CHAPTER II

THEORETICAL REVIEW

This chapter presents the expalanation of Perception, WhatsApp as instant messaging, the use of whatsapp in education, individual level of students' perceptions, learning communities and activity theory, and the previous study.

A. Perception

Based on Robert E. Slavin, perception is a person's interpretation of stimuli. Perception is not straightforward as reception of stimuli; rather, it is influenced by our mental state, past experiences, knowledge, motivation and many other factors.[1] Perception is also defined as our sensory experience of the world around us and involves both the recognition of environmental stimuli and action in response to these stimuli. Based on walgito, perception is process organizing and interpreting stimuli accepted by organism or individual that can be something important, and perception is an integrated activity for the human.[2] As an integrated activity, all parts of the body have active role in this perceptions. Perception is a kind of activity that started by sensation. Sensation is process-accepting stimuli by five senses. This process happens every time when someone accepts stimuli by these five sense. Therefore, we can say that the five senses is the linker between humsn snd their environment. The result of perception based on their knowledge about something, so that individuals will have different perception for same thing.

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[1] Robert E. Slavin, *Educational psychology: Theory and Practice 8th Edition, (United States of American: Pearson Education, 2006),* 888.
[2] B. Walgito, *Psikologi Sosial (Sebuah Pengantar),* (Jogjakarta: ANDI Offset, 2003), 3.

Perception is affected by some factors. sugiyo said that perception is affected by two factors; they are situational factor and individual factor. Situational factor related to verbal description, proximity and kinetic, and paralinguistic. Verbal description is related to the sequence of adjective that determine perception. Individual factor is divided into experiences, motivation, personality, intelligence, and objectivity. Individual factor related to the person who doing perception.[3]

Chokri Barhoumi reported that The students in the sample have different perceptions of the online course with or without WhatsApp instant messaging. Students in the experimental group were more encouraged and motivated to use WhatsApp instant messaging in social interactions to discuss the classroom lectures. Some factors influence the students' motivation in interacting with their peers online in course discussions. Activity theory is a suitable framework through which to examine the factors that influence students to participate in online discussion. These factors are examined at the technological, individual and community levels. The technological level is concerned with habits and usability. The individual level concerns the affordances of the tool as perceived by the students. The social presence, sense of community, community rules and rules operate on the community level. In the next section on theoretical implications, the researcher concentrates on the factors that influence students' participation in and motivation to use the

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[3] Sugiyo, *Komunikasi Antar Pribadi,* (Semarang: UNNES Press, 2005), 57.

WhatsApp instant messaging tool to clearly explain the difference in the achievement and attitudinal results in favor of the experimental group.[4]

B. WhatsApp Instant Messaging

WhatsApp is a Smartphone application that operates on nearly all current types of devices and operating systems.WhatsApp is relatively a new phenomenon, little research exists regarding its influence on interpersonal communication in general, and between high school teachers and their students in particular.[5] An examination of the use of WhatsApp in a South African university class registered positive feedback from students who claimed that it was an easier way to communicate with their teachers and the rest of the class, that it was productive of fruitful discourse on relevant issues in an informal environment where students could learn intimately and authentically, and that it was also fun.[6] Such cooperation was felt to bridge gaps in knowledge and physical distance. Overall, WhatsApp has become a shared platform that enhances accessibility, encourages cooperation, and intensifies motivation to take an active part in academic assignments.[7] Dr. Bouhnik Dan and Dr. Mor Deshen explained in introduction of their journal WhatsApp has features, WhatsApp

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[4] Chokri Barhoumi, (2015), The Effectiveness Of Whatsapp Mobile Learning Activities Guided By Activity Theory On Students' Knowledge Management, *Contemporary Educational Technology,* 6(3), 221-238.

[5] K. Church, & de Oliveira, R. (2013), What's up with whatsapp? Comparing mobile instant messaging behaviors with traditional SMS, *Proceedings of the 15th International Conference on Human-computer Interaction with Mobile Devices and Services,* (pp. 352-361), ACM.

[6] A. Bere, (2013), Using mobile instant messaging to leverage learner participation and transform pedagogy at a South African University of Technology, *British Journal of Educational Technology, 44*(4), 544-561.

[7] Ibid.

includes a variety of functions, such as text messages, at-tached images, audio files, video files, and links to web addresses.[8]

The reasons why people adopted WhatsApp as their main communication channel rather than alternatives (such as SMS or other social networks) were listed by Dr. Dan Bouhnik and Dr. Mor Deshen are the low cost of the application combined with the ability to send an unlimited number of messages, immediacy, the desire to feel a part of the trend since their acquaintances have already adopted the application, the capacity to conduct an on-going conversation with many friends simultaneously, the knitting together of a community of friends or family, and a sense of privacy relative to other social networks. That said, the users also mentioned a number of disadvantages, such as the flooding of irrelevant or nonsensical messages and the feeling that the application is not a formal channel for communication. These drawbacks lead people to use regular text messages whenever they feel the need to convey an important or unidirectional message.[9]

Johnson Yeboah and George Dominic Ewur are two lecturers investigated about the reason for using WhatsApp. They reported that the majority of the students use the application for chatting with friends on different issues rather than academic work on campus, and this is represented by 72% of the total number of respondents. This also indicates the link between usage of the application and poor academic performance among the majority of the

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[8] Dr. Bouhnik Dan & Dr. Mor Deshen, (2014), Wha tsApp Goes to School: Mobile Instant Messaging between Teachers and Students, *Journal of Information Technology Education: Research,* 13, 217-231.
[9] Ibid.

students.The more friends a student has on whatsapp, the more time he/she spends on the application" according to most students interviewed. A student who has a lot of friends on whatsapp is most likely going to be responding to more people and thus spending more time chatting.The study looked at students engaged in the use of the application for other purposes including academic work, general information, and family. The above table indicates that only 7% of the respondents use the application for academic work, 12% mainly for general information while 9% use it for family issues.[10]

C. The Use of WhatsApp in Education

In recent years, a number of researches have been carried out on the use of instan messaging tools specifically WhatsApp among communities and its impact on social and academic environments. From the aspect of education, research has been done mostly on youths particularly college and university students with results indicating that the instant messaging tool has both positive and negative impacts on users.

Bere investigated about the use of WhatsApp in a South African university class. He reported that positive feedback from students who claimed that it was an easier way to communicate with their teachers and the rest of the class, that it was productive of fruitful discourse on relevant issues in an informal environment where students could learn intimately and authentically, and that it was also fun. Such cooperation was felt to bridge gaps in knowledge and

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[10] Johnson Yeboah & George Dominic Ewur, (2014), The Impact of Whatsapp Messenger Usage on Students Performance in Tertiary Institutions in Ghana, *Journal of Education and Practice,* 5(6), 157-164.

physical distance. Overall, WhatsApp has become a shared platform that enhances accessibility, encourages cooperation, and intensifies motivation to take an active part in academic assignments. A study conducted among students in Spain, examined the use of WhatsApp in English language studies. The students reported a rise in motivation and a greater enthusiasm for reading in a foreign language.[11]

Chokri Barhoumi reported in his journal that the learning process integrating WhatsApp mobile learning activities is more effective for learning and teaching than the entirely in-class learning process. Teachers using online learning methods have noted the creative use of Internet technology based on mobile learning activities and its facilitation of knowledge sharing among online students. WhatsApp mobile learning activities can be powerful and effective tools for students.[12] Not all responses were positive. A study conducted in Kuwait, showed a negative effect on the students' ability to develop writing skills in English as a foreign language.[13]

Johnson Yeboah & George Dominic Ewur also investigated some students about positively or negatively effect of WhatsApp in their studies. They reported that 76% percent of the respondents said the use of whatsapp has more negative effect on their studies and only 24% percent said it has positive impact

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[11] Bere, A., (2013), Using mobile instant messaging to leverage learner participation and transform pedagogy at a South African University of Technology, *British Journal of Educational Technology, 44*(4), 544561.

[12] Chokri Barhoumi, (2015), The Effectiveness Of Whatsapp Mobile Learning Activities Guided By Activity Theory On Students' Knowledge Management, *Contemporary Educational Technology, 6*(3), 221-238.

[13] Salem, A. A. M., (2013), The impact of technology (BBM and WhatsApp applications) on English linguistics in Kuwait, *International Journal of Applied Linguistics & English Literature, 2*(4), 64-69.

on their studies. Most of them explained why they said it affects them negatively. A student can be stacked on his/her phone for hours chatting with friends through whatsapp without noticing the number of hours spent behind the phone not for any relevant reason. Little time is left for academic purposes since much of their precious time is wasted on whatsapp chatting with friends. They later become less equipped and inadequately prepared for quizzes conducted and major end of semester examination which makes them less productive and effective.[14]

D. Learning Communities and Activity Theory

Based on Nardi theory about Activity theory and human computer interaction, activity theory is a framework that researchers use to design and analyze interactions between members of a group and discover factors influencing their participation in online discussion. Activity theory helped the researcher find factors that influence students' participation in online discussion. Researchers frequently use activity theory to analyze human-computer interactions.[15] Engeström developed an extension of the activity theory model that adds the component of community sharing of the same object. In this suggested model of activity theory, Engestrom added rules that mediate the learning community and the subject and create a division of labor between the community and the object.[16]

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[14] Johnson Yeboah & George Dominic Ewur, (2014), The Impact of Whatsapp Messenger Usage on Students Performance in Tertiary Institutions in Ghana, *Journal of Education and Practice,* 5(6), 157-164.

[15] Nardi, B. (Ed.), *Context and consciousness: Activity theory and human computer Interaction*, (Cambridge, MA: MIT Press), 1996.

[16] Engeström, Y., *Learning by expanding: An activity-theoretical approach to developmental research,* (Helsinki, Finland: Orienta-Konsultit Oy), 1987.

Hewitt used activity theory to evaluate learning communities in online learning environments and to explore the factors that influence students' participation in online communities. The ease of use of the technology exploited in online learning and its usefulness are both pertinent factors that influence students' positive attitudes toward the adoption of online learning communities to construct and share knowledge.[17] Essentially, activity theory aims to describe, analyze and understand the mental capabilities of a single individual. The theory rejects the isolation process applied to individuals, however, such as in the case of individual learning, and considers this isolation to be an insufficient unit of analysis. The theory seeks to analyze the cultural and technical aspects of human action.[18]

According K. Bielaczyc & Collins there are six principles in activity theory, that are:

- The first principal is the orientedness of the object. The objective of the activity system has social and cultural properties in the system, such as collaborative or cooperative learning in an online course.

- Subjects are actors engaged in activities. This is considered the individual level of activity theory; students are contextual subjects engaged in collaborative learning.

[17] Hewitt, J., *An exploration of community in a knowledge forum classroom: an activity system analysis*. In S. A. Barab, R. Kling, & J. H. Gray (Eds.), Designing for virtual communities in the service of learning (pp. 210–238), (Cambridge: Cambridge University Press), 2004.

[18] Bertelsen, O. W. and S. Bodker., Activity theory. In J. M. Carroll (Ed.), *HCI models, theories, and frameworks: Toward a multidisciplinary science* (pp.291-324), (San Francisco, CA: Morgan Kaufmann), 2003.

- Community or externalization is considered a social context of the system and a community level of activity theory; all actors are involved in the activity system (e.g., a group of students engaged in learning based on social interaction for constructing and sharing of knowledge is an example of a learning community).

- Tools are considered a technological level of activity theory. In the system, communication between communities is mediated by tools that transmit social knowledge. It includes the artifacts used by actors in the system. Tools influence actor-structure interactions and are influenced by culture.

- The division of labor is a considered a hierarchical structure of activity or the division of activities among actors in the system.

- Rules are the conventions and guidelines regulating activities in the system, such as rules of discussion between students in collaborative learning.[19]

    Strijbos and Fischer noted that collaborative learning strategies are very useful to construct and share knowledge among students in collaborative and cooperative online courses in the presence of an instructor or tutor.[20] The collaborative and cooperative learning activities achieved by students in the activity system help researchers find the cognitive outcomes of a learning

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[19] Bielaczyc, K. & Collins, A., Learning communities in classrooms: a reconceptualization of educational practice. In C. M. Reigeluth (Ed.). *Instructional design theories and models*, 2, 269–291, (Mahwah, NJ: Lawrence Erlbaum Associates), 1999.

[20] Strijbos, J. W. & Fischer, F., (2007), Methodological challenges for collaborative learning research, *Learning and Instruction*, *17*(4), 389-393.

activity and the processes of knowledge creation and sharing during the learning process. Activity theory stimulates professionals to renew knowledge.[21]

E. The Previous Study

Christopher Irwin, Lauren Ball, and Ben Desbrow had investigated about Students' perceptions of using Facebook as an interactive learning resource at university. They reported that Facebook is well used by students at university and may be an excellent tool to integrate into the learning resources of university courses. The findings from their study indicate that students are receptive to incorporating Facebook into their academic lives and perceive benefits through enhanced communication, interaction, and flexibility in course content delivery. While the technology is well received, it is still unclear if and how Facebook can enhance student learning outcomes. Continued investigation of Facebook use in university education may provide further insight into these matters.[22]

Aicha Blehch Amry, PhD, Assistant Prof. also had investigated about the impact of WhatsApp mobile social learning on the achievement and attitudes of female students compared with face to face learning in the classroom. She reported that Through achievement tests and measuring the attitudes of students, the results of research clearly demonstrate the effectiveness of WhatsApp social networking in comparison with face-to-face learning in the classroom. The

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[21] Tillema, H. Orland-Barak, L. Constructing knowledge in professional conversations: The role of beliefs on knowledge and knowing. *Learning and Instruction*, *16*, 592-608, 2006.

[22] Christopher Irwin, Lauren Ball, and Ben Desbrow, (2012), Students' perceptions of using Facebook as an interactive learning resource at university, *Australasian Journal of Educational Technology*, 28(7), 1221-1232.

mobile learning technology helps students to create a learning community, to easily construct knowledge and to share it with other members of a WhatsApp group through instant messaging. In addition to the social interaction between students in the group, she should not discount the interactions of students with their online instructor. The presence of the online instructor in the WhatsApp group has an added value in the learning process. The online instructor facilitates learning. Learning is becoming more personal and is becoming increasingly based on online social interactions that enable collaborative, networked and portable processes. Learning is becoming ubiquitous, durable and increasingly at odds with formal education. Increasingly, different types of learning happen outside of the classroom through social cooperation and collaboration between students to improve construction and knowledge sharing.[23]

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[23] Aicha Blehch Amry, PhD, Assistant Prof., (2014), The Impact Of Whatsapp Mobile Social Learning On The Achievement And Attitudes Of Female Students Compared With Face To Face Learning In The Classroom, *European Scientific Journal*, 10(22), 116-136.