

Facebook and Collaborative Learning: An Empirical Study on Online Assessment

Malissa Maria. Mahmud and Shiau Foong. Wong

Sunway University, Centre for American Education, Bandar Sunway, Malaysia

Email: {malissam, janicew}@sunway.edu.my

Abstract—Collaborative learning induces participation and involvement amongst learner. However, the distribution of tasks within a collaborative environment may lead to unequal contributions of shared roles and responsibilities due to the common perils in the case of social loafing or domineering learners. Current trends in the area of collaborative learning have established an array of approaches designed to constitute a sense of accountability and relations of constructive interdependence amongst learners. For this study, these two philosophies and concepts have been synthesized to determine the efficacy of online peer assessment within a collaborative learning environment. With the institution of accountability and relations of constructive interdependence amongst learners, it is assumed that the assessment process may diminish and eradicate learners ensuing marks from collective effort, whilst with learners executing their evaluations individually, sense of dominance is dubious to the context. By employing blended learning approach, this study leverages on the integration of technology to determine the viability of Facebook and online peer assessment's integration for an English Critical and Creative Writing class. Research instruments comprised of a survey questionnaire to probe on the learners' attitudes and perceptions towards social loafing, online peer assessment, and collaborative learning environment as well as an online peer assessment designed via Facebook. The results of the study advocate the incorporation of online peer assessment and collaborative learning environment in which learners can benefit from these nifty instructional strategies and substantially enhance students' interest and motivation.

Index Terms—Facebook, collaborative learning, peer assessment, constructive interdependence

I. INTRODUCTION

The amplified designations and uses of collaborative learning in the language classrooms are undoubtedly due to the role and innovations of Web 2.0; for example, Wikipedia, edublogs, online forums, Flickr, YouTube, MySpace and, Facebook. These new applications permit the users to associate and work together with one another through online networking in a virtual group [1]. In recent years, there has been an increasing amount of literature which divulges a perceptible upsurge of interest in collaborative writing [2]-[6]. Despite its applications and benefits, the allocation of tasks within a collaborative

environment may lead to unsatisfactory contribution due to the common threats in the case of social loafing or a domineering learner. Current trends in the area of collaborative learning have established an array of approaches designed to constitute a sense of accountability and relations of constructive interdependence amongst learners utilizing different technological tools readily available for both teachers and learners. With the growing number of users, it is of no surprise that even the education sector leverages and reaps on the benefits of using Facebook in a classroom context. Features obtainable on Facebook including "wall", "info", "blog", "friends", "like", "unlike", "comment", "poke", "send message", "share photos", "links", and "video" allow its users with a variability of means to connect and interact with each other in particular, the "share status" feature plays an imperative part. Herein, users can promptly discuss and share information and knowledge via the share status function, which is comparable to an online discussion board or forum. Students are able to communicate in online dialogs which can encourage a learner-focused approach and provide a chance to hone and learn new information and aptitudes in an empowering environment [7]-[9]. Therefore, to leverage on the Web 2.0 technology, Facebook and peer assessment were incorporated in a blended learning context in a 14 weeks' semester-long English writing class to discover its efficacy and the students' perceptions towards this learning model. Thus, to probe specifically on students' attitudes and perceptions towards social loafing, collaborative learning and peer online assessment, these research questions were postulated:

1. What are the students' attitudes and perceptions towards social loafing?
2. What are the students' attitudes and perceptions towards collaborative learning?
3. What are the students' attitudes and perceptions towards peer online assessment?

II. LITERATURE REVIEW

Current researches have been progressively roused by socially constructed point of view on teaching and learning. Specifically, various studies on web learning are motivated by constructivist and social learning hypotheses [10]. Since the 1990s, constructivism has made a significant impact on training, especially in the

field of instructional innovation [11]. Social constructivists' hypothesis and supposition expect that students' demonstration and reflection to occur within specific domains, and this in turn would result in experiential learning [12]. Woo & Reeves [11] additionally expressed that the standards of constructivist learning hypothesis focuses on important connections in a learning situation which are intended to improve significant learning process, including sharing different points of view and encounters in groups. Furthermore, Birch and Volkov [8], Wilson and Stacey [13] pointed out that the ideal model of social constructivist spotlights on the adaptation of learner-focused in which learners can share their insight, aptitudes, encounters, and viewpoints with one another. Students are urged to take part in dynamic discourse with different students and teachers to inculcate conducive learning [14]. Wang [15] furthermore reports that online learning has been bolstered by learning hypotheses that underscore the opportunity for an avenue to exist where learners can attain and offer information. In this sense, web-based innovation seems to improve learning by all accounts; to empower and support learning process which consequently improves students' performance [16].

The emergence and growth of Web 2.0 technologies have prompted and led to accumulating number of learning avenues and platforms which encourage the rise of virtual community [17], [18]. Social networking sites for example Facebook, Twitter, YouTube, and Tumblr are amongst the most preferred sites by the young generation. The top of the list is Facebook and this is due to Facebook's interface which is easily navigable features, a form of viable apparatus for facilitating common impediments in communication such as language boundaries and social hindrances [1]. Furthermore, numerous researches have indicated that the employment of Web 2.0 advances in the classroom context can result in positive repercussions to scaffold students' learning [19], [20]. In addition to the positive impacts, learning processes supplemented or assisted with technology augment the facilitation of feedback or assessment which in turn enriches learning experiences amongst students [21].

It has been established by recent research findings from numerous studies that online learning and instruction amplifies language learning. According to Conroy [22], the Internet-based language learning enhances independent academic writing amongst college students. Through such instruction, a variety of elements such as bulletin boards and online discussions encourage a positive dynamic onto how the learners or even instructors communicate. In this context, ESL students who may not have the confidence to converse in face to face setting can leverage on these features, to be involved in an online discussions or forums. Consequently, it can aid these students to surmount their linguistics limitations. With technology, the approaches used in the classrooms can be diversified hence providing a unique platform for students to collaborate which in turn offer learning opportunities for them to learn and interact with each

other. Similar reiteration is found in [23], [24] where findings from these studies indicated that collaborative learning stimulate active learning.

In recent years, there has been an increasing amount of literature on collaborative learning from the social constructivist perspectives. This is due to the causality that students are deemed more effective in weathering inter-relationships with their group members through affirmative discussions which can be attained in a collaborative learning environment. Shih [21] found that blended learning that integrates online and face to face instruction initiate an effective teaching and learning environment for both instructors and students. Not only that, based on the results of the same study, blended learning can enhance students' motivation. In this context, students - teachers' interaction can affect the students' motivation which in turn shape the effectiveness of their learning process [25].

The web 2.0 not only incepted diverse approaches to teaching and learning but also to how assessments are conducted. More recent attention has focused on the provision of utilizing online peer assessment which can be an effective alternative to promote students' performance and learning satisfaction [21], [26] – [32]. Herein, not only students can benefit from collaborative learning environment but also how they are assessed which manifest both the elements of face to face and technology supported means. In addition, using online peer assessment as an option to face to face communication boosts learners' motivation, participation, and collaboration [21], [30], [33]. At this juncture, students and teachers can leverage on the combination of technology, collaborative learning context and online peer assessment to partake in a more efficacious teaching and learning environment and this is undoubtedly aligned with the social constructivist theory where parties involved in a learning process are able to contribute to the whole development.

In a nutshell, instructional method, innovation, and social communication are the key elements for a technology assisted learning environment. The combination of Web 2.0 technology, Facebook, and online peer assessment with face to face instruction can be a new and feasible instrument for L2 teachers and learners to improve their performance and satisfaction which consecutively can affect motivation in learning.

III. RESEARCH METHODOLOGY

A. Participants

There were 50 respondents who participated in the survey and 14 participants took part in the peer online assessment. All of the respondents and participants are students in Sunway University. The 14 participants involved in the peer online assessment were from the Center for American Education (CAE) and all of them enrolled in the Introduction to Creative and Critical Writing (ENGL2014) course. The respondents and participants major in a variety of disciplines and their ages vary between 18 to 22 years old.

B. Instrument

A Facebook group was created solely for the purpose of the study. Besides the Facebook group, a questionnaire was made which consisted of three parts and it was posted on ADTP's Facebook group. Besides, a peer online assessment was designed utilizing a set of assessment criteria/rubric in order to gain more accurate evaluations based on a peer contribution for one of the assessments; research paper writing for Creative and Critical Writing ENGL2014. This peer online assessment was conducted via a Facebook group created for the purpose of the study.

C. Procedure

Step 1

First, the link to the questionnaire was posted on the ADTP's Facebook group:

https://docs.google.com/forms/d/12CN9cbjQ0fZHAG9QbhHTuCFMX5hpmu4UGbfheZ5OPQ/viewform?usp=send_form. Posting the questionnaire online is a viable means of data collection by which random sampling could be executed and in turn offer unbiased set of data. This set of data was obtained to answer one of the research questions formulated for this study. Next, a word document containing instructions on how the participants could evaluate their peers was made available and posted on the Peer Online Assessment (ENGL2014) Facebook group. This set of data was acquired to gauge the efficacy of peer online assessment via Facebook.

Step 2

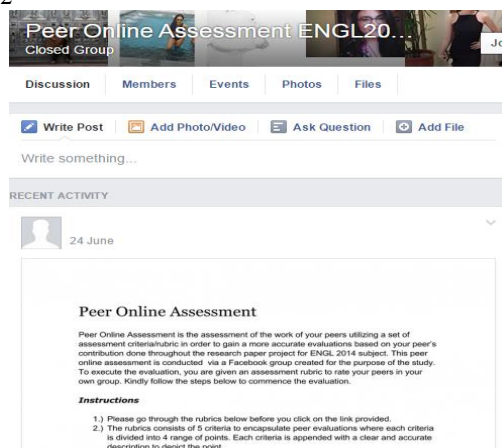


Figure 1. Purpose, instructions, and rubrics for peer online assessment.

All of the enrolled students for Introduction to Creative and Critical Writing (ENGL2014) course were requested to join the created Facebook group of Peer Online Assessment (ENGL2014). Sixty percent (60%) was allocated for the formative assessments and for one of the assessments, the students were required to write a research paper which carries 30%. The research paper is a group work where all of the group members were required to contribute their part respectively. Once the students joined the Facebook group, they were asked to click on the google docs link in the Facebook group of Peer Online Assessment (ENGL2014). This link led the students to the *purpose, instructions, and rubrics* for the peer online assessment to evaluate their group members

(See Fig. 1). The rubrics consisted of 5 criterions to encapsulate peer evaluations where each criterion are divided into 4 range of points. Each criterion is appended with a clear and accurate description to depict the point. Below the rubric, another link was provided to direct the students to the peer online assessment page.

Step 3

Next, the students were asked to click on the link given https://docs.google.com/forms/d/17I91YS5hHN9z6_1AFsdEJ127sjPMh2NtOjUY60KkLWg/viewform?usp=send_form - peer online assessment page (see Fig. 2). Here, they evaluated and rated their group members individually as per the outlined criteria in the rubric.

Figure 2. Link for evaluation of group members.

IV. RESULTS

A. Demographic (Part A)

There were 50 respondents; 43 Malaysian and 7 international respondents participated in the survey. There were 31 males and 19 females with ages from 17-22 years old and all respondents study at the American Degree Transfer Program (ADTP) in Sunway University.

B. Questionnaire (Part B)

TABLE I. SOCIAL LOAFING

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	4%	16%	22%	32%	26%
2.	2%	14%	32%	40%	12%
3.	2%	16%	32%	48%	2%
4.	2%	22%	18%	30%	28%
5.	0%	6%	24%	36%	34%
Mean	2%	14.80%	25.60%	37.20%	20.40%

Notation: (refer to Appendix II: Items Used in The Questionnaire)

Table I above shows that the majority of the students had negative perceptions towards social loafing with the total mean of 57.6% for both agree and strongly disagree scales. In contrast, the disagreement spectrum shows the total mean of 16.8% for both disagree and strongly disagree scales. In this context, the respondents viewed social loafing as negative especially when social loafing builds up frustration and anger as the marks given are similar even to the peers who contributed nothing in the group work where it is indicated in the total of 70% for both agree and strongly agree scales.

TABLE II. COLLABORATIVE LEARNING

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	0%	4%	28%	60%	8%
2.	0%	6%	16%	58%	20%
3.	4%	10%	44%	34%	8%
4.	0%	6%	22%	66%	6%
5.	4%	8%	32%	46%	8%
Mean	1.6%	6.8%	28.4%	52.8%	10%

Notation: (refer to Appendix II: Items Used in The Questionnaire)

Table II above displays the attitudes towards collaborative learning amongst students in ADTP, Sunway University. In this context, 68% of the respondents agreed that collaborative learning boosts their critical thinking. In addition, it is noted that the respondents affirmed that collaborative learning induces motivation with the total agreement of 72% for both agree and strongly agree scales. The total mean of 62.8% for both agree and strongly agree scales to reiterate the positive attitudes towards collaborative learning.

TABLE III. PEER ONLINE ASSESSMENT

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	2%	6%	20%	54%	14%
2.	8%	46%	26%	12%	4%
3.	2%	8%	48%	32%	6%
4.	4%	6%	26%	48%	10%
5.	2%	6%	40%	34%	14%
Mean	3.6%	14.4%	32%	36%	9.6%

Notation: (refer to Appendix II: Items Used in The Questionnaire)

Table III above illustrates the common perceptions and attitudes towards peer online assessment. It is noteworthy that the respondents felt that peer online assessment can be utilized as an avenue for them to channel their feedbacks with the total agreement of 68%. Moreover, the respondents also had positive view on how peer online assessment allowed them to communicate with their peers in order to attain information so that solution can be achieved. This view was exemplified with the total agreement of 58% for both agree and strongly agree scales. The total mean of 45.6% for both agree and strongly agree scales to show the opinion of the respondents towards peer online assessment.

C. Peer Online Assessment

The results below indicate the marks given by each group to their group members. With the total of 14 participants involved in the peer online assessment and all were divided into 4 groups: Group A, B, C and D. The members evaluated each other based on a set of assessment criteria/rubrics (see Appendix I: Group Evaluation Rubric). The rubric has five criteria; effort, participation, communication, attitude, and contribution where each peer was rated based on the scale from 1 to 5. The points from each group member were summed for each criteria and subsequently the total for all criteria was calculated using percentages and mean. Consequently, the data tabulated was used to identify social loafers amongst the group members. Through the online peer assessment, total number of social loafers amongst the students in Introduction to Creative and Critical Writing

(ENGL2014) course is 2/14 with the total 14.3%. Tables 4, 5, 6 and 7 below show the details of points obtained for individual member.

TABLE IV. GROUP A

Group Member	1	2	3	4
Effort	11/15	15/15	11/15	8/15
Participation	12/15	15/15	11/15	7/15
Communication	13/15	15/15	10/15	9/15
Attitude	10/15	15/15	11/15	9/15
Contribution	13/15	15/15	13/15	7/15
Total	59/75	75/75	56/75	40/75
%	78.7	100	74.7	53.3
Mean	11.8	15	11.2	8

Table IV above displays the evaluation obtained via the peer online assessment for Group A. The total group members were 4 and each member evaluated 3 members. Out of the 4 group members, one of them obtained a significantly low total point; 53.3%.

TABLE V. GROUP B

Group Member	1	2	3	4
Effort	13/15	15/15	11/15	9/15
Participation	14/15	14/15	13/15	12/15
Communication	13/15	15/15	14/15	11/15
Attitude	12/15	14/15	13/15	11/15
Contribution	13/15	12/15	15/15	10/15
Total	65/75	70/75	66/75	53/75
%	86.7	93.3	88	70.7
Mean	13	14	13.2	10.6

Table V above displays the evaluation obtained via the peer online assessment for Group B. The total group members were 4 and each member evaluated 3 members. All of the group members obtained a total percentage of 70% and above.

TABLE VI. GROUP C

Group Member	1	2	3
Effort	8/10	8/10	8/10
Participation	9/10	8/10	7/10
Communication	8/10	9/10	10/10
Attitude	7/10	8/10	8/10
Contribution	8/10	9/10	8/10
Total	40/50	42/50	41/50
%	80	84	82
Mean	8	8.4	8.2

Table VI above displays the evaluation obtained via the peer online assessment for Group C. The total group members were 3 and each member evaluated 2 members. All of the group members obtained a total percentage of 80% and above.

TABLE VII. GROUP D

Group Member	1	2	3
Effort	6/10	10/10	2/10
Participation	7/10	9/10	4/10
Communication	5/10	10/10	2/10
Attitude	7/10	10/10	2/10
Contribution	6/10	9/10	3/10
Total	31/50	48/50	13/50
%	62	96	26
Mean	6.2	9.6	2.6

Table VII above displays the evaluation obtained via the peer online assessment for Group D. The total group members were 3 and each member evaluated 2 members. Out of the 3 group members, one of them obtained a significantly low total point; 26%.

V. DISCUSSION

The integration of online peer assessment on Facebook was incorporated in this study along with the face to face instruction. The quantitative data from the survey indicated that, on average, the students found through the blended instructional approach employed in this study, they tremendously benefited from the context of collaborative learning and peer online assessment. The finding corroborates the existing studies on how online assessment promotes learning process process [34]. Moreover, the findings suggest that the students were able to create a richer body of content and optimize the content of learning through the collaborative learning environment. This is consistent with a study done by Kerton, and Cervato [35] that online assessment is a game changer, moving forward. In addition to the affirmation shown on collaborative learning, the students were also certain that the online peer assessment process allowed them to provide appropriate and relevant feedbacks, enhance their assessment practices, as well as communicate with their respective group members in order to gain subject knowledge and ultimately obtain solution to a problem. Hence, through peer assessment process it can deduce that students can incessantly acquire relevant knowledge and skills.

Undoubtedly the suitability of Facebook as an avenue to conduct the online peer assessment was due to its acceptance and reputation amongst students which in turn motivated them to participate in the study. In this juncture, it can also be established that Facebook in a way facilitated peer interaction during the period of the online assessment in which subsequently echoed the constructivist theory [8], [11], [13], [36]. That is to say, students can replicate, act, learn from each other, and create significant knowledge and skills via collaborative learning and collaboration [12], [15].

VI. CONCLUSION

This study implemented a blended approach combining peer assessment on Facebook with face to face instruction for an English writing course. In this study, the students leveraged on the Web 2.0 technology, Facebook and peer assessment and gained immensely. In addition, it can be established that the combination of Facebook and peer assessment is indeed effective specifically conducted in the context of collaborative learning. However, there is a major limitation to this study where the study involved a relatively small number of participants (n=14) due to the reason that there were only 14 students enrolled in the Introduction to Creative and Critical Writing (ENGL2014) course. Future studies should encompass loftier numbers of students to be able to generalise the results since the advancement and rise of Web 2.0 technologies enable people to have access to a variety of resources and knowledge; hence, different approaches and strategies to teaching should be explored in order to customise and cater to the younger generation.

APPENDIX I: GROUP EVALUATION RUBRIC

Criteria	Always displays (Outstanding) 5	Frequently (Good) 4-3	Displays	Seldom display (Average) 2	Never Display (Poor) 1
Effort	-Produced additional resources for the group. -extraordinary effort demonstrated	-Fully prepared; completed all agreed tasks, competent, but not extraordinary		-Minimal preparation; superficial knowledge of resources; minimal effort	-Little or no evidence of preparation; no effort shown
Participation	-Participates actively. -Helps direct the group in setting goals. -Helps direct group in meeting goals. -Thoroughly completes assigned tasks. -Actively participates in helping the group work together better.	-Participates in group. -Shows concern for goals. Participates in goal setting. Participates in meeting goals. -Completes assigned tasks. -Demonstrates effort to help the group work together.		-Sometimes participates in group. -Shows concern for some goals. -Participates marginally in goal setting. -Participates in meeting goals. -Completes some assigned tasks.	-Participates minimally. -Shows a little concern for goals. -Watches but doesn't participate in goal setting. -Completes assigned tasks late or turns in work incomplete.
Communication	-Shares many ideas related to the goals. -Encourages all group members to share their ideas. -Listens attentively to others. -Empathetic to other people's feelings and ideas.	-Freely shares ideas. -Listens to others. -Considers other people's feelings and ideas.		-Shares ideas when encouraged. -Allows sharing by all group members. -Listens to others. -Considers other people's feelings and ideas.	-Does not share ideas. -Watches but does not contribute to discussions. -Does not show consideration for others.
Attitude	-Exceptionally positive and constructive; encourages other group	Positive, supportive, mostly constructive and		-Neutral; neither encouraging nor	-Disparaging; negative, withdrawn

	members	upbeat	discouraging or disinterested in the performance of others	or belligerent; absent
Contribution	-Outstanding contribution; above-and-beyond; work is excellent in form and substance	-Good quality work; few revisions or additions are necessary	-Poor quality work; substantive errors; much revision and editing is required	-Poor quality; little, if any, contribution to group goals

APPENDIX II: ITEMS USED IN THE QUESTIONNAIRE

Statements used in social loafing
1. Social loafing has negative impacts and decreases effectiveness.
2. Social loafing lessens academic achievement.
3. Social loafing tendency increases due to the lack of both conscientiousness and agreeableness.
4. Social loafing produces pressure among the group members and prevents the rest of the group member to concentrate or obtain crucial information on assessments.
5. Social loafing builds up frustration and anger as I achieve the same marks as peers who contributed almost nothing during the group work regardless of giving much more effort.
Statements used in collaborative learning
1. Collaborative learning boosts up the way I think critically.
2. Collaborative effort develops my social skills and helps me to build greater sense of responsibility.
3. Collaborative learning reduces about 80% of my stress and also decreases my workload.
4. Collaborative learning induces motivational effects which make me try even harder and it reflects the social responsibility in my outcome.
5. Collaborative learning enables me to create a richer body of content and optimizes the content of learning.
Statements used in peer online assessment
1. With the help of peer online assessment, I am able to give appropriate and relevant feedbacks.
2. Peer online assessment harms the way I learn and as well as my self-confidence.
3. Peer assessments enhances my assessment practices.
4. Peer online assessment allows me to communicate with each other in the same group to gain subject knowledge in order to get solution to a problem.
5. Peer assessment measures effects of intervention on performance.

REFERENCES

- [1] J. McCarthy, "Blended learning environments: Using social networking sites to enhance the first year experience," *Australasian Journal of Educational Technology*, vol. 26, no. 6, pp. 729-740, 2010.
- [2] N. Arnold, L. Ducate, and C. Kost, "Collaborative writing in wikis: Insights from culture projects in intermediate German classes," 2009.
- [3] I. Elola and A. Oskoz, "Collaborative writing: Fostering foreign language and writing conventions development," *Language Learning & Technology*, vol. 14, no. 3, pp. 51-71, 2010.
- [4] G. Kessler, "Student initiated attention to form in autonomous wiki based collaborative writing," *Language Learning & Technology*, vol. 13, no. 1, pp. 79-95, 2009.
- [5] G. Kessler and D. Bikowski, "Developing collaborative autonomous language learning abilities in computer mediated language learning: Attention to meaning among students in wiki space," *Computer Assisted Language Learning*, vol. 23, pp. 41-58, 2010.
- [6] N. Storch, "Collaborative writing: Product, process, and students' reflections," *Journal of Second Language Writing*, vol. 14, pp. 153-173, 2005.
- [7] E. Stacey, "Learning links online: Establishing constructivist and collaborative learning environments," in *Proc. International Education & Technology Conference: Untangling the Web-Establishing Learning Links*, 2002, pp. 1-6.
- [8] D. Birch and M. Volkov, "Assessment of online reflections: Engaging English second language (ESL) students," *Australasian Journal of Educational Technology*, vol. 23, no. 3, pp. 291-306, 2007.
- [9] K. Moore and S. Iida, "Students' perception of supplementary, online activities for Japanese language learning: Groupwork, quiz and discussion tools," *Australasian Journal of Educational Technology*, vol. 26, no. 7, pp. 966-979, 2010.
- [10] S. Hrastinski, "A theory of online learning as online participation," *Computers & Education*, vol. 52, no. 1, pp. 78-82, 2009.
- [11] Y. Woo and T. C. Reeves, "Meaningful interaction in web-based learning: A social constructivist interpretation," *The Internet and Higher Education*, vol. 10, no. 1, pp. 15-25, 2007.
- [12] H. Uzunboylu, N. Cavus, and E. Ercag, "Using mobile learning to increase environmental awareness," *Computers & Education*, vol. 52, no. 2, pp. 381-389, 2009.
- [13] G. Wilson and E. Stacey, "Online interaction impacts on learning: Teaching the teachers to teach online," *Australasian Journal of Educational Technology*, vol. 20, no. 1, pp. 33-48, 2004.
- [14] G. Kearsley, "The Theory into Practice Database," 2011.
- [15] Q. Wang, "Using online shared workspaces to support group collaborative learning," *Computers & Education*, vol. 55, no. 3, pp. 1270-1276, 2010.
- [16] S. E. Lee and K. J. Woods, "Using contemporary topics and Internet resources to stimulate student-centred learning," *Australasian Journal of Educational Technology*, vol. 26, no. 6, pp. 775-790, 2010.
- [17] G. Kennedy, B. Dalgarno, K. Gray, T. Judd, J. Waycott, S. Bennett, and A. Churchwood, "The net generation are not big users of Web 2.0 technologies: Preliminary findings," 2007.
- [18] K. Gray, C. Thompson, J. Sheard, R. Clerehan, and M. Hamilton, "Students as Web 2.0 authors: Implications for assessment design and conduct," *Australasian Journal of Educational Technology*, vol. 26, no. 1, 2010.
- [19] M. M. Mahmud, and W. S. Ching, "Facebook does it really work for L2 learners," *Academic Research International*, vol. 3, no. 2, pp. 357-370, 2012.
- [20] J. Waycott, and G. Kennedy, "Mobile and Web 2.0 technologies in undergraduate science: Situating learning in everyday experience. Same Places, Different Spaces," in *Proc. Australasian Society for Computers in Learning in Tertiary Education*, 2009, pp. 1085-1095.
- [21] R. C. Shih, "Blended learning using video-based blogs: Public speaking for English as second language students," *Australasian Journal of Educational Technology*, vol. 26, no. 6, pp. 883-897, 2010.
- [22] M. A. Conroy, "Internet tools for language learning: University students taking control of their writing," *Australasian Journal of Educational Technology*, vol. 26, no. 6, pp. 861-882, 2010.

- [23] S. J. Lou, R. C. Shih, C. R. Diez, and K. H. Tseng, "The impact of problem-based learning strategies on STEM knowledge integration and attitudes: an exploratory study among female Taiwanese senior high school students," *International Journal of Technology and Design Education*, vol. 21, no. 2, pp. 195-215, 2010.
- [24] T. K. Neo, M. Neo, and W. J. Kwok, "Engaging students in a multimedia cooperative learning environment: A Malaysian experience. Same places, different spaces," *Proceedings Ascilite Auckland*, 2009.
- [25] M. Derntl, and R. Motschnig-Pitrik, "The role of structure, patterns, and people in blended learning," *The Internet and Higher Education*, vol. 8, no. 2, pp. 111-130, 2005.
- [26] R. Lu and L. Bol, "A comparison of anonymous versus identifiable e-peer review on college student writing performance and the extent of critical feedback," *Journal of Interactive Online Learning*, vol. 6, no. 2, pp. 100-115, 2007.
- [27] Y. Xie, F. Ke, and P. Sharma, "The effect of peer feedback for blogging on college students' reflective learning processes," *The Internet and Higher Education*, vol. 11, no. 1, pp. 18-25, 2008.
- [28] Y. Xiao, and R. Lucking, "The impact of two types of peer assessment on students' performance and satisfaction within a Wiki environment," *The Internet and Higher Education*, vol. 11, no. 3, pp. 186-193, 2008.
- [29] N. A. van Gennip, M. S. Segers, and H. H. Tillema, "Peer assessment for learning from a social perspective: The influence of interpersonal variables and structural features," *Educational Research Review*, vol. 4, no. 1 pp. 41-54, 2009.
- [30] J. C. Liang and C. C. Tsai, "Learning through science writing via online peer assessment in a college biology course," *The Internet and Higher Education*, vol. 13, no. 4, pp. 242-247, 2010.
- [31] N. A. van Gennip, M. S. Segers, and H. H. Tillema, "Peer assessment as a collaborative learning activity: The role of interpersonal variables and conceptions," *Learning and Instruction*, vol. 20, no. 4, pp. 280-290, 2010.
- [32] M. Van Zundert, D. Sluijsmans, and J. Van Merriënboer, "Effective peer assessment processes: Research findings and future directions," *Learning and Instruction*, vol. 20, no. 4, pp. 270-279, 2010.
- [33] M. Warschauer, "Computer-assisted language learning: An introduction," *Multimedia language teaching*, 3-20, 1996.
- [34] C. Kulkarni, K. P. Wei, H. Le, D. Chia, K. Papadopoulos, J. Cheng, D. Koller, and S. R. Klemmer, "Peer and self-assessment in massive online classes," In *Design thinking research* (pp. 131-168). Springer International Publishing, 2015.
- [35] C. Kerton, and C. Cervato, "Assessment in Online Learning—It's a Matter of Time," *Journal of College Science Teaching*, vol. 43, no. 4, pp. 20-25, 2014.
- [36] L. Vygotsky, "Interaction between learning and development," *Readings on the development of children*, vol. 23, no. 3, pp. 34-41, 1978.



Malissa Maria Mahmud is a Senior Lecturer at Sunway University and her research interests consist of the vast areas of English studies and teaching, human and mediated communications as well as varieties in English. Over her career, she has presented and published prolifically in top conference and journals, acted as an external reviewer for numerous publishers, won "The Best Paper" and "Excellence in Teaching awards and, engaged in significant academic and professional activities. To date, she has been granted and contracted with highly competitive external grants (FRGS) from the Ministry of Higher Education, Malaysia where she collaborates with academicians from private and public universities.



Wong Shiao Foong is a teaching fellow at Sunway University. She has a bachelor's degree in Manufacturing Engineering and master's degree in Applied Statistics from University of Malaya, Malaysia. She worked as an engineer after graduation with bachelor degree. Due to her passion and love in teaching, she made a career transition to the education industry. Throughout her teaching career, she won 'Student Appreciation in Teaching' award. Recently, she started to discover her new interests in research which not only to increase her personal knowledge but more importantly, to develop and strengthen her pedagogical skills.