, thus allowing students to receive corrective feedback on their answers and compare their answers with the answers of their peers (Blood & Gulchak, 2012).

Clickers increase classroom interaction and can be used with adults or young learners. When they are used, the rate of answering difficult multiple-choice questions is higher than traditional in-class methods. In addition, it was seen that students who answered using clickers were more honest in their answers (Stowell & Nelson, 2007). More interestingly, students who use clickers during class perform better on exams and tests than students who don't use these technological devices (Kennedy & Cutts, 2005; Morling et al., 2008; Shaffer & Collura, 2009).

Clickers have received great attention in the educational technology literature, and their use in college classrooms has increased significantly (MacGeorge et al., 2007). Some research studies have shown that Clickers are useful tools for engaging students in active learning during lessons, improving students' overall communication, and

helping instructors create a more student-centered classroom environment (Beatty, 2004; Caldwell, 2007; Draper & Brown, 2004; MacGeorge et al., 2007). It is known that they yield many positive results in terms of curriculum and student outcomes. Some studies show that personal response systems, when used as a teaching strategy, are effective in motivating students to participate in classroom activities and learn the subject matter (Debourgh, 2008; Hatch, Jensen & Moore, 2005; Moredich & Moore, 2007; Skiba, 2006; Stein, Challman & Brueckner, 2007).

Over the past 20 years, the technology used on university campuses has expanded from overhead projectors and videotapes to comprehensive multimedia presentations that include laptops, LCD projectors, online tests, and personal response systems such as Clickers (MacGeorge, et al., 2008; Stowell & Nelson, 2007). The results of a research revealed that the new technological possibilities of Clickers can be used to improve the questioning and feedback skills of instructors (Trees & Jackson, 2007), to motivate and monitor student participation (Stowell & Nelson, 2007), to encourage discussion of important concepts (Brickman, 2006) , and to activate students' thoughts (Collins, Moore & Shaw-Kokot, 2007). It is clear that student response systems technology is one of the most promising ways to make classrooms more learner, knowledge, assessment and community centered (Bransford, Brophy, & Williams, 2000). Using clickers can be especially useful in long lessons or at the end of the day when students and lecturers are tired.

Research in educational technology shows that the use of Clickers also improves the interactive atmosphere in the classroom (Laurillard, 1993). When used correctly, this technology can improve the quality of learning outcomes in lessons by increasing students' interaction and engagement with their instructors and peers, resulting in a remarkable transformation in the classroom (Bojinova & Oigara, 2011).

Clickers can improve reflection and understanding for students when used with small group discussions (Brewer, 2004; Brickman, 2006). Similarly, Draper and Brown (2004), in a multidisciplinary study on clickers usage, draw attention to several advantages of Clickers; lessons are more fun, anonymity allows students to answer without the risk of embarrassment, students can check that they understand the

material. The use of clickers makes learning more exciting and encourages students to think about their own learning process and to understand the subject of the lesson. Thanks to these devices, students immediately respond to questions asked during the lesson. Considering the answers given by the students, a discussion activity is started by the teacher about the lesson topic. Thus, it is ensured that students learn the information and integrate their own knowledge with other ideas (Debourgh, 2008).

Active Learning and Student Response Systems

Faculty members at universities have shifted their pedagogical focus from traditional teaching methods to active learning strategies. Strategies to encourage students' participation in higher-order thinking such as analysis, synthesis, and assessment are essential elements of active learning, unlike traditional lessons (Bonwell & Eison, 1991). Active participation requires students not only to express their ideas orally or in writing, but to turn their thoughts into action (Bonwell & Eison, 1991). At this point, Clickers is an important active learning tool that allows students to work actively in collaboration. In this way, students interact and work together to achieve a goal (Barkley, Cross & Major, 2014; Handelsman et al., 2004; Kirschner, Paas & Kirschner, 2009; Yoder & Hochevar, 2005).

The use of Clickers effectively transforms didactic teacher-centered learning environments into interactive student-centered learning environments. Thus, it encourages student-faculty interaction, ensures cooperation between students, increases the retention of knowledge, provides rapid feedback, and ultimately improves active learning (Meedzan & Fisher, 2009). Clickers can provide more efficient learning compared to some active learning methods such as class discussions. In a normal classroom discussion, only one or two students have the opportunity to answer a question. Even if the answer is correct, the teacher has no way of measuring whether the other students know the correct answer. In class discussions, a student who is unsure of his own answer may avoid answering because he does not run the

risk of being wrong (Martyn, 2007). However, since all students have the opportunity to respond in activities using Clickers, all given answers can be seen by the teacher.

Trees and Jackson (2007) conducted a study of the use of Clickers in large classrooms and concluded that students benefited most from Clickers exercises that encouraged student engagement. The results of the researches support the use of Clickers as they increase the active participation of the students, strengthen the measurement and testing practices and develop active learning environments. With the use of Clickers, instructors can effectively use active learning techniques in much larger classes, such as those done in small classes. In addition, active learning environments can be developed and student participation can be increased by methods such as collaborative work, group discussions, case studies or directed small group activities (Stowell & Nelson, 2007; Tivener & Hetzler, 2015).

Clickers can increase students' focus, engagement, and interaction by allowing their active participation even in large classrooms. Students use Clickers to respond to the teacher's questions and can see an anonymous summary of the class's responses in real time. Teachers can view individual student responses at any time to individually assess a student's performance or participation (Chien, Chang & Chang, 2016; Lantz, 2010).

Teaching and Learning with Clickers

Teaching with Clickers

In a standard lesson, there is often a large amount of information, terms, or concepts that students need to learn. Students can sometimes get confused in determining what they need to learn from so many concepts and miss the main message. In such cases, Student Response Systems can be used effectively to help students become aware of the main theme and content of the lesson. Clickers questions highlight critical information for students and draw students' attention to key ideas. As a result, when teachers use student response systems to highlight main ideas, it can help clarify key

concepts and prevent students from accidentally learning or memorizing incorrect information (Blood & Gulchak, 2012).

In addition to directing students' attention to the actual learning objectives of the course, Clickers can also be used effectively to review the main themes or ideas of a course and ensure that they are learned. In order to do this successfully, first of all, the main ideas of the course and the basic concepts that are expected to be learned must be clearly defined. Then, true-false or multiple-choice Clicker questions should be prepared in accordance with these concepts. These prepared questions are presented to the students at a time that seems appropriate during the lesson and they are asked to answer them. Answers can be shown to students after students have been given enough time to respond. Thus, students can get instant feedback on whether their answers are correct on the main ideas and themes of the lesson. If most of the questions are answered correctly, it is possible to move on to teaching the next concepts, as it shows that the whole class has achieved these goals. However, if more than half of the class give wrong answers, the topics can be repeated to make up for these deficiencies, as this shows that the targeted concepts are not understood (Blood & Gulchak, 2012).

Student response systems can be used to facilitate five existing principles of teaching: (1) uncovering student feedback, (2) identifying students' prejudices and assumptions about course material, (3) holding small and large group discussions, (4) promoting social cohesion in the learning community and (5) collecting anonymous data from students to support conceptual practice. (Dong et al., 2017)

About collecting student feedback to improve learning and teaching, the use of Clickers makes it less time-consuming to collect and interpret students' responses, and unlike paper-based methods, Clickers data provides quick and immediate feedback useful for formative assessment. Students can see their own and their peers' answers, and productive group discussions can be made about why students gave these answers. To identify students' assumptions or biases about course material, Clickers can be used to gather information about students' opinions, assumptions, or behavioral expectations that may affect teaching and learning processes. Compared to answering

a question by raising a hand, Clickers are an anonymous and more efficient way of collecting data about what students expect and know about the subject.

Clicker histograms visually depict students' views and can be used to engage students in critical discussions. Second, when students are asked about their views on a topic or their past experience, students are expected to give more honest answers as the answers will be given using Clickers and the answers will be displayed anonymously (Dong et al., 2017). Students can give any answer they want using Clickers, and the variety in the group's responses when the answers are shown provides an excellent "starting point" for critical thinking and discussion activities (Mollborn and Hoekstra 2010). Teaching methods that use active learning, such as small group and classroom-wide discussion methods, often result in better student learning than traditional methods in which students play more passive roles (Bruff, 2009, p. 24). Moreover, Clickers can be used effectively to promote social cohesion in the classroom. First, by viewing the data of responses using Clickers over time, information sharing among group members increases. Finally, anonymous data about students' beliefs or experiences is perhaps most efficiently collected through Clickers (Dong et al., 2017).

According to Crossgrove and Curran (2008); the great thing about Clickers is that it helps instructors quickly know how well students understand a topic. As a result of determining the wrong answers received, the learning deficiencies of the students can be detected quickly. Thus, the teacher has an opportunity to compensate for misunderstandings and can correct learning deficiencies. The use of these devices not only informs the teacher about the incomplete learning of the students, but also allows the students to recognize their deficiencies by seeing their own wrong answers (Lantz, 2010).

Students can achieve more meaningful learning by using student response systems. The Peer Instruction (PI) mentioned here provides a simple and effective model for developing inquiry strategies. In this model, a question is asked by a teacher, students respond to that question by using their clickers, a histogram of student responses is displayed, students discuss with their peers for 2-3 minutes to justify their answers, students are given a second opportunity to respond by using their clickers, and a second

histogram is prepared showing the students' responses after the discussion. Finally, the lecturer gives the correct answer. If the responses from the second histogram reflect limited understanding of the concept, the lecturer can then adapt the discussion to further discussion or provide further examples (Jones et al., 2012). If the results show that 75% of the answers are correct when the first answers are received, the teacher can see that this subject is understood, and can move forward in the lesson faster and focus on new subjects by passing the learned subjects (Anderson et al., 2011; White et al., 2011).

Promoting Classroom Participation with Clickers

Teachers use a wide variety of methods and techniques to ensure active participation of students in lessons. The common purpose of all of them is to enable students to participate in the lessons more actively and effectively and, as a result, to help their learning be more permanent. Clickers, also known as student response systems, are one of the systems actively used to encourage student interaction and participation in lessons (Bachman & Bachman, 2011; Cain et al., 2009; Hoyt et al., 2010; Sevia & Robinson, 2011; Dong et al., 2017).

Research shows that student achievement, attention, and behavior improve when students are given multiple opportunities to respond to teacher-created questions during instruction. Accordingly, student response systems offer a creative way to incorporate technology into teaching and increase the opportunity for all students in a classroom to answer questions. All students are more likely to answer questions when student response systems are used in classrooms. Because, in this process, all students can answer at the same time with the answering tools they have, instead of giving them a word to answer one by one. Similarly, some other research shows that the use of student response systems leads to increased student engagement, learning, and response rates. In addition, student response systems are seen positively by both teachers and students and are believed to increase participation and interest in classroom activities (Blood & Neel, 2008; Blood & Gulchak, 2012).

Students learn better when they are active in cognitive processes, that is, their success increases as their active participation increases (Shernoff & Hoogstra, 2001). The increase in the participation of the students with the Clickers questions is an indication that the success of the students will also increase. Some scientific reports on this subject show that the use of student response systems also improves student learning (Beekes, 2006). These studies show that students who use student response systems during lessons perform better in exams than students who do not (Kennedy & Cutts, 2005; Shaffer & Collura, 2009; Fallon & Forrest, 2011).

In classrooms, students are sometimes shy about expressing their thoughts because they are not sure of their own opinions and they do not know what their friends are thinking. In these cases Clickers can be used to overcome this problem. If you ask students a Clicker question at the beginning of a lesson about the activities they want to do in that lesson or the topic of discussion you will be discussing, it is likely that everyone, including the shy students, will answer that question. In this way, you can even involve your shy students in activities that require discussion and exchange of ideas. These shy students, who are hesitant to answer the questions asked orally through different methods, easily answer the questions asked through Clickers. Such students prefer questions that they can answer using Clickers rather than traditional questioning techniques (Lantz, 2010; Trees & Jackson, 2007). In addition, thanks to games and competitions that require information exchange within or between groups through Clickers, it can be ensured that students interact and all students express their ideas (Blood & Gulchak, 2013).

Student response systems also allow teachers to keep track of who or how many of their students are responding to questions during lessons, so teachers can continue to get answers until all or enough of their students have responded. In this way, each student is given enough time to answer the question. When a question is asked in classical classroom environments, some of their friends respond quickly, other students may not be able to complete their answers within this period. Only because of this timing problem, such students cannot attend the class in classical classroom

environments. Such problems can be easily solved in classrooms where student response systems are used (Bruff, 2009).

As a result; student response systems encourage active participation in the lesson. Especially, students who are reluctant to verbal classical questions of teachers are more willing to answer these questions when they use student response systems. Some studies have shown that students are more likely to respond to their teachers' questions when they are asked to respond using clickers rather than a verbal response (Blood, 2010; Blood & Gulchak, 2012).

Enhancing Classroom Interaction with Clickers

Clickers can be used adaptively in various disciplines and levels of academic study to improve student engagement in the learning process. Increasing student engagement makes learning more customized, especially in large classroom settings, and can optimize learning outcomes. They are also an effective educational tool for promoting interactive and collaborative learning in the classroom. Clickers, by their nature, have a great potential in terms of providing the student with the opportunity to control the learning process and thus encouraging learning. They are generally used to increase student participation, which is the main goal of teachers (Buskist & Benassi, 2012; Hake, 1998; Laxman, 2011).

Clickers offer students the opportunity to think about a question and give their own answer before the question is answered by other students. In this way, student response systems often encourage students who wait for their friends' answers before giving their own answers, to give their own answers without being influenced by any of the answers. These students, who have the opportunity to express their own ideas directly, become more interested in the lesson and then become more willing to discuss with their peers. In this way, these students will be more willing to participate in large or small group discussions that may take place after the questions are answered (Bruff, 2009).

Eastman, Iyer, and Eastman (2011) have found that students are more attentive when they use Clickers, they feel more comfortable in class participation, and they enjoy the lessons more. The increase in this two-way interaction allows students to express their thoughts more and to increase information exchange among peers (Anderson, 2003; Marks, 2000). Moreover, it encourages both active collaborative learning and class participation. In other words, increasing the interaction between teacher and student also increases students' participation in the lesson (Gallini & Moely, 2003; Blasco-Arcas et al., 2013).

Even if the questions are simple, students think deeply to find the right answer when trying to answer a question using Clickers. Because thinking and reviewing background knowledge are steps that cause students to think deeply, questions answered using Clickers cause students to use these techniques during the lesson. When students use Clickers, they believe that they think and learn more in lessons (Hoekstra, 2008; Lantz, 2010).

Providing Instant Feedback with Clickers

One of the most useful uses of clickers in the classroom is that they allow instant feedback (Laxman, 2011). By providing instant feedback to students with the help of Clickers, students are involved in active learning processes and this positively affects students' success (DeBourgh, 2007). Clickers provide immediate feedback to the teacher on student motivation, interest, and student understanding of content. Students stated that Clickers helped them focus, confirm their understanding, and learn the material more effectively (Bojinova & Oigara, 2011). While answering the questions, the teacher allows students to discuss their answers with their peers before showing them the correct answer. This process provides an opportunity for collaboration, active learning, peer instruction, and interaction. It also allows students to understand which answers they consider wrong or correct and why. In brief, Clickers help the teacher get instant feedback on how well students are following the material presented in class,

and potentially also encourage not only student engagement but performance. (Bojinova & Oigara, 2011).

Immediate feedback and correction of errors are very important parts of the teaching process and allow students to identify and correct their mistakes before it is too late. When the student responds to a question or activity, feedback is given when a message is sent to the student by any method about the correctness or incorrectness of this answer. In this process, with the help of Clickers, students receive instant feedback on the correctness of their answers and what other students' answers are, just a few seconds after they answer. Thus, students can instantly realize their wrong or incomplete learning and focus on the areas they think they are lacking (Beatty, 2004; Kulhavy, 1977; Lantz, 2010).

Moreover, as a result of Clickers questions, teachers can change their lesson plans and manage their lessons more effectively as a result of the feedback they receive before it is too late. For example, if Clickers results show that students understand a topic, the teacher can now move on to the next topic without wasting any more time on that topic. However, if students have deficiencies in their learning, the teacher can spend more time addressing the missing points and correcting this missing information. It is very difficult to implement such applications without Clickers, especially in large classrooms (Bruff, 2009).

Assessing Students' Learning with Clickers

Clickers can be used as assessment tools, as well as being used for different purposes in the teaching process. Students can see the exam questions prepared by the teachers with the help of slides and can answer the questions with the help of Clickers. The important thing here is that each student is given enough time to answer the questions. After the students have answered the questions, the teacher can easily evaluate the answers, taking into account different statistics. In this way, both time and paper are saved as the teacher does not have to evaluate the questions manually. In addition, by using Clickers, a pre-test can be applied at the beginning of a new lesson and at the

end of the lesson, by applying the same exam as a post-test, students' learning in that lesson can be checked. Moreover, by preparing short questions about a given assignment, it can be checked quickly at the beginning of the lesson whether this homework has been done (Blood & Gulchak, 2012).

Student Response Systems (Clickers) can also be used in control of students' class attendance. In fact, it's probably not a good idea to use clickers for taking attendance per se, especially in large classes. Responses from students do not imply that the student is actually in the classroom, but rather assures that the clicker device is there. It is possible for a student who will miss the lesson to give his clicker to another student who will try to answer both students' questions in secret. While not useful for classroom attendance control, clickers can be used to administer in-class exams. Lincoln (2008) found that nearly three-quarters of students like clicker exams because they get instant feedback on their performance. Also, using clickers to assess students' retention and comprehension is effective because they provide feedback to teachers in these areas (Anderson et al., 2010). The anonymity provided by clickers can reduce students' anxiety. Moreover, honest answers and immediate feedback can increase students' hope of success in a subsequent test (Fallon & Forrest, 2011)

Providing Student Anonymity with Clickers

Students often do not volunteer to answer questions when their teachers ask them directly, as they are afraid of giving wrong answers. However, in student response systems, students do not see which answers their other friends have given, so this helps students answer questions anonymously more comfortably. Students, who are afraid of giving wrong answers in front of their peers, participate more actively in the lesson with the help of clickers questions. The anonymity provided by Clicker questions allows a wide variety of opinions to be heard in the classroom. As a result, clickers are very democratic tools in making classroom decisions or involving more students in activities (Lantz, 2010).

Student Response Systems (Clickers) encourage students to actively participate in activities and to express their understanding of the subject, thanks to the anonymous response opportunity provided by the system. It helps students overcome the fear of giving a wrong answer and, as a result, the fear of being ridiculed by the instructor or other students. Clickers encourage student discussion on the topic covered in class. This can be achieved in two ways: students can discuss possible answers on multiple choice questions with their peers and then choose the answer they think is correct, or alternatively, students can be asked to choose an answer based on their understanding of the topic. After showing the distribution of results and a short discussion with their peers, they are given a second chance to answer the same question. In addition, Clickers provides students and instructors with quick and valuable feedback on the class's overall understanding of the content material covered during the Q&A sessions. Therefore, this technology can be used as a formative assessment tool and can help instructors assess the difficulties students face in a particular subject (Bojinova & Oigara, 2011).

Making Learning Fun and Increasing Student Interest with Clickers

Student response systems are very useful tools for engaging students who prefer to remain passive and not answer questions in traditional lessons. Studies show that students' interest generally increases in lessons in which student response systems are used, and disinterested students feel more willing to participate in the lesson (Kay & Lesage, 2007). Such students mostly prefer to stay passive in the lessons because the lessons do not interest them or they do not feel motivated enough. However, it was observed that when they were asked to answer a question using student response systems, their interest increased and they felt more motivated (Elliot, 2003). In addition, thanks to the time provided by Clicker questions, students have the opportunity to rest and refresh their attention (Laxman, 2011). Student response systems make the classes more fun while making the class more interactive, allow all students to compare their knowledge with the knowledge of their other friends, and cause even reluctant students to feel included in the lessons (Lantz, 2010.). Some

studies have stated that most of the students like the use of student response systems in their classrooms (Barnet, 2006).

One of the reasons why some students find classroom activities boring and feel reluctant is because they are afraid that their teachers will choose them for the answer. The stress and anxiety caused by this situation prevent these students from enjoying the lessons. At this stage, students find the lessons more interesting and entertaining as student response systems allow students to answer anonymously whenever they want (Chien et al., 2016; Stevens & Fontenot, 2017, Walker et al., 2018).

Some courses may be intense and take long periods due to their content. The intensity of the information they need to learn in these lessons and the length of the lessons can cause the students to get tired, lose their motivation and distract themselves as a result. Clickers questions, which are carefully placed in some parts of these long lessons, can cause students to rest for a short time, increase their motivation and their attention span (Cutts et al., 2004; Lantz, 2010).

As a result, students of this age are fond of using technology and Clickers are fun to use because Clickers follows the principles of game-based learning. Since twenty-first century students have grown up using computer games, short sessions using Clickers make the lesson time more enjoyable by eliminating the monotony of the lesson (Bojinova & Oigara, 2011).

Initiating Effective Discussions with Clickers

It is very important for students to participate in small group discussions during the lesson to improve their learning experience. Having students discuss a particular question with their peers is one of the most beneficial ways to involve them in the learning process. When students actively learn the subject matter, they tend to learn the material more deeply and faster. Small group discussions allow more students to actively participate in class-wide discussions. Student response systems can make small group discussions more beneficial in this regard. Students who would normally

be reluctant to participate in small group discussions can express their ideas more freely through the use of student response systems and participate more in these discussion activities. Because classroom response systems allow instructors to monitor student responses, students' response to a question using clickers before or after a small group discussion creates an accountability that can encourage students to participate more seriously in that discussion (Bruff, 2009, p. 35).

With the help of the answers given as a result of the Clickers questions you asked the students in any part of the course, discussions with high student participation can be started in the classroom. In order to initiate an effective discussion environment in this way, after the students have answered the questions, some students may be asked to explain the reasons for their answers. While students explain the reasons for their answers, other peers can learn from their explanations. In particular, some of the students who gave the most preferred answers may be asked to explain their reasons. If no student volunteers in this regard, teachers can encourage students with small explanations. Students can be asked to think about the wrong answers and to explain why they might have been chosen (Bruff, 2009, p.32).

There are various uses of classroom response systems to generate and encourage classroom-wide discussions. As a typical practice for doing this, the 'think-pair-share' classroom participation technique, first proposed by Lyman (1981) and used by many instructors, can be termed a 'think-vote-share' practice when applied by using Clickers devices. Instructors who use clickers in this way first ask their students a multiple-choice question. Students reflect on the question and submit their answers using their clickers. The instructor then displays the system-generated bar graph showing the results of the question, showing how many students chose each answer option. These results, together with the exchange of ideas that students make before submitting their answers, shed light on and enhance the classroom-wide discussions implemented by the instructor (Bruff, 2009, p. 25).

During the discussion, students can be encouraged to express their thoughts about each other's answers and comments. The discussions that the students have among themselves voluntarily are much more productive than the discussions conducted

under the leadership of teachers. In addition, if students touch on the main ideas of the lesson and talk about it, it should be avoided to comment on those topics again. Students learn such ideas more permanently when they discover it on their own. In this process, the answers to Clickers questions should not be disclosed immediately. This will prevent students from having a discussion about that topic. Without fully explaining the answers to the questions, students can be encouraged to continue the discussion as much as possible (Bruff, 2009, p20).

Conclusion

Student response systems are very useful tools for both students and teachers. For teachers, these response systems provide instant feedback on students' learning processes and allow them to measure how well the targeted concepts in the lesson have been learned by the students. Student response systems are also very effective tools for actively involving students in the course process, promoting student interaction, and providing students with feedback on their learning. Moreover, as students will feel more comfortable, the relationship between student and teacher will improve and students will be more willing to participate in the lessons as they enjoy the lessons more. In summary, student response systems are devices that are useful and effective in lesson processes for both teachers and students (Blasco-Arcas et al., 2013; Caldwell, 2007).

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