

**COLLABORATIVE ONLINE LEARNING USING E-MODERATORS IN A
WIKI ENVIRONMENT ON THE QUALITY OF WRITING, ENGAGEMENT,
AND COLLABORATION AMONG STUDENTS WITH DIFFERENT LEVELS
OF SELF-REGULATED LEARNING IN YEMEN**

BY

Waheeb Abdullah Al-Sharaabi

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**Pembelajaran Kolaboratif Secara Talian Menggunakan E-Moderator Dalam
Persekitaran Wiki Terhadap Kualiti Penulisan, Tumpuan Kerja, Dan Kolaborasi
Di Kalangan Pelajar Yang Berbeza Tahap Regulasi Pembelajaran Kendiri di
Yaman**

ABSTRAK

Tujuan penyelidikan ini ialah mengkaji kesan pembelajaran kolaboratif berbantuan e-moderator yang memberikan gesaan, tarikan perhatian dan peringatan di dalam persekitaran Wiki secara dalam talian terhadap kualiti penulisan, penglibatan kerja, tahap kolaborasi serta persepsi terhadap usaha dan milikan hasil kerja di kalangan pelajar yang berbeza tahap regulasi pembelajaran sendiri. Penyelidikan kuasi-eksperimen berasaskan reka bentuk faktorial 2×2 telah digunakan dalam kajian ini. Pembolehubah bebas kajian ialah dua mod pembelajaran interaktif iaitu (1) persekitaran Wiki bersama e-moderator, dan (2) persekitaran Wiki tanpa e-moderator. Pembolehubah-pembolehubah bersandar ialah kualiti penulisan, penglibatan kerja, kolaborasi melalui email dan input Wiki, dan persepsi terhadap usaha dan milikan hasil kerja. Pembolehubah moderator ialah tahap-tahap regulasi pembelajaran sendiri (SRL) pelajar. Sampel kajian terdiri dari 138 pelajar universiti yang berpengkhususan Kesusasteraan Inggeris di Yaman dan berinteraksi secara saling tidak mengenali di dalam kumpulan-kumpulan Wiki yang dibentuk. Para pelajar diklasifikasikan sebagai mempunyai tahap SRL tinggi atau rendah mengikut skor mereka di dalam Soalselidik Strategi Motivasi Untuk Pembelajaran (MSLQ) yang ditadbir sebelum rawatan dijalankan. Statistik-statistik deskriptif dan inferensi digunakan untuk menganalisis data

yang dikutip. Ujian-ujian ANOVA dan MANCOVA digunakan untuk menguji kesan-kesan utama dan kesan interaksi di antara pembolehubah bebas dan pembolehubah bersandar.

Analisis skor Wiki mengikut kaedah menunjukkan bahawa kumpulan yang menerima e-moderator memperoleh skor-skor yang lebih tinggi untuk kualiti penulisan, penglibatan kerja, serta kolaborasi melalui email dan input wiki berbanding kumpulan tanpa e-moderator dan setiap perbezaan ini adalah signifikan. Walau bagaimanapun, analisis mengikut tahap SRL menunjukkan bahawa tidak terdapat perbezaan yang signifikan pada kualiti penulisan dan kolaborasi melalui email di antara pelajar SRL tinggi, manakala pelajar SRL tinggi dan rendah di dalam kumpulan dengan e-moderator melaporkan skor penglibatan kerja yang lebih tinggi dan berbeza secara signifikan berbanding rakan-rakan mereka dari kumpulan tanpa e-moderator. Juga, pelajar SRL rendah dari kumpulan bersama e-moderator melaporkan skor input Wiki yang lebih tinggi dan berbeza secara signifikan berbanding rakan-rakan mereka dari kumpulan tanpa e-moderator. Walau bagaimanapun, tidak terdapat perbezaan signifikan di dalam skor input Wiki di kalangan pelajar SRL tinggi dari kedua-dua kumpulan ini.

Analisis data soalselidik mengikut kaedah dan SRL menunjukkan tidak terdapat perbezaan yang signifikan terhadap persepsi tahap usaha dan milikan hasil kerja. Walau bagaimanapun, pelajar SRL rendah dari kedua-dua kumpulan melaporkan telah mencurahkan usaha yang lebih banyak berbanding pelajar SRL tinggi dan perbezaan ini adalah signifikan. Pelajar SRL tinggi dari kedua-dua kumpulan pula menuntut milikan hasil kerja yang lebih tinggi dan signifikan berbanding pelajar SRL rendah.

Dapatan-dapatan mengikut SRL ini adalah selaras dengan kajian-kajian lain. Dapatan kajian ini mengikut kaedah mendapati bahawa penglibatan e-moderator adalah satu faktor penting untuk meningkatkan kualiti penulisan, penglibatan kerja, kolaborasi melalui email serta input dalam persekitaran Wiki, tetapi oleh kerana peranan e-moderator hanyalah bersifat gesaan, menarik perhatian, dan peringatan, maka dapatan kajian ini mencadangkan bahawa peningkatan prestasi dan penglibatan kerja pelajar secara aktif dalam persekitaran Wiki dapat dicetuskan melalui penggunaan agen-agen pedagogi yang mudah.

**Collaborative Online Learning Using E-Moderators in a Wiki Environment on the
Quality of Writing, Engagement, and Collaboration Among Students with
Different Levels of Self-Regulated Learning in Yemen**

Abstract

The purpose of the study was to investigate the effects of having e-moderators who provided encouragement, reminders and notices in collaborative learning situations in an online wiki environment on Quality of Writing (QW), Actual Engagement (AE), as well as perceptions of effort and ownership among students with different levels of Self Regulated Learning. A 2 x 2 quasi-experimental factorial design was used in this study. The independent variable of the study was the two modes of interactivity learning (1) Wiki environment with e-moderator, and (2) Wiki environment without e-moderator. The dependent variables were Quality of Writing (QW), Actual Engagement (AE), levels of Collaboration (CL) via email and wiki inputs, and perceptions of effort and ownership. The moderating variable was the Self-Regulated Learning (SRL). The sample consisted of 138 university students majoring in English Literature in Yemen and participated anonymously in the Wiki groups assigned to them. The students were classified as high or low SRL students depending on their mean scores on the Motivated Strategies for Learning Questionnaire (MSLQ) which was administrated before the treatment. Descriptive and inferential statistics were used to analyze the collected data. ANOVA and two-way MANCOVA procedures were used to examine the main interaction effects between the independent variable and the dependent variables.

The analyses of the wiki scores by method showed that group receiving e-moderator reported higher scores for QW, AE, CL via email, and wiki inputs as compared to the group without e-moderator and all the differences were significant. However, analyses by SRL showed that there were no significant differences in terms of QW and CL via email among high SRL students, while the high and low SRL students in groups with e-moderator had significantly more AE compared to their peers in groups without e-moderator. The low SRL students in the group with e-moderators reported significantly higher wiki inputs than their peers in the group without e-moderators. However, there was no significant difference in Wiki inputs among the high SRL students in both treatment groups.

The analyses of survey data by method and SRL showed that there were no significant differences on perceptions of the effort spent and ownership. The low SRL students from both groups claimed to have significantly spent more effort compared to the high SRL students. However, the high SRL students from both groups claimed to have significantly more ownership of the project compared to the low SRL students.

The findings by SRL were consistent with other studies in literature. The findings by method found that e-moderation was necessary in obtaining higher scores for QW, AE, and CL via email and Wiki inputs but as the e-moderation activities consisted only of prompts and reminders, these findings suggested that simple pedagogical agents would be sufficient to maintain active participation among members of a wiki project.

CHAPTER ONE

INTRODUCTION

"A wiki is a body of writing that a community is willing to know and maintain" (Cunningham, 2005).

1.1 Introduction

Cunningham (2005) coined the wiki revolutionary concept. Wikis are Web pages in a specific website that gives the rights to any user to update, delete or add new pages with the simplest format one can imagine using only standard browser. The user can easily develop pages collaborating with others in the structure and the content of pages without the need of knowing the complications of markup languages like Hyper Text Markup Language, HTML, XHTML or XML. For instance, to edit a page in Wiki web, one can easily look for the "edit button" and one click is enough to make him the anonymous author of the text amended and another click is "Save Button" to confirm the process of updating the text. Adding a new link in Wiki pages is not a hard task, for example, it is as simple as combining two capitalized words like "ThisOne" in a format called camel case which the two words looks like the hump of the camel.

Nowadays, Internet is providing an extremely useful medium for collaboration and knowledge aggregation. Wiki at first sight, looks something strange and not in our minds at all - the concept that "any one can edit" is still something not that many of us are still sure of. Nevertheless, wikis have now become attractive and the recent phenomenon of *Wikipedia*, the most powerful wiki presently known, provides a proof-of- concept for the "anyone can edit" system. It is not that wiki is still not in our minds or that wiki is really strange. It is that we are unaccustomed to collaborative work.

Knowledge work is inherently collaborative and Wikis are a great way to learn to collaborate. Collaborative and cooperative learning should be encouraged to facilitate constructivist learning (Hooper & Hannafin, 1991; Johnson & Johnson, 1996; Palloff & Pratt, 1999), and wikis can put this collaborative learning into reality.

There is an ongoing debate about whether it is the use of a particular delivery technology or the design of the instruction that improves learning (Clark, 2001; Kozma, 2001). Learners should construct their own knowledge rather than accepting that given by the instructor. Knowledge construction is facilitated by good interactive online instruction, since the students have to take the initiative to learn and to interact with other students and the instructor, and because the learning agenda is controlled by the students (Murphy & Cifuentes, 2001). According to Bonk and Reynolds (1997), to promote higher order thinking on the Web, online learning must create challenging activities to enable learners link new information to schemata, acquire meaningful knowledge, and use their meta-cognitive abilities. Hence, it is the instructional strategy and not the technology that influences the quality of learning. Wikis are challenging traditional notions of authority and the criteria of academic legitimation (Barton, 2004; Lamb, 2004).

According to Barton (2004), "legitimation in the wiki world is not solved by censorship, and wiki does not find its authority in the credentials of authors; indeed, the entries quickly become autonomous from individual authors and take on their own existence. They are always developing as new collections of individuals aim to refine or

destroy them; but each edit only pushes upwards gradually the entries connect with one another and thus bring together communities of wiki authors” (p. 130).

In the words of Holmes, Tangney, Fitzgibbon, Savage, and Mehan (2001), students and teachers are actively involved in creating knowledge that for sure would benefit the other students rather than a simple engagement. They thought of this process as communal constructivism. In this model, the students will leave their own imprint in the development of the course, their school or university, and ideally the discipline and not simply pass through a course like water through a sieve.

Wikis have been used successfully in education (Collaborative Software Lab, 2000; Guzdial, 1999). Research has shown that teachers and students can get very creative and develop innovative and useful activities for learning (Synteta, 2002). For some students, wikis become objects to think with (James, 2004), while for others, wikis can help build an understanding of a community’s shared knowledge.

In the Middle East region specifically in the southern part of the Arabian Peninsula, the importance of wiki arises due to the fact that learning is confined to single-gender where the segregated educational system is part of the beliefs and culture of the region. Therefore, it will be interesting to investigate the applicability of wiki on students at English Literature Department in Yemen, and because of the segregation in this area, wiki is a suitable platform to collaborate between different genders.

As mentioned previously, in a wiki environment, the user can simply create new information or edit the existing information being displayed, thus, he becomes the author or co-author of the material presented. The fact that the students have the ability to change anything the instructor does on the wiki and create anything they want from a single post to a web publishing would really inspire them to take charge of the wiki and consequently, the course.

1.2 Background

Academic essays written by the students would demonstrate their skills in writing a given language and their knowledge and understanding of a topic. In writing academic essays, students usually follow the conventions and terminology of a given language and the field in explaining their understanding of the subject and related issues as well as demonstrating their analytical and evaluation skills by taking into account different and opposing viewpoints and presenting their arguments. The process of writing involves prior knowledge, knowledge of writing conventions, and an elaborate set of tasks and processes such as planning (goal setting, generating, and organizing), translating, reviewing (revising and evaluating) and monitoring (Flower & Hayes, 1981). As the essay is a useful teaching and assessment tool to develop complex writing, research, and analytical skills most essays are used as individual assignments.

Essays as group assignments are used to promote deeper understanding, analysis or synthesis of a given topic and not for assessment of writing skills. Thus, the use of essays as group assignments require the participation of individuals with different levels

of prior knowledge and writing skills to put together better arguments and demonstrate deeper understanding of the given topics, with the better able group members correcting and refining the essay. The pattern of division of tasks and responsibilities among the members of a group can be understood from the cooperative or collaborative learning perspectives. Slavin (1997) has associated cooperative learning with well-structured knowledge domains, and collaborative learning with ill-structured knowledge domains. Roschelle and Teasley (1995) state that: “Cooperation is accomplished by the division of labor among participants, as an activity where each person is responsible for a portion of the problem solving...” while collaborative learning involves the “... mutual engagement of participants in a coordinated effort to solve the problem together” (p. 70). Because of the complexity of the factors involved, namely, varied interpretations of meaning and flexible solution paths are allowed for each essay as well as the presence of unclear initial situational aspects in the form of student prior knowledge and level of expertise as well as goals and constraints each essay writing assignment is best seen as an ill-structured problem situation (Bean, 1996). Knowlton, Knowlton, and Davis (2000) also state that knowledge construction is best accomplished through collaboration. The students in general, learn through the iterative “give and take” and concept refinements among their peers that encourage them to revise their views and test their revised views in light of further peer review among the class (Knowlton, et al., 2000). Studies involving the process of collaboration have shown higher engagement, quality of writing and a keen sense of ownership for the product among each member of the group (Enghag, Niedderer, & Bernhard, 2004).

One of the problems associated with collaborative learning is the difficulty in achieving a shared understanding among its members. As the group members come from various or unique background and experience, they bring together their own knowledge and skills during the collaborative work. This problem was also reported by Häkkinen and Järvelä (2006), and they have initially suggested the use of scripts or specific instructions on how the tasks were to be divided collaboratively. Järvelä, Näykki, Laru, and Luokkanen (2007) however found that as an alternative to scripting, the structuring of collaborative activities could be accomplished with technology-based regulation tools such as weblogs and wiki which offered sufficient mechanisms for an individual as well as groups of learners to self-regulate their collaborative learning processes. They further suggest that research into self-regulation which has traditionally focused on the individual perspective should extend to the social level to include concepts such as social regulation, co-regulation and shared regulation. The conceptualization of collective regulation where groups develop shared awareness of goals, progress, and task leads to the concepts of shared understanding and shared cognition.

1.3 Problem Statement

A considerable number of studies have consistently found significant positive correlations between academic achievement and self-regulated learning (Lindner & Harris, 1993; Pokay & Blumenfeld, 1990; Pintrich, 1989; Pintrich & De Groot, 1990; Zimmerman & Martinez-Pons, 1986) with higher self-regulation resulting in better academic achievement. An increasing body of research also substantiates that the

learners' use of self-regulation strategies sustains learning efforts and promotes academic achievement (Schunk, 1989; Zimmerman & Martinez-Pons, 1992).

Research findings in online collaborative learning environments involving small groups found that strong external guidance or supervision are preferred for more successful attainment of learning objectives (Langie, Lauriks, Lagendijk & Cannaerts, 2006; Fakler & Perisse, 2004) in line with the need for scaffolding as defined by Vygotsky (1978). Online guides or tutors are called moderators in which Salmon (2003), Mason (1991) and Brochet (1989) offer elaborate stages of learning and the corresponding roles that moderators can play to ensure full attainment at each phase of learning. However, wiki is huge and structureless and generates huge databases of records of activities and inputs that are impossible to track individually. So, the traditional roles of online moderators are not applicable in wiki environment. Unlike in a traditional classroom setting whereby the students may still need external guidance or supervision, in an online learning environment, the support or scaffolding can be provided by pedagogical agents. Several studies have shown the significant role of pedagogical agents on increasing learning engagement and continuous learning task execution (Cassell, 2001; Huang, 1999; Okonkwo & Vassilev, 2001; Predinger & Ishizuka, 2003). Moreno, Mayer, Spires and Lester (2001) argue that a teacher agent has been shown to be effective teacher by increasing interest and transfer of knowledge. Morishima, Nakajima, Brave, Yamada, Maldonado, Nass and Kawaji (2004) assure that the presence of a co-learner agent provides increased richness in the social interaction space, which in turn leads to increased learning.

Laurel (1997) defines agent as “ a character enacted by the computer, who acts on behalf of the user in a virtual (computer-based) environment”. In the education field, a pedagogical agent is widely attributed to being life-like character which acts as a cognitive or communication tool guiding students in experiencing the learning materials better (Craig & Gholson, 2002; Clark & Mayer, 2003; Moreno, 1999). Nwana (1996) classifies pedagogical agents by their roles into four types, namely Collaborative agent, Interface agent, Collaborative Learning agent, and Smart agent while Woodridge and Jennings (1995) classify the agents according to their characteristics namely, Autonomy (agents that operate without direct human intervention and have some control over their actions and internal state); Social Ability (agents that interact with other agents and humans through some defined protocol); Reactivity (agents that perceive their environment and can respond to it in a timely fashion); and Proactiveness (agents that do not just respond to the environment, but can take a proactive role and exhibit some goal-oriented behaviour).

Although collaborative learning has been used in many countries, it is not a common practice in Arab nations including Yemen. This is more obvious in gender and location segregated learning environment settings. Due to the gender segregation in these settings, there is a lack of both synchronous and asynchronous communication. Asynchronous communication has many advantages which include the ability for students to correspond regardless of time. Students may read and respond to topics and comments, regardless of the time zone differences. Another clear advantage of asynchronous communication is that it gives students more time to think about the topics

posted online, thus promotes higher quality learning that this research is hoping to promote with Wiki.

Based on the researcher's experience in teaching at the University of Science and Technology, UST in Yemen, there is an absence of collaboration among the students. Although learning management system or LMS is used in some classes, no collaboration is being practiced. In fact, LMSs are only used for presenting information and not used for discussion or collaborative activities. Thus, even with LMS, the instructional method used is individual learning. And based on the experience of the researcher in using the wiki learning environment, it was found that if no strong guidance or supervision is involved in the wiki environment, students would eventually discuss irrelevant issues and later just stop contributing to wiki. Thus, in the individual learning mode, students have a high tendency to losing focus on issues being brought earlier in the wiki.

Wiki offers a good platform for collaborative learning in essay writing but the system does not allow for productive work by human e-moderators. However, no study has been conducted to investigate the effects of pedagogical agents as e-moderators in the wiki environment with students with different SRL levels. For the wiki environment, the human e-moderator would be indistinguishable from a collaborative learning agent with social ability and proactiveness.

In the individual learning mode, the performance of each student is guided entirely by his or her level of mastery in regulating his/her learning (Pintrich & DeGroot, 1990). The use of cooperative or collaborative groups that consist of members with

different levels of self-regulation abilities theoretically offers a source of supervision or guidance from the members with higher abilities (Vygotsky, 1978; Johnson & Johnson, 1998). The presence of a more informed e-moderator in supervising, guiding, or coaching capacities also assists in helping students maintain focus and direction of the tasks (Salmon, 2003). However, the use of e-moderators in these studies were mostly in learning situations involving children and classroom learning tasks. No study has been conducted to investigate the benefits of using e-moderators among university students with high and low self-regulating abilities in online collaboration tasks when using wikis. Thus, this study investigates whether e-moderators and collaborative strategy are necessary in the wiki environment.

1.4 Purpose of the Study

The purpose of the study is to investigate the differential effects of collaboration and supervision in a wiki environment on quality of writing among students with different levels of Self Regulated Learning, actual engagement, effort, and ownership. Specifically, this study intends to investigate the effects of collaborative efforts with and without e-moderators on students' quality of writing, actual engagement, efforts and ownership in online learning settings in the wiki environment. The researcher believes that the use of wiki with e-moderator will change the way students learn and engage on their learning process.

1.5 Significance of the study

By assessing the impact of wiki application in this study, it will help to give us a step forward to design a wiki environment that fulfills the needs of the learning process that promotes higher thinking and collaboration. Also, the findings of this study would enrich the development of instructional design field especially for online learning. The traditional Instructional Design models usually involve five phases – Analysis, Design, Development, Implementation and Evaluation. As most of the models are based on the objectivist paradigm- behaviorist and cognitive, it will be of significance if online learning that will promote constructivist approach is applied.

One of the significant parts of this study rises from the fact that there is still a big demand in gender-segregation educational systems specifically in the Middle East region. This study hopefully, will remove the barriers of student's face-to-face participations from both genders in Yemen. From practical standpoint, the study would look forward for greater collaboration between students regardless of their gender and encourage more collaborative activities in writing essays, critiquing poets and novels for the subject of the 20th century of the English literature. In addition, this study will introduce wiki as a collaborative tool to be used in universities where gender-segregation is still being practiced, with the hope that it will promote equal learning. It also argues that wiki technology is an effective Synchronous and Asynchronous Distributed Brainstorming (SADB) tool. It could be used to facilitate the rapid and successful growth of ideas on problem solving (Davies, 2004). Moreover, this study argues that wiki provides a platform for enabling to contribute, exchange ideas and solve problems in a certain topic.

1.6 Theoretical Framework

Writing involves the processes of knowledge construction (Tin, 2000) and self-regulation (Flowers & Hayes, 1981). According to Aviv, Erlich, Ravid and Geva (2003) knowledge construction proceeds through five phases, which are:

1. Sharing/Comparing Knowledge
2. Discover/Explore disagreements/conflicts
3. Synthesis via negotiating meaning
4. Testing/modifying proposed synthesis vs. schemas, theory, facts, beliefs
5. Proofs of reaching agreements or meta-cognitive admitting to change of knowledge.

Guiding the activities in these phases are cognitive and meta-cognitive processes that interact continually as the writers think through their goals, search for ideas and vocabulary, and evaluate and review the text that they have written (Flower & Hayes, 1981). Pintrich (1989) and Zeidner, Boekaerts, and Pintrich (2000) argued that meta-cognitive processes or self-regulation involve a number of integrated micro-processes, including goal setting, strategic planning, use of effective strategies to organize, code, and storage of information, monitoring, self-motivational beliefs, evaluation, self-reflection and experiencing pride and satisfaction with one's efforts and found consistent positive correlations between self regulation and academic achievement. In contemporary accounts of academic learning, self-regulated learning has become a crucial construct. Theoretical and empirical investigations indicate that learners that are more effective are self-regulating (Winne, 1995). Corno and Mandinach (1983)

presented a theoretical framework on motivation, learning, and instruction that attempted to accommodate the major student-level and instructionally relevant variables linked to student engagement. This model assumes that students who are more actively engaged in their schoolwork are more tending to academic success. In addition, students alternate their self-regulatory learning process according to different educational environment settings and this model suggested that different educational environments gave different demands.

Self-Regulated Learning (SRL) is defined as, “an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features of the environment” (Pintrich, 2000, p.453). In the wiki environment, these phases involve cognitive process at the individual and the group levels. Individual engagement in using wiki in constructing knowledge involve internal factors such as exploration and investigation, problem solving skills, skills in self monitoring and analysis and prior knowledge in the areas relevant to the problem at hand and his thoughts and formulation are then recorded in the wiki. Group factors involve the continuous comparisons of knowledge and formulations submitted by group members, and negotiation of meaning and synthesis based on the shared wiki that include processes such as interpretation, transformation, reflection and consolidation.

The flow and distribution of these processes are given in the framework as shown in Figure 1.1

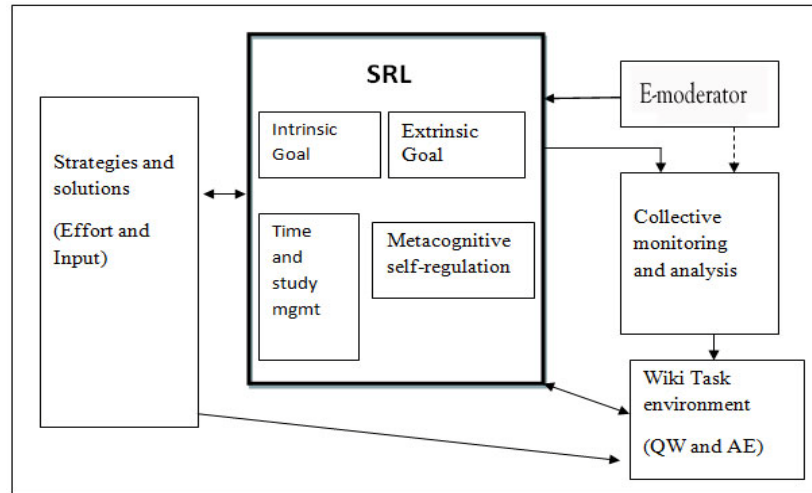


Figure 1.1: Framework for collaborative self-regulated learning

1.7 Research Questions

1. Do Quality of writing and Actual engagement in the wiki environment differ significantly with the presence of e-moderators?
2. Do Quality of writing and Actual engagement in the wiki environment among students with different levels of SRL differ significantly with the presence of e-moderators?
3. Does Collaboration in the form of email sent and wiki inputs among students in the wiki environment differ significantly with the presence of e-moderators?
4. Does Collaboration in the form of email sent and wiki inputs among students with different SRL in the wiki environment differ significantly with the presence of e-moderators?
5. Are there interaction effects between SRL and the treatment methods in Collaboration through email and Wiki inputs?

6. Do perceptions of ownership and effort spent differ by the presence of the e-moderator and SRL?

1.8 Research Hypotheses

- H01: There are no significant differences in (a) quality of writing, QW and (b) actual engagement, AE in the wiki environment between the groups with e-moderator and that without e-moderator.
- H02: There are no significant differences in (a) QW and (b) AE in the wiki environment among students with different levels of SRL in the groups with e-moderator and without e-moderator.
- H03: There are no significant differences in collaboration in the form of (a) emails sent and (b) wiki inputs among students in the groups with e-moderator and without e-moderator.
- H04: There are no significant differences in collaboration in the form of (a) emails sent and (b) wiki inputs among students with different SRL levels in the groups with e-moderator and without e-moderator.
- H05: There are no significant interaction effects between SRL and the treatment methods in collaboration in the form of (a) emails sent and (b) wiki inputs.
- H06: There are no significant differences in perceptions of effort spent between groups (a) with e-moderator and (b) without e-moderator by SRL.
- H07: There are no significant differences in perceptions of ownership between groups (a) with e-moderator and (b) without e-moderator by SRL.

1.9 Limitations and Delimitations

In terms of generalization, the results of this study are limited to the following:

1. It is confined to the English Literature topic of 20th Century Literature (Poetry / Novels). Thus, this study may not be generalized for other topics unless they have common similarities of the nature of the subject matter.
2. It is confined with the period of one semester that lasts approximately for four months at the University of Science and Technology, Yemen. This study believes that, the longer we apply this study, the more results will be revealed that makes it more reliable and dependable.
3. It is confined to the students of undergraduate level in English Literature and who have access to online learning.
4. The scope of this study is confined to the learning environment where the Internet is a supplementary reference for students and instructors. A combination of online teaching-learning and face-to-face sessions is within the scope of this study.
5. Because of the nature of the access to the Internet from anywhere, any place, it is quite difficult to ensure that the participants are actually the registered students. The honesty of the students is mandatory, for example, they have to keep their usernames and passwords to themselves only. However, precautionary steps were taken to somehow constrain such dishonesty by recording the Internet Protocol, IP address.

1.10 Operational Definitions

1.10.1 Quality of Writing

Achievement goals are the reasons individuals do their academic work, and can be described in terms of either task or performance orientation (Pajares, Hartley, & Valiante, 2000). In this study, the student's performance was identified as the overall quality of writing for this purpose; rubric was designed for this study, which contains 7 points as follows: (i) Analytical and critical perception, (ii) New ideas and themes, (iii) Elaboration: measured by how many pages created and how deep was it, (iv) Quality of Inputs, (v) Logical sequence of the writing, (vi) Text formatting, and (vii) Checking for language.

1.10.2 Knowledge Construction

Knowledge Construction Process proceeds through five phases, which are:

1. Sharing/Comparing Knowledge.
2. Discover/Explore disagreements/conflicts.
3. Synthesis via negotiating meaning.
4. Testing/modifying proposed synthesis vs. schemas, theory, facts, and beliefs.
5. Proofs of reaching agreements or meta-cognitive admitting change of knowledge.

In this study, the final product of the project of wiki is the knowledge constructed from the collective monitoring and analysis of essay project.

1.10.3 Actual Engagement

Actual engagement is the quality of wiki input to the essay project. In this study, the student's scores in actual engagement are based on 7 items rubric consisting of: (i) Creating Structure of the Topic, (ii) Revising and Summarizing, (iii) Elaborating on topic by Creating New Pages and Links, (iv) Major contribution to the topic by paragraphs, (v) Illustration by graphs, (vi) Minor contribution to the topic by sentences and (vii) Check for language, terminology and formatting topic's text.

1.10.4 Collaboration

Electronic communication between group members in the form of number of emails and number of wiki inputs as registered in the wiki history. The email facility resides in the tikiwiki which is a part of the wiki system where as the wiki inputs are the posts made by each student and resides in the history button of wiki.

1.10.5 Effort

The intensity of participation and original contribution on the tasks as reported by the students. This variable is part of the National Survey for Students Engagement (NSSE) distributed to the research sample.

1.10.6 Ownership

The degree of personal involvement, commitment, responsibilities, shared interest and meaningfulness in the final wiki writing product as claimed by each individual student. This variable is also part of the National Survey for Students Engagement (NSSE) distributed to the research sample.

1.10.7 Self-Regulated-Learning (SRL)

Learning that occurs largely from the influence of students' self-generated thoughts, feelings, strategies, and behaviors, which are oriented toward the attainment of goals (Schunk & Zimmerman, 1998). In this study, the student's level of SRL will be measured through the Motivated Strategies Learning Questionnaire (MSLQ) instrument developed by Pintrich, Smith, Garcia, and McKeachie (1991). Based on the MSLQ mean score, they will be categorized as either low SRL or high SRL.

1.10.8 Wiki

Wiki is a piece of server software that allows users to freely create and edit Web page content using any Web browser. Wiki supports hyperlinks and has simple text syntax for creating new pages and cross links between internal pages on the fly (wiki.org, 1995). In this study, the students will work in this new technology platform where the main content (in this case, the English writing task) is developed, led and organized by themselves. The uniform resource locator, URL, for tikiwiki <http://info.tikiwiki.org/tiki-index.php>

1.10.8.1 TikiWiki:

The add-ons of the wiki which personalizes each individual web page, called MyTiki that gives the facility of collaboration to work in one-to-one mode using the Tiki mailing system and one-to-many using the broadcasting feature in addition to the many-

to-many collaborative work in the wiki system itself. Students will have the opportunity to bookmark some of their favorite resources in their “mytiki” so that it would be accessible anywhere. They can personalize their own pages and belonging data kept in their area of “mytiki” and upload files, images and focus on new submissions on specific pages. In this wiki environment, students are grouped into either with e-moderator (experimental group) or without e-moderator (Control Group).

1.10.9 E-moderator

The e-moderator’s role is very important as it acts as the facilitator to guide the misconception that may go with online due to the huge and unstructured data aggregated from the web. An e-moderator is an individual who “presides over an electronic meeting or conference...” (Salmon, 2003, p. 4). It is therefore implied that e-moderating must be effectively integrated into both synchronous and asynchronous computer-mediated conferences, CMCs.

In this study, the role of e-moderator is to encourage participation, remind students of their assignment, and help them manage their time efficiently. For the control group, (without e-moderator), the instructor would first suggest or initiate a topic to start with, and the student will start postings on the wiki environment. Therefore, in this control group, no interference at all in terms of reminding, alerting and encouraging from the e-moderator.

1.11 Summary

In addition to the lack of collaboration between genders, there is a lack between male students themselves in the campus of the men's branch as well as the female students in the campus of the women's branch. The researcher believes that wiki is a better collaboration platform to overcome these problems and to enhance their quality of writing and engage more in learning. Although wiki is assumed to be a better platform to collaborate, the absence of e-moderator would result that students disperse the focus of the topics and consequently less academic engagement and lower quality of writing.

CHAPTER TWO

LITERATURE REVIEW

*'I have always imagined the information space as something to which everyone has immediate and intuitive access, and not just to browse, but to **create**.'* Berners-Lee (1999)

2.1 Introduction

Nowadays, Wikis, Wikipedia, Facebook, Flickr, Friendster, Google Maps and other web applications that allow unlimited inputs and active participation, sharing, opening, and aggregation of data by everyone are against Web 1.0 that is simply browsing HTML pages through browser (Web 1.0 mode) that is just for reading. Web 2.0 is a revolution of application from the core content to the external application (Grewal, 2007). The change from Web 1.0 to Web 2.0 as Zhu (2005) pointed out is from simply "reading" to "write" and "jointly build" development on the model. Web 2.0 is becoming the new development trend of Internet (Meng, 2006). One of the definitions of Web 2.0 states that Web 2.0 is the collective designation of new Internet applications.

Booths (2001) and Carter (2002) have suggested a strong rationale for including hypertextual theory into the composition classroom. In her study, Booths (2001) brought an example that historical root of liberal education are to create good citizens and in order to do this, one must be skilled in the rhetoric of the presents and be able to communicate effectively in civic life and in the workplace. Nowadays, the web presence is an effective communication skill that is rapidly growing in today's world, so hypertext writing would be a great skill to develop. Another reason Booth (2001) has suggested for

including hypertext theory in the composition classroom is that it expands students' literacy. Today's literacy differs than the old days - to be able to literate in today's society and in college means to be able to write effectively for a screen as well as a paper.

Anderson (2007) summarizes the big ideas behind Web 2.0 and lists six ideas that first O'Reilly (2005) has previously outlined: (1) individual production and user generated content, (2) harness the power of the crowd, (3) data on an epic scale, (4) architecture of participation, (5) network Effects, and (6) openness. Grewal (2007) believes that the environment of Web 2.0 supports students' ideas, gives the chance to interact with their peers and lecturers and feel free to put forward their ideas without premature judgment. Moreover, utilizing a diverse range of learning activities facilitated by social technology enables the needs of heterogeneous student groups to be met whilst encouraging active learning.

In the study of Wang, Fang and Chen (2008), where they presented a collaborative knowledge building model based on Singh, Hawkins and Whymark's (2007) model and they described computer support for the phases of the model which takes Web 2.0, Complex Adaptive System (CAS) theory and Computer Support of Collaborative of Learning (CSCL) into account. They believed that Web 2.0 has the power to create the model of a collaborative knowledge-building (CKB) that refers to active processes of constructing group-sharing understandings of knowledge, which involves one's contributions to others and the use of the contributions from others. Cardamalia and Bereiter (1994) proposed that schools should function as knowledge

building. O'Reilly (2005) - the first to raise Web 2.0 and the CEO of *O'Reilly Media Company*, stated that the recent emergence of Web 2.0 and social software with characteristics of sharing, opening, collective intelligence and everyone involved is leading to a new idea of learning environments in light of new developments in the science of learning.

2.2 Essay Writing and Assessment

Academic essays demonstrate students' skills in writing a given language and their knowledge and understanding of a topic. The assumptions of undergraduate students are that they are good writers to promote success within and beyond the university experience. However, for some students, essay writing is somehow frustrating, challenging, and time consuming, especially in academic level. In writing academic essays, students follow the conventions and terminology of a given language and field in explaining their understanding of the subject and related issues as well as demonstrating their analytical and evaluation skills by taking into account different and opposing viewpoints and presenting their arguments.

The most interesting and complex feature in online educational communities is being interactive and reflective at the same time. According to the individuals' intellectual understanding to the public sphere, they have the freedom of private reflective through the web. This is done by writing to communicate and share ideas. Austin (2005) classifies the types and levels of writing into private/personal, public and academic, as illustrated in Figure 2.1, based on the rigors and the structure inherent in them. According to this classification, blogs are the space for personal writing and no