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Developing Learners' Second Language Communicative Competence through Active Learning: Clickers or Communicative Approach?

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ABSTRACT

The purpose of this study was to compare the impact of clickers, the communicative approach and the lecture method on the communicative competence development of learners who were taught English a second language (ESL). Ninety nine pupils from three primary schools participated in the study. Quasi-experimental non-randomised pre-test posttest control group design was adopted for the study. A battery of English Language Listening Tests and English Language Speaking Tests were used to measure pupils' communicative competence. Study's data were analysed using boxplot, paired samples t-test, Analysis of covariance and multiple regression analyses. Findings indicated that, there was a significant difference between the communicative competence pre-test and post-test scores of pupils in each of the groups. Furthermore, across the groups, there was a significant difference in pupils' communicative competence post-test scores based on the teaching strategy. Multiple regression analysis results revealed that 84.9% of the variance of pupils' communicative competence was accounted for by a combination of the predictor variables. Speaking skills was the potent contributor while gender did not make a significant contribution to the prediction of pupils' communicative competence in ESL classrooms.

Keywords

Second language, Active learning, Clickers, Interaction, Communicative competence

Background

Different pedagogical strategies have varying degrees of success. Students' academic performance may be influenced positively by their active engagement in the classroom (Emerson & Taylor, 2004; Johnson, 2005). In developing countries like Nigeria, teacher-talk, and the persistence of triadic initiation-response-feedback (IRF) mode of discourse dominate classroom instructional process (Oluwole, 2008; Onukaogu, 2001). In traditional classrooms, students engage in recitation of scripts, minimal interaction, and less involvement in productive thinking. Interaction between the students, the learning materials, other students, and the teacher are significant to learning outcomes (Singh & Mohammed, 2012; Smith, Hardman & Higgins, 2006).

Second language (L2) learning requires that learners take ownership of learning activities through interaction, active participation and the use of the target language in a more authentic context (Lantolf, 1994; Tabber & deKoeijer, 2010). Despite English being the medium of instruction in Nigerian schools, many students are academic underachievers because of their low level of communicative skills in English caused by teachers' reliance on the lecture method (Adesemowo, 2005; Oluwole, 2008). The traditional "chalk and talk" method which involves the teacher talking to students and writing notes on the chalkboard results in rote learning, learners' low level of retention, and passive learning. Onukaogu (2001) remarked that the traditional method of teaching provided learners fewer opportunities to participate actively in class; hence learners are less confident to express themselves.

Interaction is a key element to successful instructional process. According to Singh and Mohammed (2012), knowledge is best constructed when learners involve in negotiation of meaning. In the recent time, most educational theories as exemplified in Figure 1 emphasise social learning and learner-centred learning in knowledge construction. Studies have shown that classroom interaction promotes improved learning outcomes, and critical thinking (Chou, 2003; Kay & LeSage, 2009), and captures students' attention and interest (Sims, 2003). Individual learning styles influences interaction and participation in the classroom (DeBourgh, 2008). There are active learners (learn by doing), sensing learners (learn by discussing possibilities and relationships), visual learners (learn when they see things), and the sequential learners who gain understanding in linear steps (Felder & Spurlin, 2005). The multimedia learning principle of Mayer (2001) proposes that auditory information is less contributory to effective learning than

when text is combined with visual images. Therefore, the multidimensional nature of an interactive and a communicative classroom suits learners of different learning styles.

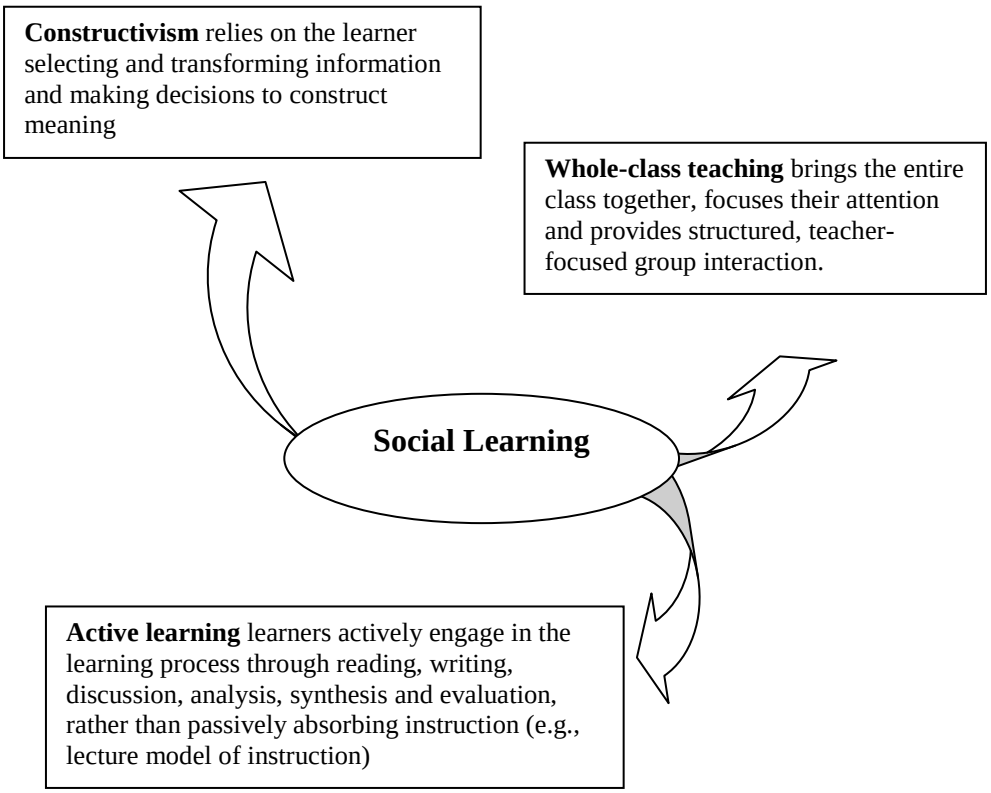

Figure 1. Student active engagement in social learning
(Adapted from SMART Technologies, 2006)

The three learning theories in Figure 1 emphasise the importance of student's active participation in the instructional process (Beeland, 2002; Singh & Mohammed, 2012). Students would be motivated to learn when they are actively engaged in learning activities than they would have when they are passive in the classroom. Ensuring interactivity in the traditional classroom is challenging (DeBourgh, 2008).

In the last two decades, one of the most influencing developments in language learning is the introduction of digital technology. The introduction of interactive teaching approaches into schools has had an increasing impact on the way teacher teach, and the process students learn (Facer, Sutherland, & Furlong, 2003). Communicative approach (CA) is directed towards enhancing classroom interaction and learners' participation in communication during the instructional process (Menking, 2002; Qinghong, 2009). CA is a classroom strategy that involves pairing and grouping of learners to enhance negotiation of meaning, development of confidence by engaging in tasks and activities that are fluency-based. The role of a CA teacher is more of a facilitator of learners' task performance because learners do more of the talking than in the traditional classroom. With CA, activities and tasks set up by the teacher include real life situations which involve games, role-playing, simulations and problem-solving.

Some strategies employed to promote learners' active engagement in a second language (L2) classroom have been criticised. For example, the use of flash cards and students' thumbs to signify responses have been criticised to lack the privacy that builds students' confidence in the class (Caldwell, 2007). Moreover, communication between interlocutors is either distorted or interrupted due to low bandwidth and unreliable Internet network when Mobile phones, MP3 players and Smartphones are used for the learning process (Huffman, 2011). However, one technology, which facilitates students' active engagement during the instructional process, is clickers (Lantz, 2010; Lea, 2008; Wu & Gao, 2011).

Clickers are devices similar to the TV remote control used by the audience to respond to questions on a TV programme known as "1 vs 100". Clickers provide students the opportunity to answer questions anonymously in class (Caldwell, 2007; Kelly, 2007; Lantz, 2010). Clickers' handsets transmit students' responses to the teacher's questions unto the receiver which is attached to the Universal Serial Bus (USB) port of the teacher's computer. The device provides immediate feedback as the distribution of students' responses in the form of a bar graph is displayed on a projection screen (Johnson & Lillis, 2010). Clickers' questions may be in the form of true/false or yes/no answers, multiple-choice responses, or short answers.

One of the prominent advocates of clickers' use in teaching and learning is Eric Mazur; who employed the technology for peer-instruction in physics education. Eric Mazur's peer instruction involves the short presentation of key points, presentation of a Concept Test (short conceptual questions on subject being discussed), allowing students to formulate answers, and providing students the opportunity to discuss their answers with peers (Fies & Marshall, 2006; Mazur, 1996; Simelane & Skhosana, 2012). The essence of concept test is to prompt students' interaction and critical thinking, as well as assess their understanding of concepts based on peers' views. Previous research report that clickers do not only wake students from lethargy periodically to answer questions, but trigger learners' critical thinking and active engagement (Fies & Marshall, 2006; Mintzes & Leonard, 2006). Pedagogical use of clickers encourages self-directed learning (Carnevale, 2005; Duncan, 2006) and sustains students' attention (Hoffman & Godwin, 2006). Furthermore, clickers have been reported to provide Spanish language learners opportunities for more interactive activities, active engagement, retention and improved learning outcomes (Fritz, n.d; Pennestri, n.d). Recent research supports the effectiveness of clickers among French learners, as a tool that provides immediate feedback and promotes students' interaction and critical thinking.

Theoretical framework

This study was based on the active learning theory. Active learning theory has been well discussed in education, especially with respect to the adoption and integration of technology in the classroom (Hoffman & Godwin, 2006). Active learning is a subfield of machine learning which occurs when a learning algorithm is given access to a pool of unlabelled examples and is also allowed to request the label of specific examples from the pool. By this, the function that perfectly predicts the label of new examples is learned as much as possible in the process of few labels. On the contrary, with passive learning, requested examples are chosen randomly (Hanneke, 2009).

Active learning is anything course-related that all students in a class session are called to do other than simply watching, listening and taking notes. It keeps students awake and provides the opportunity for high-level of learning and retention unlike what happens in the traditional lecture classroom. Authentic communication in the classroom is a basic element of active learning (Felder & Brent, 2009). The theory of active learning can be linked with the quote of the Confucius "I hear, and I forget, I see, and I remember, I do, and I understand" (Braxton, Jones, Hirschy & Hartley, 2008; Nguyen & Trimarchi, 2010). Unlike in the traditional classroom, active learners use more opportunities to decide about aspects of the learning process; they move beyond mere acquisition of information to getting engaged in higher order thinking tasks of analysis, synthesis and evaluation. In this study, the interventions were introduced to stimulate a two-way interaction in the classroom. Rather than being involved in memorisation and regurgitation of sentences, the intervention groups were involved in the development of their speaking skills by talking about what they learned by using the target language during discussions.

Statement of the problem

Although the apparent benefits of clickers in teaching and learning is being reported, research on the use of clickers in ESL classrooms, its adoption and integration into Nigerian education system is yet to receive adequate attention because clickers' adoption is still at the infancy stage. Moreover, the use of clickers at the elementary level of education is not well documented. Majority of research on the effectiveness of clickers in the classroom only compared the use of clickers to the lecture method; this study was undertaken to compare L2 learners' communicative competence development based on the use of clickers, communicative approach and lecture method.

Research questions

Two hypotheses and a research question were raised to guide this study:

1. The communicative competence pre-test and post-test scores would not be significantly different for pupils in each of the groups (the communicative approach, the clickers and the control groups).
2. The post-test communicative competence scores of pupils across the groups would not be significantly different.
3. What are the relative and joint contributions of gender, classes of pre-test score, listening and speaking skills to pupils' communicative competence in ESL classrooms?

Method

Design

The study used a pre-test, post-test quasi-experimental non-randomised control group design with two experimental groups exposed to two conditions (the communicative approach and clickers) and a control group taught with the lecture method

Participants

The population of this study was all primary six pupils in a local government in Ogun State, Nigeria. Multi-stage sampling technique was employed to select three schools. A sample of 99 pupils (10 and 13 years) from the three schools which participated in the study conducted between September, 2010 and April, 2011 was selected based on convenience. There were 32, 41 and 26 pupils in the communicative approach, the clickers and the control groups respectively. All the groups were similar with respect to socio-economic background; school location, language of the environment and school type (public schools). In each group, pupils with pre-test scores below the group's mean were treated as low pre-test scorers while those with pre-test scores above the group's mean were treated as high pre-test scorers. The results of the Levenes test of homogeneity of variances for the groups show no significant differences in their English language pre-test scores ($F(2, 96) = .51 > .05$); hence the assumption of homogeneity of variances was not violated.

Instruments

To measure pupils' communicative competence, performance scores in English Language listening and Speaking Tests (developed by the researcher and a 7-man review committee made up of primary school English teachers) were used. All test items were derived from the content of the English textbook used within the context of the study. The instruments were pilot tested on a sample of pupils who were not involved in the present study. During the pilot-study, all instruments were re-administered to the same sets of pupils as post-test two weeks after the initial administration.

English language listening tests

The English Language Listening Tests (ELLTs) 1, 2, 3 and 4 were administered in all the groups to assess pupils' listening ability in ESL classroom. Each of the ELLTs comprised of a short comprehension passage and five short questions. The comprehension passages were summaries of selected comprehension passages contained in the pupils' English textbook. Some of the multiple-choice questions for the passages in the textbook were changed into short answer questions and sentence completion questions. To each comprehension passage question, obtainable marks ranged between 0 and 3. The test re-test reliability of English Language Listening Tests 1, 2, 3 and 4 were .94, .93, .86 and .87 respectively.

English language speaking tests

English Language Speaking Tests (ELSTs) 1 and 2 were administered to assess pupils' English speaking ability. The English Language Speaking Test 1 consisted of ten items (nine mini-guided-situation and a picture-description test items) while English Language Speaking Test 2 comprised of seven mini-guided-situation and one picture-description test items. All items of the English Language Speaking Tests 1 and 2 were generated to prompt pupils' use of the target language. Selected exercises in the pupils' English textbook were changed into sentences that reflect guided real-life situations, which required pupils' responses. The clickers' questions were used to trigger interaction and discussion after the first round of voting, so as to provide learners opportunities for speech practice as they argued out their initial ideas with peers before answering the questions again. Testing the pupils' speaking skills followed the one-to-one interviews. Pupils' performances in each item were rated on a scale of 0 to 5. The test re-test reliability of English Language Speaking Tests 1 and 2 were .87 and .88 respectively.

Twelve copies of pupils' listening and speaking scripts were selected as a representative sample of pupils' responses. The selected scripts were subjected to double blind review by an independent rater and the teacher to each group. The inter-rater reliability coefficient of the raters' judgement was 0.99. The range of possible scores for listening test was from 0 to 60 and speaking test ranged between 0 and 90. For the overall communicative competence, the range of possible value was from 0 to 150. Obtained marks in all the listening and the speaking test items were summed up to estimate the total communicative competence score for each pupil. Scores above 59 indicate high communicative competence and scores below 59 indicate low communicative competence.

Validity of instruments

All instruments used for this study were reviewed by the review committee, two e-learning lecturers, one quantitative researcher and two English language lecturers before the final drafts were produced.

Equipment

The equipment used for this study was the eInstruction's clickers. 48-piece of Radio Frequency mode of clickers provided by eInstruction to support the study was distributed and collected at the end of the lesson on a daily basis to pupils in the clickers' group.

Procedure

Approval to conduct the study in all the participating schools was granted by the Local Government Education Authority and the head-teachers of the schools. Participating teachers and parents of pupils signed the consent form. On the form, parents had the opportunity to decline their child's participation or thereafter withdraw in the process of the research without the pupils being penalised. 100% of the consent forms were returned with positive responses. In the first week of the study, the purpose of the research was introduced to the pupils before administering all the English language tests to assess pupils' initial level of language skills. Thereafter, the groups were exposed to different instructional conditions. During the research, the three groups were taken through the same content in oral and written comprehension, composition, and grammar activities.

In the clicker's group, grades were not attached to pupils' responses. The clickers were used to trigger learning by doing instruction, and catalyse interaction, negotiation of meanings, and the use of the target language in oral communication during discussions. The clickers' displayed feedback and oral output in a social context contribute to learners' improved oral communication. The procedure about the use of clickers in anonymous mode was practised with the pupils before its continued daily use during English lessons. Two or three questions were posed by the teacher during the lesson; students respond through the wireless clickers' keypads; teacher prompts group or peer discussion after the display of responses with no clue to the correct answer, students respond a second time through the clickers' keypads, and correct answers are indicated, followed by the teacher's explanation, comments and contributions.

Pupils in the communicative approach group worked in groups. During lessons, the teacher assigned different tasks of the lesson content and gave instructions on how to accomplish the assigned tasks. The teacher went around prompting meaningful discussions and making clarifications. Groups' representative(s) presented a summary of their activities to the class. Groups' discussion were summarised by the teacher on the chalkboard. In the control group, the teacher used the lecture method. Pupils raised their hands to signify their willingness to answer the teacher's questions. At the eleventh week of the study, the three groups were post-tested with the same sets of tests used at the pre-treatment stage in order to determine the effects of the teaching strategies on pupils' language skills development.

Data analysis

The t-test statistics was used to determine whether a significant difference existed between the pre-and post-test scores of each group while the multiple regression analysis was performed to test the contribution of the independent variables to the prediction of the pupils' L2 skills development. Analysis of Covariance (ANCOVA) was conducted to control for differences in pre-test scores' while analysing the significant differences in the means of groups' language skills development.

Results

Table 1. Comparison of communicative competence pre-test and post-test scores

Group	Type of Test	N	Mean	SD	df	t	Sig.
Comm. Approach	Pre-test Scores	32	49.6	21.8	31	-8.982	$p < .05$
	Post-test Scores	32	69.4	19.2			
Clicker's	Pre-test Scores	41	61.2	24.3	41	-11.232	$p < .05$
	Post-test Scores	41	88.1	17.5			
Control	Pre-test Scores	26	67.8	21.4	25	.991	$p > .05$
	Post-test Scores	26	63.8	17.0			

The results of the paired samples t-test in Table 1 compared the English communicative competence pre-test and post-test scores of pupils in the communicative approach, the clicker and the control groups. The results indicated that there was a statistically significant difference between the communicative competence pre-test scores and post-test scores for pupils in the communicative approach and the clicker's groups. The results also revealed no statistical significant difference between the communicative competence pre-test scores and post-test scores for pupils in the control group.

The results suggest that pupils in the communicative approach and clicker groups recorded higher communicative competence scores at the post-test than in the pre-test. Pupils in the control group had very similar communicative competence pre-test and post-test scores. The results suggest that unlike in the traditional classroom, pupils' communicative competence in the ESL classroom would improve when learners are exposed to the communicative approach, and the clickers. The hypothesis "the communicative competence pre-test and post-test scores would not be significantly different for pupils in each of the groups" was thus rejected.

The results of the Analysis of Covariance (ANCOVA) in Table 2 show that the overall model is statistically significant ($F_{(2, 92)} = 54.93$, $p < .05$) and that after adjusting for the pre-test language skills development scores, there was a significant effect of treatment on pupils' post-test language skills development scores ($F_{(2, 95)} = 38.28$, $p < .05$). The results further show that 62.3% of the total variance in pupils' post-test communicative competence scores was accounted for by the three levels of teaching strategies after controlling for the effect of pupils' pre-test communicative competence development scores. The outcome thus indicates that the strength of the relationship between the teaching strategies and pupils' posttest communicative competence scores in the ESL classroom was very strong.

Table 2. Effect of treatment on pupils' communicative competence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	26769.72	3	8923.24	54.93	.000
Intercept	20213.07	1	20213.07	124.43	.000
Pre Comm. Competence	15462.22	1	15462.22	95.18	.000
Treatment	12435.90	2	6217.95	38.28	.000
Error	15432.28	95	162.45		
Total	609021.00	99			
Corrected Total	42202.00	98			

Table 3 presents the outcome of the univariate analysis of covariance for the effect of the clicker technology, the communicative approach and the lecture method on pupils' communicative competence post-test scores in the ESL classroom. The results showed that there was a significant effect of the teaching strategies on the pupils' communicative competence development in the ESL classroom ($F(2, 95) = 38.28$, $p = < .05$). The results suggest that pupils' levels of communicative competence differed across the three teaching strategies. In other words, pupils' levels of communicative competence would be determined by the type of teaching strategy they are exposed to in the ESL classroom.

Table 3. ANOVA for the effect of treatment on pupils' communicative competence

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	12435.896	2	6217.948	38.28	.000
Error	15432.282	95	162.445		

In view of the statistically significant difference in the English language communicative competence post-test scores across the groups, a follow-up test was conducted to evaluate pairwise differences among the adjusted means for communicative competence post-test scores. The Bonferroni procedure was used to control for Type I error across the three pairwise comparisons (see Table 4).

Table 4. Comparisons of differences in communicative competence post-test scores by group

(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Comm. App.	PRS	-12.3*	3.08	.000	-19.8	-4.8
	Control Group	15.8*	3.52	.000	7.2	24.4
PRS Group	Comm. Approach	12.3*	3.08	.000	4.8	19.8
	Control Group	28.0*	3.22	.000	20.2	35.9
Control Group	Comm. Approach	-15.8*	3.52	.000	-24.4	-7.2
	PRS	-28.0*	3.22	.000	-35.9	-20.2

* $p < .05$.

Table 4 shows the results of the evaluated pairwise differences among the adjusted means of communicative competence post-test scores in all the groups. The Bonferroni pairwise comparisons results indicated that the mean communicative competence post-test scores difference between the communicative approach group and the control group was statistically significant. Moreover, the results indicated that the mean communicative competence post-test scores difference between the PRS group and the communicative approach group was also statistically significant. Similarly, the results further indicated a statistically significant difference between the mean communicative competence post-test scores of the PRS and the control group.

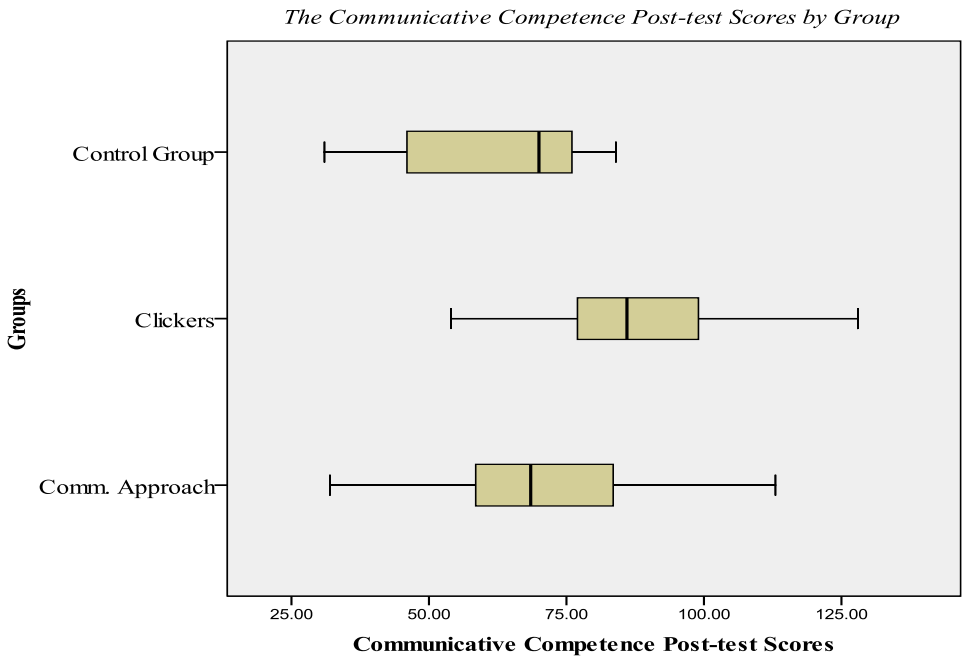

Figure 2. Boxplot of communicative competence post-test scores by group

In Figure 2, the boxplot shows that the clickers' group had the highest median communicative competence post-test score while the control group recorded the lowest median communicative competence post-test score. The interquartile range of the pupils' communicative competence post-test scores differed from one group to another. The overall range of the data showed that the control group had the highest range while the clickers' group had the smallest range. The range for the communicative approach group was higher than that of the clickers' group.

Meanwhile, the spread of communicative competence post-test score scores in the clickers' group was slightly higher than that of the communicative approach group. The communicative competence post-test score distribution in the control group was positively skewed, indicating that many learners in the group had lower communicative competence post-test scores as compared to those with high communicative competence post-test scores. The clickers' and the communicative approach groups appear negatively skewed indicating that a majority of the pupils had improved communicative competence scores. Meanwhile, the communicative competence post-test scores of the communicative approach group were slightly more negatively skewed than that of the clickers' group. The results thus revealed that more pupils experienced improved communicative competence at the post-test in the clickers' group when compared with those in the communicative approach group. There were no outliers in the distributions across the groups.

Overall, the results suggest that, pupils' English language communicative competence would improve if they are exposed to communicative approach and clickers. However, there may be no improvement over the time scale of these observations in the pupils' communicative competence development if ESL is taught with the lecture method. Moreover, the results also show that pupils taught with clickers would experience more of communicative competence than those exposed to the communicative approach and the lecture method. The hypothesis "the communicative competence post-test scores of pupils across the groups would not be significantly different" was therefore rejected.

The results of the multiple regression analysis in Table 5 show that a combination of gender, classes of pre-test, listening and speaking skills contributed a coefficient of multiple regression of .925 and a multiple correlation square of .849 towards the prediction of pupils' level of communicative competence in English language. The results thus suggest that 84.9% of the total variance of the communicative competence attained by pupils in the ESL classroom is accounted for by the combination of the independent variables. The results further reveal that, the analysis of variance of the multiple regression is significant (F = 138.46, p = .000). Moreover, while pupil's speaking ability provides the best contribution while pupils' class of pre-test scores is the least significant contributor to the prediction of pupils' communicative competence development. Gender did not make a significant contribution to the prediction of pupils' communicative competence development.

Table 5. Multiple regression analysis of the predictor variables and pupils' communicative competence

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	16.38	4.17		3.90	.000
Gender	.65	1.70	.02	.38	.705
Classes of pretest	-18.84	2.53	-.46	-7.40	.000
Listening skills	.63	.06	.47	11.90	.000
Speaking skills	.64	.04	.97	16.04	.000
Model summary					
Multiple R (adjusted) = .925					
Multiple R2 (adjusted) = .849					
Standard error estimate = 8.07					
F = 138.46					
Sig. = .000					

Discussion

The purpose of this study was to investigate whether pupils' communicative competence in the traditional ESL classroom would be better improved with the teacher's adoption of the communicative approach only or the use of the clickers in a communicative approach context. This study reveals that, unlike in the control group, the English language communicative competence of the clickers' group increased from the pre-test to the post-test. This outcome is confirmed by the findings of FitzPatrick, Finn and Campisi (2011) which indicate that the use of clickers is associated with increased learning performance. The control group's low communicative competence may be associated with discipline anxiety, often prompted by teacher's negative criticisms, or corporal punishment meted out for pupils who gave wrong answers. In such a learning environment, pupils are likely to be unwilling to talk in class. The interactive element of clickers enables learners to showcase their levels of understanding of the lesson and to develop new knowledge while they test out their knowledge by sharing information with others. As the pupils in the clickers' group discussed and shared opinions collaboratively, after casting their votes to respond to teacher's questions in the first instance, they learned a lot from one another. Moreover, the process of negotiation of meaning could have increased the quantity of language practice opportunities which the pupils needed to improve their oral communication fluency and academic performance. Moreover, the clickers' group peer-interaction was with less intrusion from the teacher. The teacher mostly acted the role of what Giri (1996) and Littlewood (1981) referred to as a facilitator who offers suggestions regarding solutions to the assigned tasks. The results of this study confirm the relevance of interaction in the L2 learning process; where it is essential for the learners to practice the use of the target language in an authentic context. That the clickers motivated the pupils to oral communication skills' development through practice more than they would have in the traditional classroom implies that the technology created new pathways to language learning.

Findings of this study also reveal that the communicative approach group improved more at the post-test when compared with their pre-test performance. Earlier research outcomes also show that the communicative competence

level of students who were taught with the lecture method was low when compared with those who were exposed to electronic board (Zha, Kelly, Ko Park & Fitzgerald, 2006) and task-based learning (Livingstone, 2010, Liqun & Xiubo, 2011). Pupils in the communicative approach group were exposed to a series of interactive tasks, such as role-play, drama, dialogues, games, and game-like activities during their English lessons. Besides, tasks were sometimes supported with pictorial illustrations, which could have enhanced pupils' understanding and comprehension of concepts. The tasks could have provided the pupils with the opportunity to make more input and increased time of oral production of the target language. Such opportunities were lacking in the traditional classroom, where the teacher did most of the talking and the pupils sat and passively listened. Where pupils had the opportunity to talk, their utterances were well tailored by the teacher for grammatical correctness. Informally, the researcher observed that pupils in the traditional classroom mostly acted the teacher's scripts by doing whatever she wanted in the way the teacher desired. Long and Porter (1985) remarked that learners' perceptions of the teacher as a judge constitute a limitation to learners' speech confidence and speech practice in the target language.

This study reveals an outstanding improvement in the communicative competence of pupils in the clickers' classroom as compared to their counterparts in the communicative approach and the control groups. The outcomes of this study match up with the findings of earlier researchers (Basoglu & Akdemir, 2010; Gok, 2011), which reveal that, learning achievement is better improved when clicker is integrated within discussion session than the adoption of non-technology interactive pedagogies or the use of flashcards. However, Morgan (2008) reported no significant difference in the academic performances of learners exposed to clickers and those taught with the lecture method. Verkler (2004) opines that a language is best learned when a child engages in rich and authentic communication with peers, when appropriate technology is employed to enhance the interactive session. Exposing the pupils to graphic illustrations (bar charts) and activity-oriented learning experience, combined with the creative integration of the clickers in class, may have made language learning more appealing to the pupils. The facilitated zest might have contributed to the improved communicative competence experienced by pupils taught with clickers in their ESL classroom.

The outcome of this study underscores the importance of learners' active engagement and ownership of learning in L2 classroom through dialogic communication. Moreover, the fun from using clickers could have triggered pupils' interest in ESL learning more that they would have in a non-technology communicative approach context. The ANCOVA analysis rules out the assumption that the difference observed across the groups was due to teacher's effect or the conduct of the research. Pupils in the communicative approach group experienced a non-threatening classroom atmosphere, and teacher's non-interference in group discussions, but the anonymity of clickers group's responses might have minimized the degree of learners' exposure to embarrassment. Such non-embarrassing learning environment may have encouraged the less confident pupils in the clickers' group to use the target language than those in the communicative approach only context, let alone those in the traditional classroom. The researcher thus contend that learners' language oral communication skill is best developed when clickers is combined with peer instruction than when pupils learn language communicatively without the technology.

On the findings regarding the contributions of the independent variables to the prediction of pupils' communicative competence development in the ESL classroom, all the four variables were significant joint contributors to the criterion variable. Relatively, pupils' classes of pre-test scores, listening and speaking skills contributed significantly to the prediction of the criterion variable. The outcome of this study tallies with earlier findings (Bozorgian, 2012; Bahrani & Sim, 2012). Perhaps the low pre-test scorers were more attentive and ready to have a good grasp of the subject content in order to ensure that they contribute meaningfully during the group discussion. Moreover, the non-significant contribution of gender to the prediction of pupils' English language communicative competence is in harmony with the findings of Huang (2010), and MacIntyre, Baker, Clement, and Donovan (2002). The outcome of this study may not be unconnected with the fact that both boys and girls in this study were introduced to English language at the same stage of education and grew in a social setting where communication outside the school was in the native language.

Conclusion and implications

The interactive features and reduced cost have added to the popularity of clickers in the education sector. Non-native speakers require interactive learning environment in order to improve their proficiency in English. As the use of clickers in education is gaining ground in various disciplines, the outcome of this study underscores the efficacy of

clickers in ESL classrooms. Moreover, the use of clickers with peer instruction serves as an important strategy of using technology to enrich learners' learning experience and improve their communicative competence in the ESL classroom. Moreover, the study has contributed to the fledging literature on whether clickers can make a significant difference in improving L2 learners' oral proficiency. It is high time teachers explore the potential of the technology to make ESL learning more attractive to learners, provide learners opportunity to use the target language in oral communication, and improve their communicative skills. It is recommended that further studies should investigate the effects of clickers on the four language skills in ESL classroom. Moreover, further research with post-primary school students should be conducted within the context of Nigeria and across countries in order to make the findings more generalisable.

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