**Blended Learning Approach in Developing Metacognitive Strategies in Group Writing**

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## Abstract

Evolving technology has rapidly changed the scenario of education. Many universities in Malaysia are moving towards blended learning. This learning environment combines teaching methods, delivery methods, media formats or a mixture of all these. It also refers to integrated learning activities like online and face-to-face learning. This study examines how metacognitive strategies were developed during group work in an intact class comprising 21 first-year undergraduates in an expository writing course. It also seeks to determine the students’ perceptions of their blended writing experience. Data were collected from face-to-face group interactions and Wikispaces over eight weeks. Two sets of questionnaires were distributed to elicit the students' metacognitive knowledge and perceptions of blended learning. A semi-structured interview was also conducted. The study's findings revealed that an online learning platform is essential for students to plan their outlines, monitor and assess their progress in their work, and evaluate their strengths and weaknesses in writing. In order to engage the students in the writing process, both face-to-face and online methods should work in tandem to develop students’ metacognitive strategies and writing skills. The findings concluded that blended learning through Wikispaces helps make learning more efficient, meaningful, and beneficial because the students become more autonomous in their learning process as they interact in groups. There was a limitation, which was the slow internet connection, but it could be rectified because Wikispaces could be used synchronously and asynchronously.

**Keywords**: Blended learning; group work; integrated learning activities; metacognitive strategies; Wikispaces

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**Introduction**

Digital technology has dramatically changed routines and practices in most arenas of human work (Mishra & Koehler, 2006). There is much interest in education reform and the use of technology to support learners (Wu et al., 2010). Technology opens up new possibilities for the public, especially students, to benefit from using the Internet and computers to enhance learning activities (Koile et al., 2013). Advanced communication technologies in education have introduced ‘e-learning’ (Rosenberg, 2005). Singh (2003) mentions two generations of e-learning: the first generation that concentrated on delivering physical classroom-based instructional content over the Internet, and the second generation that engages with blended learning models that combine various delivery modes. Blended learning (BL) is essentially an integrated combination of traditional learning with web-based online approaches, the combination of media and tools deployed in an e-learning environment and the combination of several pedagogical approaches (Hisham Dzakiria et al., 2006; Poon, 2013).

Sharma (2010) elaborates that BL is an approach that mixes various event-based activities, including traditional instructor-led training, synchronous online conferencing or training and asynchronous self-paced study. BL offers students control over learning, an effective online assessment system and computer tutorials and fosters critical thinking. Dziuban, Hartman, Juge, Moskal, and Sorget (2006) found that students performed much better in online writing classes than those taking the same course through traditional face-to-face instruction. They also felt that fast-paced technological development offered educators various opportunities to explore the most suitable learning environments for their students’ learning styles and different self-paced learning.

Flavell (1979) believes acknowledging one's metacognition can support additional aspects contributing to effective learning. He states that metacognition can be described as 'cognition about cognition'. However, in a more descriptive elaboration, metacognition is about knowledge as it regulates any aspect of any cognitive endeavour (Flavell, 1978). Flavell (1979) adds that metacognitive knowledge is different from metacognitive experience as the former comprises three major categories, which are (a) person, (ii) task and (iii) strategy. Metacognitive knowledge affects cognitive goals or tasks, metacognition, knowledge, and cognitive actions or strategies (Flavell, 1979). Metacognitive experience, on the other hand, involves processes that one uses to control cognitive activities and ensure that a text's understanding has been met. Both metacognitive knowledge and metacognitive experience are important in determining the metacognitive strategies and techniques used during the students' writing process.

Gama (2004) believes that computers have much potential as metacognitive tools. As collaborative learning devices, they can be programmed to support group planning, monitoring, and evaluation of the learning process. He adds that while capturing the students’ actions, they will be cautious of their development in activities by reflecting on the selected problem-solving paths. Wu, Tennyson, and Hsia (2010) suggest that instructors should take advantage of blended learning in designing and teaching courses to enhance students’ beliefs that they would be able to achieve improved outcomes.

Studies have investigated group writing in blended learning (Ahmadi & Sultani, 2023; Ansarimoghaddam et al., 2017; Kim, 2013; López-Pelissa et al., 2021). In Ahmadi and Sultani’s (2023) study, it was discovered that students were satisfied with blended learning. They found that blended learning impacted students’ motivation, success, and completion of studies rates. Ansaromoghaddam, Tan and Yong (2017) discovered that participants of both online and face-to-face interaction modes of writing could evaluate different viewpoints and understand shortcomings and strengths through interaction in a collaborative learning context. The collaboration through both modes of writing showed that the participants displayed similar understanding and learned from one another through developing and sharing different perspectives on the same issue. Kim (2013) found that students’ previous experience with first language (L1) and second language (L2) writing instruction had a stronger influence on their metacognitive knowledge. It is believed that Kim’s (2013) study concluded L2 proficiency to be the significant contributor to L2 writing, while metacognitive knowledge of strategy use and metacognitive knowledge of problem-solving have also made significant contributions. López-Pelissa, Roger and Rodríguez-Gallego’s (2021) study showed that the use of blended learning has a positive effect in producing significant changes in the students’ writing. They also found that students had a positive attitude towards learning because of the blended learning environment's high degree of utility, motivation, and satisfaction.

In view of the studies conducted on blended learning, which could be used as an approach for students in collaborative writing to improve their writing skills, more studies need to be conducted to examine other aspects, such as analysing metacognitive strategies in the writing process in a blended learning environment. Based on the effectiveness of blended learning, the gaps identified in existing research mentioned earlier, and the pedagogical implications, the following research questions were formulated for the purpose of this study:

1. How are metacognitive strategies developed through group writing in a blended learning environment?
2. What are students’ experiences of blended learning in the writing class?

**Theoretical Framework**

This study was guided by the Connectivism and Constructivism theories of learning. Connectivism is defined as actionable knowledge, where understanding where to find knowledge may be more important than answering how or what that knowledge encompasses (Duke et al., 2013). Connectivism theory proposed by Siemens (2005) posits that learners construct knowledge based on their learning networks by connecting ideas, concepts, opinions, and perspectives via the Internet (Kop & Hill, 2008). Connectivism offers educators a model or mental representation that depicts something that cannot be observed or experienced directly (Dunaway, 2011). Networked information technology is important in the learning process (Ruhil Amal Azmuddin et al., 2017). This study examined how the students adapt their writing experience in an online platform. All the students in the platform could view and provide feedback on the written assignment.

Social constructivism theory was also applied in this study. Vygotsky (1978) states that a learner acquires knowledge through contacts and interactions with people as the first step (interpsychological plane), then later assimilates and incorporates this knowledge (intrapsychological plane) (Wertsch, 1985). Social constructivist theory has a holistic view of learning (Lantolf, 2000). Students become more critical, confident, and independent when they socialise with one another through interaction. Turuk (2008) emphasises that this theory is vital to what the learners contribute as active meaning-makers and problem-solvers. It acknowledges the dynamic interplay between teachers, learners and tasks and provides a view of learning from interactions with others. This theory led Vygotsky (1978) to establish one of the most important contributions of the sociocultural theory, which was the Zone of Proximal Development theory (ZPD). When the students are given a task or a problem, they can perform better with mediated assistance in ZPD because they are more motivated to carry out the task.

**Methods**

**Participants**

The participants of this study consisted of 21 first-year undergraduates in an intact class. They were enrolled in an expository writing course at a public university. There were 17 females and five males. Their age ranged from 20 to 26 years old. All of them were Malaysians except for one international student from Somalia. Most of them scored Band 4, an intermediate level of language proficiency based on the Malaysian University English Test (MUET). Two students had advanced language proficiency, scoring Bands 5 and 6, respectively. Bands 1 and 2 have low-level language proficiency.

In the course, the students were taught the different types of essays: argumentative, comparison and contrast, and cause-effect. They were also taught the elements of paragraph and essay writing. The students met twice a week over a semester (14 weeks). The first meeting was a two-hour lesson, and the second was an hour-long one. The students selected their group members with whom they could work comfortably in groups of three to write an argumentative essay. They were also given the flexibility to choose their essay topic.

**Data Collection Methods**

A case study research design was adopted in this study. It involved qualitative and quantitative data collection methods. The qualitative data were collected from audio and video recordings of face-to-face group interactions and Wikispaces over seven weeks and semi-structured interviews. Wikispaces is one of the Wiki applications in writing. It can be written and re-written multiple times by anyone, anywhere and anytime, because it offers technical core functions such as editing, links, thread changes, and search functions (Ansarimoghaddam et al., 2012; Ansarimoghaddam & Tan, 2013). The purpose of using Wikispaces is to encourage the students to discuss their argumentative essay from the beginning of the pre-writing phase till the completion of the final draft. The data from the recordings from face-to-face group interactions were transcribed verbatim. Their essay development via Wikispaces was print screened as one of the essential data to identify metacognitive strategies that occurred.

A semi-structured interview was conducted to obtain students' views on blended learning, the writing process and metacognitive knowledge. The interview was conducted individually with the students to enable them to express their views freely. Each interview took approximately 20 to 25 minutes.

The quantitative data were collected from two sets of questionnaires. The first set was adapted from Kim's (2013) metacognitive knowledge research, comprising 34 Likert-scale items. The questionnaire consisted of six components: (i) task, (ii) personal learning process, (iii) strategy, (iv) text and accuracy, (v) problem solving, and (vi) discourse features. The second set of questionnaire was adapted from Larsen’s (2012) study about perceptions of blended learning. It consisted of 30 Likert-scale items. The questionnaire elicited information about (i) student access and interaction, (ii) student self-discipline and (iii) student attitude. The Cronbach's alpha values for both questionnaires were 0.902 and 0.938, respectively, which were considered highly reliable (Cohen, 1988).

**Research Procedure**

In the first half of the course (seven weeks), the lessons were on elements of paragraphs and different types of essays. A demonstration of how to use Wikispaces was carried out. The students were taught how to create and use their accounts in Wikispace. The students then began their writing process with the pre-writing phase, which involved dividing tasks into groups. The stages of the weekly writing process began with the planning of the outline, followed by the development of a thesis statement and topic sentences. They had to post supporting evidence for every topic sentence and post their outline. They also had to develop appropriate counterarguments and post their first draft.

In week 12, during the two-hour class meeting, the students exchanged their first draft with peers from the other groups for peer review and revised it. At the end of the week, they submitted their second draft to the instructor for teacher feedback. At the beginning of week 13, the instructor returned the students' drafts with her comments for them to work on their final draft. At the end of week 13, the students submitted the final product.

In week 14, two questionnaires about blended learning perceptions and metacognitive information were distributed to the students. The instructor explained how to answer the questionnaires, and the students were given 30 minutes to complete the questionnaires. The semi-structured interview was conducted in week 14.

**Data Analysis**

The quantitative data from both questionnaires were analysed using Statistical Package for Social Sciences (SPSS) version 25 to get the descriptive statistics of mean, standard deviation, frequency, and percentages of the students’ responses. The transcriptions of face-to-face group interactions and semi-structured interview responses were used to triangulate with the corresponding quantitative data. Likewise, the Wikispace postings were used for triangulation.

**Results and Discussions**

**Metacognitive Knowledge**

Results from the questionnaire on metacognitive knowledge are presented to answer the first research question. The names of the students mentioned were pseudonyms. The writing process usually includes planning, monitoring, and evaluating strategies. The findings on metacognitive strategies are divided into six categories. Each category's mean and standard deviation for each item is listed in a table.

**Metacognitive Knowledge of Task**

This category focuses on items broadly related to the students’ task knowledge in choosing a topic, planning an outline of an essay, generating appropriate ideas, and setting goals for the writing process. Metacognitive knowledge of tasks is about planning.

**Table 1**

*Metacognitive Knowledge of Task Items*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Item** | **Mean** | **Std. Deviation** |
| 1 | When writing an argumentative essay, I think about what I should do to make it persuasive. | 4.6190 | .49761 |
| 2 | Before I start an essay writing task, I try to determine what task requires. | 4.5238 | .67964 |
| 3 | I read the instructions carefully before writing my essay. | 4.2857 | .64365 |
| 6 | When writing an essay, I carefully think of the things I want to write about on the topic. | 4.1905 | .92839 |
| 7 | I am aware of the need to plan my course of action when writing an essay. | 4.2857 | .64365 |
| 10 | When writing, I think about how to select and organise relevant information. | 4.1905 | .60159 |
| 11 | Before I start to write, I think about the order in which I will put my ideas. | 4.0952 | .99523 |
| 12 | When writing, I try to understand the purpose of the writing task. | 4.0952 | .83095 |
| 17 | When writing an essay, I think about what the title tells the readers about the essay. | 4.6190 | .66904 |
| 34 | I set goals for myself in writing. | 4.1905 | .81358 |

Based on the results, the mean for all the items ranges from 4.09 to 4.60. Most students responded positively to the items, showing they were very conscious of their metacognitive knowledge of the task. For example, the students knew what they needed to do to make the argumentative essay persuasive and thought about how the title could attract the readers. These ratings show that most of the students were aware of the different characteristics of the task before and during the writing process.

During the face-to-face group interaction, the students brainstormed ideas for their essays. Generally, they planned the basic outline of the argumentative essay. Group 3 comprised two intermediate-level students, Raudha and Sofia, and a weaker student, Husna. This group's essay topic was "Violent Features in Video Games Should Be Banned". Their interactions were demonstrated as follows:

***Excerpt 1***

Sofia: From the topic, I think by playing violent video games, gamers can reduce stress.

Raudha: Yes. I think we can also say that they can release their anger. But this is not a good way to reduce stress. What else?

Husna: Another example is they have to plan the strategies to play the games. Not a good way in real life.

Sofia: Yeah. There is a research stating that human mind is attracted to the negative sides more than the positive. We should add this in.

Raudha: Video games can be negative or positive depending on the gamers. How about our thesis statement? Our thesis statement is violent video games should be banned right?

Husna: Yup. We brainstorm first, for main ideas, and then pro-arguments and counter-arguments. We can hold back on thesis statement for later but proceed with the main ideas first.

Sofia: Ok. Let’s brainstorm the main ideas.

The excerpt shows that the members set goals for their essay. It is compelling to see that blended learning and face-to-face interaction happened in this group. While Husna was typing on the Wikispaces platform, Raudha involved her group members who were passive to contribute ideas. The members could also differentiate their points as there was a smooth flow of contributing ideas. Combining blended learning and face-to-face interactions reduced their work to edit in the planning stage because it occurred synchronously. This was done by utilising the tools at Wikispaces.

Besides that, the group utilised tools such as colour coding in their consecutive planning (see Appendix A). From Figure 1, the first update was colour-coded in red, the second update was in blue, and the third update was in black. This shows that Group 3 monitored their work by updating their progress. Wikispaces provided the chance to change the colour of the text to highlight or distinguish ideas, which led to a better understanding of the task. Colour coding differentiates the different sections, such as pro- and counterarguments. They systematically organised their points and gave supporting details to ensure a smooth transition of points in the essay. In the interview with them, they felt that colour coding allowed them to arrange their points in an orderly manner. According to Raudha, it would surely help the other group members to generate ideas together via Wikispaces. They also became more conscious of the need to select appropriate points for the topic carefully. She mentioned in the interview:

*We will read the outline and if we see anything that is uncertain or needed another look at it, we will highlight the particular points by using colour coding and find solution to them. By doing so, we can generate and share different ideas as we have different views on the same idea. We can write better points as we discuss together.*

In addition, group members gained different perspectives by looking at things and writing expressions from other groups when they viewed other people’s progress. It also helped them to know the order of essay structure. According to Sofia,

*I learn how my coursemates think and how they express their ideas. I also learn how they organise their content in a systematic manner.*

The findings of this study refuted Ansarimoghaddam, Tan and Yong’s (2017) findings whereby Wikispaces was used for drafting and revising, while planning was easier done through face-to-face interactions.

**Metacognitive Knowledge of Problem-Solving**

This category focuses on students’ awareness of problem-solving in predicting sections to write, time management, effective ways to use their first language (L1) translation and learning from the mistakes in writing. Below are the related items. Metacognitive knowledge of problem-solving involves planning, monitoring, and evaluating.

**Table 2**

*Metacognitive Knowledge of Problem-Solving Items*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Item** | **Mean** | **Std. Deviation** |
| 4 | Before I start writing an essay, I try to predict which sections will be easy and which sections will be difficult. | 3.8571 | 1.06234 |
| 5 | When I write an English essay, I plan what I am going to do so that I can use my time well. | 4.1429 | .85356 |
| 23 | I am aware of effective ways to use my L1 translation to solve the problem when I have difficulty writing an English sentence. | 4.1905 | .92839 |
| 26 | I try to learn from the mistakes I make in writing. | 4.3333 | .65828 |

The four items have a mean ranging from the value of 3.86 to 4.33. The lowest mean is Item 4 (M=3.86, SD=1.06), showing that not all the students attempted to anticipate the sections which would be easy and difficult. It is interesting to note that the students were aware of their writing mistakes. Overall, the students were aware and capable of using problem-solving in their writing tasks.

In the planning stage, the students had to provide a stance in the introduction of the essay. They needed to come up with a stance in the thesis statement. An example is illustrated in Group 2 during the writing stage. Their essay topic was "Marijuana Should Be Legalised". This group has an advanced student, Eddie, and two intermediate-level students, Nazrul and Tara. They provided a more challenging stance in their introduction. Excerpt 2 shows the interactions:

***Excerpt 2***

Eddie: For our thesis statement, we need to come up with a stance. Can we do something different? Instead of stating that we agree that ‘Marijuana should not be legalised’, can we agree that ‘Marijuana should be legalised’ instead?

Nazrul : Whoa, that’s difficult for us to justify and give examples.

Tara: Yeah, that would be difficult, but we could give it a try.

Eddie: That’s good. Okay, I have a point, ‘legalising marijuana would lead the young to misuse the harmful substances’.

Nazrul: Yeah, for that point, we could provide elaboration like ‘this would expose them to harmful effects’.

Eddie : Wonderful. What else?

Tara: How about this, ‘legalising marijuana is a progressive call to showcase democratic maturity’?

Nazrul : Means this is pro- or counter-argument?

Tara: I think we just list down the points first before stating whether it is pro- or counter-argument. If not, we will waste time on this.

Eddie : Yes, we need to move on. So, we have two points. Another one?

Nazrul: I found one through my reading, ‘legalising marijuana stimulates economic growth’.

Eddie : Ah, it will guarantee social cohesion.

Tara : Alright. Finally, we have all three points for our essay.

This group used a different approach to their essay. Their stance was against the usual norm as they agreed that marijuana should be legalised. This is because, in Malaysia, drug abuse is usually banned. Hence, they were confused about the ideas to focus on and had difficulty providing justifications. There was a critical incident whereby the members monitored the discussion time by moving to the next point. This shows that planning and monitoring happened concurrently, particularly in Group 2.

Monitoring also took place in the writing process. Group 2 deliberated which points to use as pro- and counter-arguments to make their essay convincing. The points that they came up with were ‘legalising marijuana would lead the young to misuse the harmful substance’, ‘legalising marijuana is a progressive call that showcases democratic maturity’ and ‘legalising marijuana stimulates economic growth’. The face-to-face group interaction was shown as follows:

***Excerpt 3***

Nazrul : I feel that the points are not in order. You see the point on ‘legalising it would lead the young to misuse the harmful substance’ should not be the second point. It is confusing.

Eddie: I think I get what he (Nazrul) meant. You see, your (Tara) point will be presenting the first argument. So, in our counter arguments, his point will counter your first supporting point. It is a progressive move. So he will argue along that line. On my part, I’m going to answer your second supporting point.

Tara : So does that mean this is the rebuttal based on your points?

Eddie : We are both rebutting by giving new points.

Tara : How do you make it obvious that you are rebutting my points?

Nazrul: Later on, you can see in our paragraphs. We’re not going to repeat your points.

Tara : Okay. I think I get it. Let’s not waste time and continue with other points yeah.

Eddie : Yeah, we should. If not, we won’t go to other points.

Disagreements occurred when they discussed the order of their essay. Conflict and disagreements are common phenomena in collaborative writing (Yong, 2010). Initially, they were confused as they did not know how to arrange the points of their essay. They then clarified the points with one another. It could be observed that they finally understood how to make their points clearer. This indicates that they clearly understood the purpose of the essay and how to organise their points. They also managed to monitor their content and time in writing the essay.

Metacognitive knowledge of problem-solving also involves evaluating. Group 2 evaluated their group work, and this was shown in Excerpt 4:

***Excerpt 4***

Nazrul : …this part…SHOULD THERE BE SOMETHING IN BETWEEN HERE?

Tara : Where?...A comma!

Nazrul : Yes, a comma! Yeah, it’s not a word but something should be there.

Eddie : No, [it is] semicolon.

Tara : Why semicolon? It’s a comma.

Eddie : If you put a comma, it would be weird.

Tara : No, but the semicolon introduces the explanation of the previous phrase.

Eddie : Yeah, yeah. It explained the phrase ‘it stimulates economic growth’.

They were debating which punctuation to use to make their essay coherent. They deliberated over a choice of punctuation to link with the ideas to make their thesis statement coherent. This shows that they were aware of their mistakes in punctuation, and they moved on to the topic sentences from there. As seen in their evaluation of Group 1, Figure 2 provides an example of evaluation through peer feedback (see Appendix B). Group 2 evaluated Group 1’s written work using colour coding in the Wikispaces. Grammar error was highlighted in yellow, in-text citation error was highlighted in red and redundant or unnecessary sentences were highlighted in blue to help Group 1 improve the quality of their writing. They thoroughly suggested necessary amendments and revisions for Group 1 to know exactly what and how to revise their written work. This helps Group 1 to be aware of the mistakes they made. Other groups also benefited from their comments. Group 3 became the role model for other groups, thus motivating them to work harder and challenging themselves to produce a higher-quality essay.

Metacognitive knowledge of problem-solving was developed throughout the planning, monitoring, and evaluating processes. It focused on approaches made by the students to predict challenging components of the essay, plan the outline systematically, and learn from their mistakes. In an interview with Tara, she stated that her group members were able to develop good problem-solving techniques. She would adopt the writing strengths of her group members in her own writing. She pointed out that:

*I observed how my group members give their ideas and the way they write. If the way they write is good, I will try to apply it into my own writing. Nazrul will contribute in terms of content, Eddie will help in editing the content, whereas I will help in providing evidence or proof such as statistics to the essay.*

Meanwhile, Tara mentioned that she learned to use synonyms and paraphrasing skills from her group members. This shows that metacognitive knowledge of problem-solving has developed within group work. In the interview, she responded:

*I learned from Eddie not to repeat the same words by using synonyms. I also learned how she paraphrased in order to avoid plagiarism.*

**Metacognitive Knowledge of Text and Accuracy**

This category focuses on items related to students' awareness of using discourse markers and determining the accuracy of writing. Below are the items related to it. This category involves planning, monitoring and evaluating.

**Table 3**

*Metacognitive Knowledge of Text and Accuracy Items*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Item** | **Mean** | **Std. Deviation** |
| 14 | I think about whether the organisation of my essay is effective for the particular genre of writing. | 4.2381 | .76842 |
| 15 | I periodically check my essay while writing it. | 4.0476 | .74001 |
| 19 | I check my grammatical accuracy as I progress through writing. | 4.0476 | .66904 |
| 24 | When writing, I think about the importance of organisation. | 4.1429 | .72703 |
| 25 | Before I hand in my essay, I check my work. | 4.3333 | .65828 |

Based on the results, all the items have mean values ranging from 4.05 to 4.33. The students occasionally checked their essays in the aspects of organisation, grammar accuracy and coherence. Furthermore, the results show that the students paid attention to their work through consistent checking.

The students were aware of the organisation of their essays. In the planning stage, they drafted a basic argumentative essay outline. An example is taken from Group 1, which consisted of two intermediate-level students, Chen and Jason, and a weaker student, Adi. Their elaborated outline in Wikispaces is shown in Figure 3 (see Appendix C). They systematically arranged the thesis statement, counter-arguments and pro-arguments, and supporting details. It also shows that they knew the need to select appropriate main points to write on the topic carefully.

During the monitoring stage, they discussed whether certain words should be singular or plural. This excerpt taken at the end of the composing stage shows that they detected some mistakes in their draft because they considered accuracy in writing. During the face-to-face group interaction, the act of monitoring was shown below:

***Excerpt 5***

Adi : Since there are…….

Jason : Some

Adi : Grammatical errors…

Chen : We change first …. all these.

Adi : Contribute a fashionable not a fashionable luxuries. No no luxuries to consumers. People from countries, for example, people from country….experience….

Jason : Country or countries?

Adi : s………………experience…

Jason : Countries?

Adi : Yes, countries.

Adi has improved tremendously in his writing. He took the lead in identifying the mistakes they made. He deleted the indefinite article ‘a’ for *fashionable luxuries* and gave the plural form for *country* to improve grammatical accuracy. Overall, this group also improved subject-verb agreement, tenses, sentence structure, and transition markers.

From the interview of several responses, Adi and Husna improved their writing skills. Adi mentioned that he learned about structure cohesion and coherence from his group members. According to him,

*I learn about cohesion and coherence from Chen and Jason. I gained the grammatical and organisation skills to ensure that my writing has no grammar mistakes and structure my paragraphs.*

Husna mentioned that she learned to structure her essay well with a proper introduction, body, and conclusion. She also knew the instances of using present and past tenses. This shows that Husna improved in constructing sentence structures and using correct tenses.

*I’ve learnt a lot in writing such as how to build a good introduction, body paragraph as well as writing conclusion because it’s the most important, right? It does help me to improve. My grammar has improved especially now, I know when and how to use present and past tense.*

**Metacognitive Knowledge of Discourse Features**

This category focuses on students’ awareness of different expressions in speaking and writing in English and L1. Metacognitive knowledge of discourse features is about monitoring.

**Table 4**

*Metacognitive Knowledge of Discourse Features Items*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Item** | **Mean** | **Std. Deviation** |
| 16 | I am aware of the differences between spoken and written English. | 4.1905 | .92839 |
| 20 | I am aware of the differences and similarities between texts in English and in my L1. | 4.2381 | .62488 |
| 21 | I am aware of alternative ways of saying what I mean when I have difficulty writing a sentence in English. | 4.1429 | .72703 |

Because the students are bilinguals and multilinguals, the use of L1 is inevitable. From these results, it can be concluded that the students were aware of the differences and similarities between English and L1. They were also aware of the differences between speaking and writing and had alternative ways of saying what they meant when they encountered difficulty writing a sentence in English.

They were quite conscious about spoken, written and L1. An example was displayed in Group 7. The group comprises two intermediate-level students, Azwain and Jasmine, and an international student from Somalia, Halima. This group’s essay was on “Children Should Not Be Spanked by Their Parents”. Excerpt 6 illustrates the point:

***Excerpt 6***

Halima: For our introduction, can we mention ‘Children are the most valuable thing in the family’?

Azwain: I think we better use ‘gifts’ instead of ‘thing’ because ‘children’ are not things. They are people.

Halima : Okay. What are the examples of spanking?

Jasmine: It is the act of beating some people.

Halima: Ah! Beating bad children.

Azwain: Yeah, it will affect their emotions terribly.

Jasmine: Aggression happens, as well.

Halima: What is aggression?

Jasmine: Oh, erm, violence.

Halima: Ah! Children will show anger through aggression.

Azwain: Yes, you are right.

In the interaction, it was observed that Halima did not commit code-switching because she translated L1 into English. In this part of the interaction, Halima wanted to contribute her share of work in the group. Although Halima paused too long, she knew the ideas in her mind. She found it difficult to express the ideas in English. She constantly sought clarification because she could not find more appropriate word choices. Her group members provided synonyms to enable her to understand. When she understood the meaning, she could connect ideas in the sentence. When her group members triggered her cognitive skills, it stimulated her thinking to elicit ideas and provide examples. Through connectivism, Halima constructed knowledge by making connections between ideas, concepts, opinions, and perspectives via Wikispaces. She also improved and became better with mediated assistance in ZPD. In the other parts of the interaction, she was quite passive. In an interview with Halima, she realised there were differences between English and her first language. She felt her group members were helpful when she did not know how to express her thoughts in English. Her limited vocabulary made it difficult for her to express some words in English. She stated:

*When I don’t know what to put into words, Jasmine and Azwain help me, so I like working in group. I will think in my first language before translating it into English. I will give examples, Jasmine and Azwain will give more explanations to them.*

**Metacognitive Knowledge of Strategy**

This category focuses on items related to students' apprehension of their writing skills, which is closely associated with how effective they are in deploying strategies when writing. This category includes the act of evaluating.

**Table 5**

*Metacognitive Knowledge of Strategy Items*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Item** | **Mean** | **Std. Deviation** |
| 8 | I know my strengths in English writing. | 3.6190 | .86465 |
| 9 | I know weaknesses in English writing. | 4.1905 | .87287 |
| 13 | I am aware of aspects of my writing that need improvement. | 4.2381 | .94365 |
| 18 | I am not sure what to do when I am writing an essay and I cannot find the right word to express my ideas | 3.7143 | .90238 |
| 22 | I think about whether the way I learn to write is effective. | 4.1429 | .65465 |
| 29 | After writing an essay, I think about effective ways to incorporate my teacher’s feedback into my writing. | 4.1905 | .67964 |

Based on the results, four out of six items have relatively high mean values. They are Item 13 (M=4.23, SD=0.94), Item 9 (M=4.19, SD=0.87), Item 29 (M=4.19, SD=0.67), and Item 22 (M=4.14, SD=0.65). This shows that students were still learning how to incorporate proper writing strategies. The results also reflect that they were not aware of their strengths in writing and were inclined to perform better after receiving feedback.

The students were conscious about writing techniques in writing what to improve, and how to incorporate the teacher's feedback as they learned how to write effectively. They were also aware of their strengths and weaknesses in writing, aspects of writing that require revision, knowledge of lexicon, and improvement in writing after feedback. Group 1 demonstrated the act of consciousness through their face-to-face group interaction as follows:

***Excerpt 7***

Jason: The problem of lack of awareness in animal cruelty. This causes animals to be extinct right?

Chen: Yeah, you are right. I think you can change ‘this causes’ to ‘as a result’.

Adi: Eh, there are not enough examples to support the information on lack of awareness in animal cruelty.

Chen: Yeah, we need to put more explanations and in-text citation for that point.

Adi: Okay, so what can we include?

Jason: We can put this point ‘most of the time animals are being slaughtered, beaten and skinned’. Then, we can add ‘As a result, the animals suffer in extreme pain’. Is this explanation enough?

Adi: Yeah, I think it is enough. But we need to put in-text citation. The journal from Hopper (2012), we can include in right?

Chen: Yeah. We mentioned ‘swines are crammed inside a long truck and they struggle to get air, water and food’. I think we can include Hopper (2012) as the in-text citation for that.

Jason asked for confirmation on a point for their essay. They clarified with one another by using a better transition marker and providing more explanations from a source they read to make the point more concrete. The interaction shows that they had developed better writing strategies as they realised their weaknesses by detecting their mistakes in the evaluating stage after the peer review feedback. Improvement and revision of the essay were done thoroughly.

From the interview with Group 1 members, they found that by reviewing other groups' drafts, they could assess their work and detect their mistakes. Sometimes, they knew something was amiss, but they did not know how to explain adequately why it was wrong or how it should be corrected. Chen, the immediate learner, believed that evaluating the other group's work enhanced his writing skills to write better. He mentioned:

*I think it sharpens my skill to see the mistakes then at the same time in future when I write I be able to apply the very same standard to make sure I do not make such mistakes.*

**Metacognitive Knowledge of Personal Feeling**

This category focuses on items related to students’ awareness of various aspects upon task completion. It includes ensuring their progress, performance and competence in writing and assessing their accomplishments after completing the essay.

**Table 6**

*Metacognitive Knowledge of Personal Feeling Items*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Item** | **Mean** | **Std. Deviation** |
| 27 | I am aware of my own thinking when writing. | 4.2381 | .62488 |
| 28 | I think about whether I am making progress in learning how to write. | 4.4762 | .60159 |
| 30 | I am aware of which type of feedback (teacher, peer, self) is most effective for improving my writing. | 4.4762 | .51177 |
| 31 | I am aware of how my English writing proficiency compared to my L1 writing proficiency. | 4.5238 | .51177 |
| 32 | I think about ways to improve my English writing proficiency on my own. | 4.1429 | .79282 |
| 33 | After I finish an essay writing task, I think about how I can do better the next time. | 4.3810 | .66904 |

All the items have a mean ranging from 4.14 to 4.52, which indicates that the majority responded positively to every item. These results show that the students could distinguish effective feedback received from peers, instructors or even themselves to improve their writing performance and differentiate between L1 and L2 writing styles. The students were also aware of their own thinking while writing, making progress in learning how to write, and evaluating themselves to do better in subsequent writing tasks. Overall, these ratings demonstrate that almost all the students were aware of their thought processes during the writing.

The interview responses given by the students were positive. According to Husna, who does not use English much, Wikispaces helped her to improve her writing because other friends and the instructor could review her writing. From there, she could learn from her mistakes and avoid them in subsequent writing. Reviewing peers’ writing also stimulated and motivated her to write more. In the interview, she said:

*In my point of view, I think Wikispaces was a very useful medium that help a lot in my writing as well. With Wikispaces, I am able to improve my writing skills with the task that given by the instructors. By viewing other group members' work, it motivates me to write more. It is a good pressure.*

Another student, Nicol, pointed out that she learned to use reliable sources from other group members. She also learned to support her ideas with concrete evidence while viewing other groups’ work. She mentioned:

*I have learnt to use journals from other group members. Although all of us are assigned to different topics, I do compare the ideas and the evidence that back up the main ideas in our writing with the other group’s work.*

The findings are consistent with Ansarimoghaddam, Tan and Yong's (2017) findings whereby individuals could improve their writing skills. They learned from one another by developing and sharing various perspectives on the same issue on the Wikispace platform.

**Blended Learning**

Data from the blended learning questionnaire and interview responses were collected and triangulated to answer the second research question. The results were organised according to common themes. The findings on blended learning are divided into three categories.

**Student Access and Interaction**

Student access interaction covers the characteristics of a blended learning environment. Table 7 shows the mean and standard deviation for each item.

**Table 7**

*Student Access and Interaction Items*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Items** | **Mean** | **Std. Deviation** |
| 12. | I communicate with other students in this subject electronically | 3.4762 | 1.12335 |
| 14 | I have the freedom to ask my instructor in the online platform what I do not understand. | 4.2857 | .78376 |
| 15 | I have the freedom to ask other students in the online platform what I do not understand. | 4.2857 | .78376 |
| 16 | Other students respond promptly to my requests for help. | 3.5714 | 1.12122 |
| 17 | My group members and I regularly evaluate each other’s work. | 3.8571 | .91026 |
| 18 | I was supported by a positive attitude from my group members. | 4.1905 | .67964 |
| 19 | Using blended learning makes me able to interact with other students and the instructor asynchronously. | 3.6667 | .96609 |
| 27 | The instructor encourages students to work together and help each other. | 4.5238 | .51177 |
| 28 | The instructor encourages me to learn in different ways. | 4.3810 | .66904 |
| 29 | The instructor gives me quick comments on my work. | 4.5714 | .50709 |

The high mean values are shown for Item 29 (M=4.57, SD=0.50), Item 27 (M=4.52, SD=0.51), Item 28 (M=4.38, SD=0.66), Item 14 (M=4.28, SD=0.78), Item 15 (M=4.28, SD=0.78), and Item 18 (M=4.19, SD=0.67). These results indicate that the students had adequate access to help both online and in the classroom. They could ask questions and receive feedback from the instructor and peers from both mediums. The high ratings indicate that the students actively participate, collaborate, and cooperate in the blended learning environment.

The quantitative findings concurred with the interview responses. They felt the blended learning environment motivated them to be productive in class. For instance, Tara pointed out that Wikispaces has a thread feature that enables her to read up on the materials uploaded to the platform before face-to-face discussion. According to her,

*Yes, because you have the threads feature. I think that is very useful because I got to see what they referred to. So with just one click, you can just have a look at the resources a lot earlier; anytime, anywhere.*

Besides that, Jasmine mentioned that the act of monitoring was not that hard when she checked her essay while writing and thought about the importance of organisation. Initially, she faced difficulties in writing her essay, but through the interaction with her group members and instructor at Wikispaces, she managed to overcome them. This helped her stay on track with her progress. She stated that:

*This aspect of monitoring was not so difficult to get through as once the planning was going well, then the writing process would certainly be on track. There are some difficulties that I faced such as in which paragraph should the counter argument and the pro argument parts be in, whose doing what part and sometimes about the sentence structures of the writing itself. But then, the problems or difficulties managed to be fixed after I asked my group mates and the instructor at Wikispaces.*

**Student Self-Discipline**

This category centres on the students’ ability or inability to concentrate on the course topics and tasks in the blended learning environment.

**Table 8**

*Student Self-Discipline Items*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Item** | **Mean** | **Std. Deviation** |
| 6 | I can access the learning activities at times convenient for me. | 3.7143 | .84515 |
| 7 | I am allowed to work at my own speed to achieve learning objectives. | 3.5238 | .87287 |
| 8 | I decide how much I want to learn in a given period. | 3.9048 | .62488 |
| 9 | I decide when I want to learn. | 3.8571 | .85356 |
| 10 | Using blended learning allows me to meet my learning goals. | 3.5714 | .97834 |
| 11 | Using blended learning allows me to meet my areas of interest. | 3.9048 | 1.09109 |
| 13. | In the blended learning environment, I have to be self-disciplined in order to learn | 4.0000 | .77460 |
| 30 | The instructor respects my individual way of learning. | 4.7143 | .46291 |

Based on the results, the high mean values can be seen in Item 30 (M=4.71, SD=0.46), Item 13 (M=4.00, SD=0.77), Item 11 (M=3.90, SD=1.09), Item 8 (M=3.90, SD=0.62), Item 9 (M=3.85, SD=0.85), and Item 6 (M=3.71, SD=0.84). The students agreed that the instructor respected their individual way of learning. Furthermore, blended learning allowed them to be disciplined to learn and meet their areas of interest. From the ratings, it can be assumed that most of the students were conscious about their ability to achieve learning goals if they were given the freedom to learn at their own pace.

In the interview, all the students mentioned that using Wikispaces was beneficial to complete their work anytime. It saved their time trying to meet up for discussion. According to Chen,

*The pros of using Wikispaces are that we can view what other groups have shared on their writing space and, at the same time, comment on each other's writings. Furthermore, the writing space allows us to jot down whatever we discussed, and we can freely edit it. This enables us to constantly check our own works without having to worry that our writings will vanish.*

Chen believed that his group members saved much time because all their work and ideas were viewed and edited online via Wikispaces wherever and whenever they wanted. They were also constantly checking on their writing. Jason found Wikispaces useful because his group members could check the duration, they took to complete their discussion and move on quickly. Jason stated in the interview:

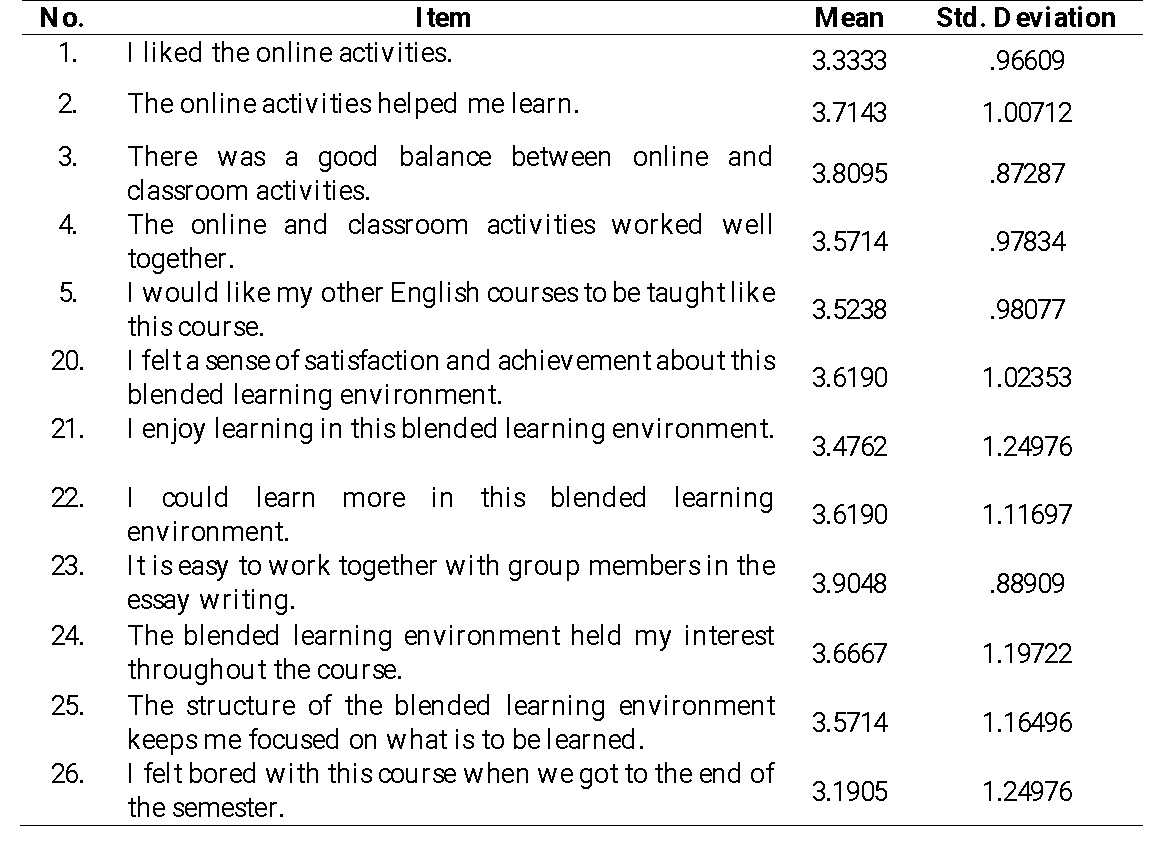
*We are able to see our progress on the duration we take to discuss certain points. This is because we took longer time to discuss for certain points as it is more factual or technical. Thus, by looking at the duration of time, it helps to speed up our discussion.*

**Student Attitude**

The category focuses on students’ feelings about studying in a blended learning environment.

**Table 9**

*Student Attitude Item*



Based on Table 9, the high mean values can be seen in Item 23 (M=3.90, SD=0.88), Item 3 (M=3.80, SD=0.87), Item 24 (M=3.66, SD=1.19), Item 20 (M=3.61, SD=1.02), and Item 22 (M=3.61, SD=1.11). However, the mean values for these items are relatively lower than other categories. It can be summarised that this course introduced a fairly balanced blended learning approach. Most students believed that working in groups in a blended learning environment could help them learn more and obtain supplementary information on their essay topic.

In the interview, they pointed out that they liked using Wikispaces as it helped them improve their writing skills. Halima, the Somalian student, found Wikispaces to be a stimulus for her to motivate her group members to post their written work when she observed other groups doing it. She stated in her interview:

*I get Wikispaces motivating, for example if I find out that my group have not posted anything yet when I see the other’s work that persuade me and my group to do our job and to post it.*

Sofia explained that she was not good at connecting her points in the essay. However, she was good at finding reliable sources for her essay. Wikispaces attracted her to learn how to connect her points better, which honed her writing skills. She responded in the interview:

*I find Wikispaces interesting. I think I am good in finding all the examples and evidence to support my arguments, but I find it hard to use the evidence in my writing without making them looked as if they were plagiarised. The links and articles shared in Wikispaces helped me to learn how to link my points.*

**Conclusion**

The findings show it is essential to engage students in writing tasks that require them to employ metacognitive strategies and active problem-solving, similar to Kim's (2013) findings. Regarding learning satisfaction, the findings are consistent with Ahmadi and Sultani’s (2023) study and Larsen’s (2012) study. The perceptions of blended learning supported the metacognitive knowledge. The findings show that Wikispaces provided the essential determinants of an effective learning website, such as computer self-efficacy, performance expectations, system functionality, and interface. These findings reveal that online learning platforms are important in assessing students’ perceptions of blended learning. However, a slow internet connection was a limitation.

Introducing blended learning in a university setting can induce learning interest as a computer-supported learning environment can decrease limitations such as time constraints. However, selecting suitable online platforms with effective features, such as effective system functionality and an interesting interface, is imperative. Adapting blended learning can influence students’ writing skills and reinforce awareness of metacognitive strategies in contexts of group discussion.

The combination of face-to-face discussions and online facilities can accelerate students’ cognitive development, writing skills and confidence faster than learning in one mode or alone. They depend less on the instructor and become more resourceful compared to traditional learning. Weaker students can emulate the writing styles of good students displayed in the platform and progress with other groups. The blended learning approach encourages students to take full responsibility for their own learning process. There is a healthy competition among groups to strive to excel and improve their writing skills, as evident in the study.

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**Appendix A**

**Figure 1**

*Acts of Planning of Group 3*

A close up of a document

Description automatically generated

First update (Red): Supporting Sentences

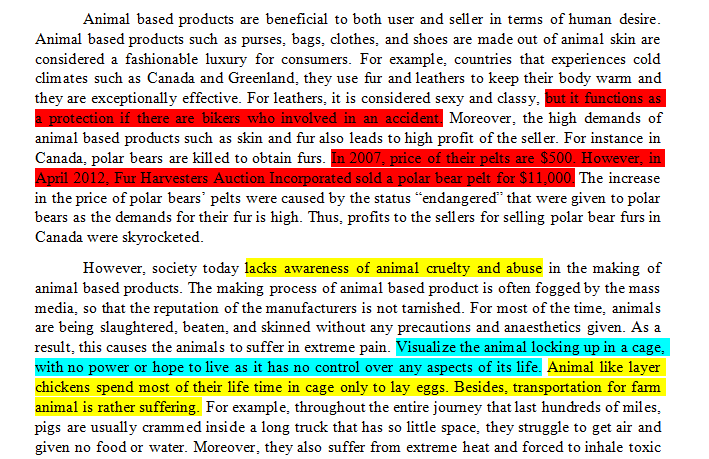
Second update (Blue): Supporting Details (Evidence)

Third update (Black): General Statement and Thesis Statement

**Appendix B**

**Figure 2**

*Peer Evaluation*



Grammar error:

* lacks awareness of animal cruelty and abuse
* Animal like layer chickens spend most of their life time in cage only to lay eggs. Besides, transportation for farm animal is rather suffering.

In-text citation error:

* But it functions as a protection if there are biker who involved in an accident.
* In 2007, price of their pelts are $500. However, in April 2012, Fur Harvesters Auction Incorporated sold a polar bear pelt for $11,000.

Redundant/Unnecessary sentences:

* Visualise the animal locking up in a cage, with no power or hope to live as it has no control over any aspects of its life.

**Appendix C**

**Figure 3**

*Planning of Group 1*

A screenshot of a computer

Description automatically generated