

# Improving Learning Outcomes through Students' Interaction on Social Media

Irmala Sukendra

Faculty of Education and Teacher Training  
Universitas Islam Syekh Yusuf  
Tangerang, Indonesia  
iskn@yahoo.com

**Abstract**—The millennial generation is highly associated with gadget and thus makes their lives revolve around social media. It is common for them to spend hours juggling from one social medium to the other. It is time consumed and fruitless in the eyes of parents. Despite that many linguists and educators find that social media are potential in becoming new learning spaces. Due to that fact, this paper intends to find out whether social media (in this study: facebook) can be used as a learning medium. It aims to investigate whether student-student interaction during status updating and commenting on the status can improve students' grammatical competence and thus enhance students' writing skills. For the purpose of the study, students are encouraged to give comments towards grammatical mistakes and give correction if necessary. Interaction types and number of comments are analyzed to support the findings. The study found out that the types of interaction do not affect students' performance and there is no relation between the number of comments given and received comments as well as the number of mistakes made and appointed mistakes to students' improvement.

**Keywords**—*grammar in writing; online learning situation; students interaction*

## I. INTRODUCTION

The millennials are known to be largely adapted to social media and consistent connection to the internet. Dimmock, the president of Pew Research Center, stated that "Millennials came of age during the internet explosion" and as the result people who are born in 1997 or later have become constantly connected to the internet [1]. People who born later, the generation Z or the post millennials (Pew Research Center 2018), are even more engaged to the internet as internet influences most aspects of their lives and they tend to spend more time on it as well. Considering the amount of time these people spent on internet, it is apparent that today's students would have more tendencies to be attached to internet than they were back then. Despite the worries that these tendencies may be fruitless, educators and linguists may have different ideas that social media may be potential in becoming new learning spaces. As a result, more courses open online classes and more teaching learning processes occur without real-time face to face interaction. Boyd and Ellison noted that there has been a widespread development of commercial social networking sites

(SNSs) such as Facebook, Friendster, LinkedIn, LiveJournal, MySpace and later Twitter, Instagram, Snapchat and so on [2].

However, although technologies are known to provide better and efficient access to learning materials, technologies are not a guarantee to a successful leaning. Technologies are merely vehicles that deliver instruction, and do not influence student achievement. Learning may seem easier as it can be as close as to the students' fingertips but learners need more than the information or other assistances they get from the internet [3,4]. Students still need to be active participants in their learning process which means they need to interact not only passively with the media but also with the others, either with the teacher or other learner(s). In other words, technologies cannot be a sole source of learning to make sure students comprehend the knowledge. Students need other(s) to learn better and they would be more motivated to involve in learning process through their interactions.

In addition to that, Swan reported that students who had high levels of interaction with other students have high levels of satisfaction and learning [5]. Similarly, Kolloff stated that student-to-student interaction is vital to building community in an online environment, which supports productive and satisfying learning, and helps students develop problem-solving and critical thinking skills [6]. Although many previous studies on learning using social media as an educational tool which proven to be able to increase student engagement, most of them noted the importance of teacher's role in the interaction [7-9]. Teachers are found to utilize social media in their teaching to gain students' understanding [10,11].

Hence, this paper aims to find out whether social media (in this study: facebook) can be used as a teaching platform in which student-student interaction during status updating and status can improve students' grammar competence without any inference from the teacher (or course instructor) to have better performance and thus enhance students' writing skills. To limit the area of the study, this study focuses only on verb tense (in regards to aspect and tense). Hence, mistakes on other grammatical features will be ignored and will not be discussed.

## II. THEORETICAL FRAMEWORK

### A. Social Media as Teaching Platform

Boyd and Ellison define social network as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system [2]. The nature and nomenclature of these connections may vary from site to site”; whereas Webster’s identifies social media as “forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos).” These two definitions explain how SNS has become a place where interaction takes place despite time and place boundaries. People can surf the internet, share and get ideas, communicate thoughts, and many more.

Silberman explained that effective teaching are courses in the human personality and people that are expressed in the form of improving the quality and quantity of behavior such as re-ability, knowledge, attitudes of habit, understanding, skills, thinking power, and abilities [12]. An effective teaching is more than just a successful transfer of knowledge and skills around a particular topic. Effective teaching ensures that learning is driven by students who analyze, develop, create and demonstrate understanding. An effective teaching will promote the ultimate goal of real learning, which is to construct knowledge out of information. Effective teaching not only focuses on the results achieved by students, but how effective learning processes can provide good understanding, intelligence, perseverance, opportunity and quality and can provide behavioral changes and apply them in their lives.

To add on, Loes & Pascarella asserted that knowledge is a social construct, that educational experience involving social interaction and exchange, which is contextually relevant and engaging and student-centered, leads to deeper learning [13]. By engaging in discussion and taking responsibility for their learning, students are encouraged to become critical thinkers. An active student always asks for an explanation from the teacher or other student(s) when encountering any difficult material or problems in learning, is able to express ideas and discusses people’s ideas, does all the tasks, reviews ideas, solves problems and applies what they have learned. Therefore, by engaging in social media for academic purposes, such as in group discussions, multiple students can discuss any matter related to their courses in general and interact with the same content simultaneously and this may enhance their learning outcomes.

### B. Feedback

Richards and Schmidt, define feedback as “comments or other information that learners receive concerning their success on learning tasks or tests, either from the teacher or other persons” [14]. Correction given during learning process should not damage learners’ enthusiasm and confidence but improve their knowledge. Feedback is inevitable as it is seen to help learners in the development of their learning rather than to create perfectly error-free performance. To ascertain this, Ellis

asserts that feedback serves two purposes, reinforces correct L2 performance and corrects ill-formed ones [15]. Feedback in the learning process is necessary as it allows learners to reflect on their learning and gives opportunity to examine their skills and capabilities. Hattie and Timperley assert that feedback is “conceptualized as information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one’s performance or understanding” [16].

Lyster and Ranta classified feedback into explicit correction, recast, classification requests, metalinguistic feedback, elicitation, and repetition [17]. Ruegg states that direct feedback is sometimes called “error correction” and entails the teacher actually writing or saying the correct forms for the student [18]. There are varying degrees of indirect feedback such as (a) indicating both the location and type of the error but leaving the student to decide how to correct it, (b) indicating the type of error but not the location and leaving the student to find the error, (c) indicating the location of the error but not the type and leaving the student to establish what the error is, (d) indicating which line or part the error occurs in but not the type or exact location and leaving the student to locate where exactly on the line or part the error is and what it is, (e) indicating which line or part the error occurs on and the type of error and leaving the student to infer where exactly on the line or part the error is and how to correct it, as well as many other variations. To add on, Fu and Nassaji develop a framework consisting of 12 (twelve) feedback types [19]: Immediate recasts, Delayed recasts, Clarification requests, Metalinguistic feedback, Elicitation, Explicit correction, Repetition, Re-asks, Translation, Asking a direct question, Directing question to other students and Using L1-English.

Learners are making different types of errors, that is the manifestation of the development of their knowledge. That is not to say that the students are not making errors, but rather they are making new errors. These new errors are the next forms that they will be able to get feedback on and therefore have the chance to acquire next. A positive feedback mechanism helps to change the students’ development as being argued by Sinclair and Coulthard [20]:

*So important is feedback that if it does not occur we feel confident in saying that the teacher has deliberately withheld it for some strategic purpose. It is deviant to withhold feedback continually.*

### C. Student-Student Interaction

Ally proposed that for learners, online learning knows no time zones, and location and distance are not issues [21]. In asynchronous online learning, students can access the online materials anytime, while synchronous online learning allows for real-time interaction between students and instructors. Learners can use the Internet to access up-to-date and relevant learning materials, and can communicate with experts in the field which they are studying. Situated learning, or the application of knowledge and skills in specific contexts, is facilitated, since learners can complete online courses while working on the job or in their own space, and can contextualize the learning.

Johnson stressed the importance of Student-Student Interaction as he believes that experiences with peers are not a superficial luxury to be enjoyed during lunch and after school [22]. Thus, constructive student-student relationships are probably an absolute necessity for maximal achievement, socialization, and healthy development. Some of the ways in which constructive student-student relationships contribute to the achievement of educational goals are: peer relationships influence educational aspirations and achievement, peer relationships contribute to the socialization of values, attitudes, and ways of perceiving the world, peer relationships are prognostic indicators of future psychological health. It is within peer relationships that students learn the social competencies necessary to reduce social isolation.

### III. METHOD

#### A. Participants

A total of fourteen (14) undergraduate students who were taking Functional Grammar subject from English program of Teacher Training and Education faculty participated in this study. The participants were chosen as the subject of the study due to the equality of their language competence and the class dynamic which was better than the other classes.

#### B. Procedure

Facebook group page was set up as a platform for a discussion. Initially, each student initiated the discussion with a status post of a short essay of 100 to 200 words. The other students were required to give comments regarding any grammatical mistakes found in their peer’s essay. The focus of the topic was on verb formation (in term of aspect and tense). The instructor would only deal with the treatment in the classroom, in which verb formations were taught and certain points were discussed. Students were urged to give comment upon their peer’s mistakes focusing on the verb forms. The tasks were given in a span of a semester. Students’ learning performances were assessed based on individual portfolios, comments given and improvement made. Comments in Facebook discussion will be coded in terms of interactivity (i.e. they were coded based on the interaction types) whereby it will be analyzed and identified based on their interactivity and how they improved students’ performance in constructing verb forms (of aspect and tense).

### IV. FINDINGS

#### A. Findings

There are 223 comments given to all status updates within the span of one semester. There are nine (9) types of interactions that can be found in student-student interaction in the comment sections as can be seen on table 1 and Table depicts examples of the interactions which occurred between students on the Facebook comments section.

TABLE I. TYPES OF INTERACTIONS AND NUMBER OF OCCURRENCE

Types of Interaction	Description	Code	Number of Occurrence	Percentage
Acknowledgment of Opinion	Student acknowledge the suggestion given by their peer	AO	20	9%
Translation	Use L1 to help explaining the matter	T	4	1.8%
Direct Correction	Student corrects mistake(s) directly, no prompt given	DC	119	53.4%
Self-Correction	Student admits making mistake and correct it	SC	2	0.9%
Explanation	Comment on mistakes is given in form of explanation of rules and such.	E	31	13.9%
Question	Student questioning the mistake	Q	13	5.8%
Assuring	Student makes an effort to make sure that the mistake is done	A	16	7.2%
Rejection	Student rejects the comment given to their writing	R	5	2.2%
Off Topic	Comments and responses that are totally or slightly irrelevant	OT	13	5.8%
		Total	223	100%

Most of the interactions were in the form of ‘Direct Correction’ in which the students pointed out their peer’s mistakes without giving any preliminary opening(s). The corrections were also in the form of ‘mistake form and correction’. This kind of interaction covers 53.4% of the total number of comments found in the student-student interactions in the appointed social media (Facebook). However, other types of interactions do not exceed half of ‘Direct-Correction’, with the second highest interaction was Explanation, covers 13.9%, in which the students gave explanations in their efforts to make their peers understood their point of view or understanding on a certain matters. The least type of interaction found is ‘Self-Correction’ in which student admitted their mistake and make self-repair. It is only 0.9% of the total comments.

TABLE II. SAMPLES OF ONLINE INTERACTIONS

Types of Interaction	Example
Acknowledgment of Opinion	haha oke kak thanks, i will find the correct one 😊;) in my opinion, ever or never is already happened to us right? so i think better if we use past form.
Translation	this is for example kak, to make clear what septi means She used to love me but not anymore (Dia dulu mencintai saya, tapi sekarang tidak lagi)
Direct Correction	I didn't come because I don't know: I didn't come because I didn't know
Self-Correction	*several adjectives i mean # <b>typo</b> everywhere --"
Explanation	Used to : has explained that I don't usually do it at present/now, and It has cleared the meaning. That's why I don't add "but now I don't."
Question	what do you mean from this sentence? "I used to sing everywhere but not anymore"
Assuring	"many people say" not "many people said" is this what you mean?
Rejection	why she was? she is my mom until now, not only in the past. because "was" is to be in the past right?
Off Topic	thank you shaayy, this is not article i think, this is my true story

The students received and gave comments regarding their mistakes in the essays; hence the comments are categorized into those given to them as response to their essay and those they received. In terms of the mistakes, they were counted for those they made and those were appointed by their peers as can be seen in table 3 below:

TABLE III. NUMBER OF MISTAKES MADE, APPOINTED MISTAKES, AND COMMENTS GIVEN AND RECEIVED

Student	Mistakes on Status 1	Appointed Mistakes	Mistakes on Status 2	Appointed Mistakes	Comments given to others	Comments received
NS	12	7	2	1	8	10
AN	4	3	4	4	3	9
HD	19	14	10	2	7	15
FA	8	3	2	3	6	10
FF	12	2	4	2	10	27
SK	7	2	3	1	43	21
DP	1	1	1	1	0	3
K	1	1	2	1	4	5
UH	12	1	8	2	8	6
DD	17	11	3	0	2	5
RY	17	9	16	3	4	10
NI	7	3	4	3	1	10
AI	13	4	11	1	4	10
M	11	2	1	2	25	18

The table below shows the result of normality test to describe whether the data is well-distributed or not.

TABLE IV. NORMALITY TEST OF MISTAKES MADE AND APPOINTED MISTAKES

	Tests of Normality					
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Mistake	,158	14	,200*	,941	14	,431
Appointed	,298	14	,001	,759	14	,002
Comment	,222	14	,060	,863	14	,033

\*. This is a lower bound of the true significance.  
a. Lilliefors Significance Correction

The result for normality test using Kolmogorov-Smirnov test shows that the value for the students' mistakes between the test 1 and test 2 is 0.200 and it is 0.431 using the Shapiro-Wilk test. Both are above 0.05. The result for students' appointed mistakes using Kolmogorov-Smirnov test has the significant values of 0.001 and it is under 0.05 while for the Shapiro-Wilk test, it is 0.002 which is under 0.05 as well. The significant values for students' comments using Kolmogorov-Smirnov test is 0.060, and it is above 0.05 while for the Shapiro-Wilk test, the value is 0.033 which is under 0.05. So this means that the students' mistakes in the Kolmogorov-Smirnov test and the Shapiro-Wilk test are all normally distributed; on student appointed mistakes in the Kolmogorov-Smirnov test and the Shapiro-Wilk test are not normally distributed; while on students comments in the Kolmogorov-Smirnov test and the Shapiro-Wilk test are not normally distributed which means the students' comments and mistakes are scattered in numbers.

Paired sample test was done to find out whether there is any difference in term of number of mistakes between the first test and the second test.

TABLE V. PAIRED SAMPLE TEST OF MISTAKES FROM FIRST AND SECOND TEST

Pair	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	Df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 Mistake1 - Mistake2	5,000	4,591	1,227	2,349	7,651	4,075	13	,001

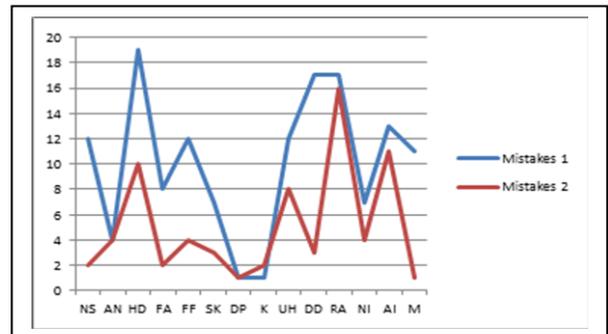


Fig. 1. Charts of Mistakes from first and second test

Based on table above, it is known  $t_{count} > t_{table}$  (  $4.075 > 2.160$  ) with  $sig = 0.001 < 0.05$ , so it can be concluded that there is a significant difference between the students mistakes from the first test (test 1) and the students' mistakes from the second test (test 2) as can be seen from the graphs. All students have a decrease of number of mistakes except for one student, although initially she did not make many mistakes as well. The mistakes were also categorized into the mistakes made (calculation done by class instructor referring to prescribed theory of spoken written grammar by Biber, et al.) and the mistakes appointed by the peers [23].

There are differences in numbers in these data considering the peers maybe were not aware on the mistakes made.

Null Hypothesis	Test	Sig.	Decision
The median of differences between 1 AppointedMistake1 and AppointedMistake2 equals 0.	Related-Samples Wilcoxon Signed Rank Test	49,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Fig. 2. Hypothesis Test Summary of Mistakes from first and second test.

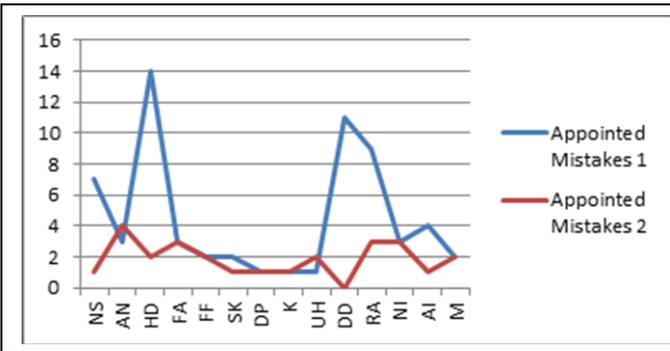


Fig. 3. Chart of Mistakes from first and second test.

Using non parametric test, it can be stated that the appointed mistakes data are not normally distributed. The data formula calculation was done to test the difference of the samples mean (average number of samples). From the table above, it is known that  $sig = 0.049 < 0.05$  which means there is a significant difference between the appointed mistake from the first test and the second test.

Null Hypothesis	Test	Sig.	Decision
The median of differences between 1 CommentGiven and CommentReceived equals 0.	Related-Samples Wilcoxon Signed Rank Test	102,000	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Fig. 4. Hypothesis Test Summary between comments given and comments received.

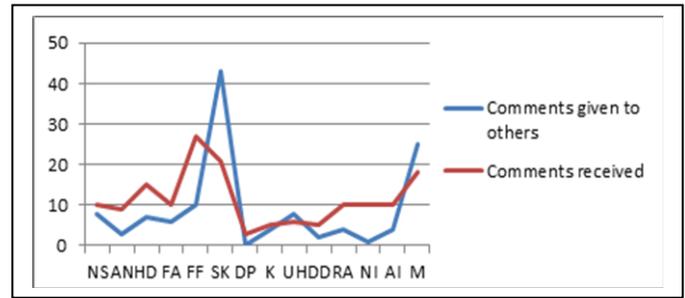


Fig. 5. Charts of Comments given and comments received.

Similar result was obtained from the test on comments (between the given comments and the comments received). Based on the table above, it is known  $sig = 0.102 < 0.05$ , so it can be concluded that there is not any significant difference between comment given and comment received.

The data calculation between the comments (both given and received) and the mistakes (made and appointed) from first test and second test are not normally distributed as shown from the table below:

TABLE VI. HYPOTHESIS TEST SUMMARY

Null Hypothesis	Test	Sig.	Decision
The median of differences between 1 AppointedMistake and Comment equals 0.	Related-Samples Wilcoxon Signed Rank Test	529,000	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

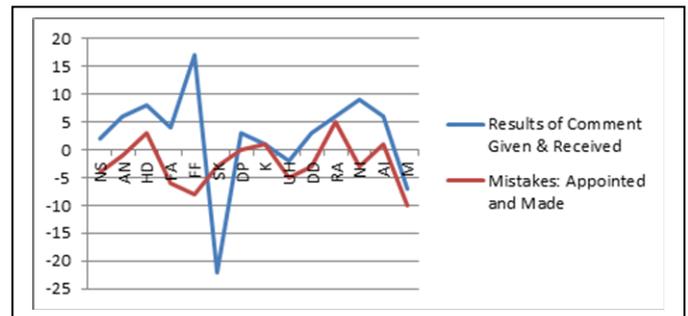


Fig. 6. Relation between comments and mistakes.

The difference in the mean of samples is that they are non-parametric independent of each other with  $sig = 0.529 < 0.05$ . So it can be concluded that there is no influence from the comments (both given and received) on the mistakes (either made or appointed) and on the students' performance.

## V. CONCLUSION

The findings show that student-student interaction during status updating and commenting on the status can improve students' grammatical competence to have better performance and thus enhance students' learning outcomes, especially in terms of their writing. However there is no relation between the

number of comments given and received comments as well as the number of mistakes made and appointed mistakes to the students' improvement. The students were affected by the interactions as a whole as it can be inflicted from one of the students that admitted her comment is influenced by her peer as she stated: "S commented like that to my story. So I do the same". This is in line with Song and McNary's finding that there is no correlation between the number of posts and students' success [24]. The interactions between students became the source of learning for them in which they learned from each mistakes and each correction made by their peers, either they are directly pointed to them or not. Further studies may want to record the improvements in more detailed and frequent manner.

#### REFERENCES

- [1] M. Dimmock, *Defining generations: Where Millennials end and post-Millennials begin*. March 1. [Online] 2018. Retrieved from: <http://pewrsr.ch/2GRbL5N>.
- [2] D.M. Boyd, N.B. Ellison, "Social network sites: Definition, history, and scholarship". *Journal of Computer-Mediated Communication*, vol. 13(1), article 11. 2007.
- [3] R.E. Clark, "Reconsidering research on learning from media". *Review of Educational Research*, vol 53, Issue 4, pp. 445-459. December 1, 1983.
- [4] M.L.J. Kyle, M. Chase, *Reconsidering data in learning analytics: opportunities for critical research using a documentation studies framework*, Learning, Media and Technology, 2018.
- [5] K. Swan, "Building learning communities in online courses: The importance of interaction". *Education, Communication & Information*, vol. 2(1), pp. 23-49, 2002.
- [6] M. Kolloff, *Strategies for effective student/student interaction in online courses*. 17th annual conference on distance teaching and learning, 2011.
- [7] P.D. Chen, A.D. Lambert, K.R. Guidry, "Engaging online learners: The impact of web-based technology on college student engagement". *Computer & Education*, vol. 54, pp. 1222-1232, 2010.
- [8] R. Junco, G. Helbergert, E. Loken, "The effect of Twitter on college student engagement and grades". *Journal of Computer Assisted Learning*, vol. 27, pp. 119-132, 2011.
- [9] R. Junco, "The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement". *Computers & Education*, vol. 58, pp. 162-171, 2012.
- [10] C. Garrett, "Defining, detecting, and promoting student engagement in college learning environments". *Transformative Dialogues: Teaching & Learning Journal*, vol. 5(2), pp. 1-12, 2011.
- [11] A.M. Fewkes, M. McCabe, "Facebook: Learning tool or distraction?", *Journal of Digital Learning in Teacher Education*, vol. 28(3), pp. 92-98, 2012.
- [12] M.L. Silberman, *Active training: a handbook of techniques, designs, case examples, and tips*. 3rd ed. San Francisco, CA: John Wiley & Sons, Inc., 2006.
- [13] C.N. Loes, T.P. Ernest, "Collaborative Learning and Critical Thinking: Testing the Link", *The Journal of Higher Education*, vol. 88(5), pp. 726-753, 2017.
- [14] J.C. Richard, R. Schmidt, *Longman Dictionary of Language Teaching and Applied Linguistics* (4th edition). London: Routledge, 2010.
- [15] R. Ellis, *Understanding second language acquisition*. Oxford: Oxford University Press, 1994.
- [16] J. Hattie, H. Timperley, "The power of feedback". *Review of Educational Research*. March 2007, vol. 77, no. 1, pp. 81-112, 2007.
- [17] R. Lyster, L. Ranta, *Corrective feedback and learner uptake*. *SSLA*, vol. 20, pp. 37-66, 1997.
- [18] R. Rugg, "Interlanguage development: the effect of unfocused feedback on L2 writing". *Intercultural communication studies*, vol. 19, pp. 247-254, 2010.
- [19] T. Fu, H. Nassaji, "Corrective feedback, learner uptake, and feedback perception in a Chinese as a foreign language classroom. *Studies in second language learning and teaching department of English studies, faculty of pedagogy and fine arts. Adam Mickiewicz University*". *Kalisz SLLT*, vol. 6 (1). 2016. Pp. 159-181, 2016.
- [20] J. Sinclair, R.M. Coulthard, *Toward an Analysis of Discourse*. Oxford: Oxford University Press, 1975.
- [21] M. Ally, *Foundation of educational theory of online learning in Anderson, T. Theory and Practice of Online Learning* (2nd Edition). Edmonton: Athabasca University Press, 2008.
- [22] D.W. Johnson, "Student-Student Interaction: The Neglected Variable in Education". *Educational Researcher*, vol. 10, no. 1 (Jan., 1981), pp. 5-10, 1981.
- [23] D. Biber, S. Johansson, G. Leech, S. Conrad, E. Finegan, R. Quirk, *Longman grammar of spoken and written English*. London: longman; 1999.
- [24] L. Song, S.W. McNary, "Understanding Students' Online Interaction: Analysis of Discussion Board Postings". *Journal of Interactive Online Learning* [www.ncolr.org/jiol](http://www.ncolr.org/jiol), vol. 10, Number 1, Spring 2011.