

Examining the Effects of Reflective Journals on Students' Growth Mindset: A Case Study of Tertiary Level EFL Students in the United Arab Emirates

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Abstract

The purpose of the study reported in this paper was to examine the effects of reflective journals on students' learning, how they foster students' growth mindset, and the students' own perceptions of the journaling process. To this end, 15 students enrolled in an introduction to nutrition course participated in writing reflective journals about their eating habits with respect to the course content. This research used a qualitative instrumental case study design and the required data were collected from students' journals and focus group interviews. A content analysis approach was employed to examine the journals and this indicated that reflective writing improves learners' conceptual understanding of the course, promotes growth mindset, and helps shed light on the students' inner thoughts. The finding of this study revealed that reflective journal writing has a significant impact on EFL learners' understanding of concepts and on fostering growth mindset.

Keywords: reflective journals, growth mindset, critical thinking skills, EFL learners

Introduction

The current higher education environment in the United Arab Emirates (UAE), aligned with its business community, is moving towards preparing its students for the 21st century market (HCT, 2017). This entails focusing on building not just content and language, but developing higher order thinking skills and growth mindset. The impact of reflective journals on learners in higher education has been praised, studied (Korstange, 2016) and found useful. Reflective journals have also been found to enhance the learning process as this practice bridges the gap between what the learners are doing and what they should be doing (Cathro, O'Kane, & Gilbertson, 2017). It also develops students' awareness of their own skills (Boud, Keogh, & Walker, 1998). Studies have shown that learning while reflecting on the metacognitive process is an important way of learning, however, it is not spontaneously learned and it must be taught (Wallin & Adawi, 2017). Giving learners the opportunities to reflect on their learning is a substantial way to focus learners and give them tools for improvement. Chau and Cheng (2012) state that in the current literature of second language learning (L2), there is a significant effect on the development of learning in reflective writing. The importance of being cognitively aware through reflection in higher education has been extensively covered in the literature. Nevertheless, reflection journals may not increase students' grades in content, but it enhances their conceptualization of meaning and thinking skills (Murphy & Ermeling, 2016).

There is rather limited research on how EFL learners reflect on their learning when involved in their academic content and their awareness of growth mindset. This is particularly true with students in the United Arab Emirates who are studying their content in English as a medium of instruction. A practice of writing reflective journal by students, for this nutrition course, was undertaken and a questionnaire was designed and conducted by the researcher to gather information on students' perceptions of the journal writing. This study will observe how these reflective journals reveal students' awareness of concept learning, mindset and move towards growth mindset. The purpose of this research is to examine the effect of reflective journals on students' learning, how it fosters students' growth mindset and their perceptions of the journal writing. This research aims to answer the following questions:

1. Can reflective journals reveal students' conceptual development?
2. Do reflective journals foster growth mindset?
3. What are students' perceptions of their own growth mindset?

The drive for the current study was encouraged by the growing population of UAE citizens studying a four year degree in an English medium. In this level of education, EFL learners need to improve their linguistic competency and their critical thinking skills. Research indicates that language is more effectively learnt when the target language is in authentic use and content-based language instructions (CBLI) are used (Richards & Rodgers, 2001). The term content-based language instruction refers to an approach that integrates content and language learning. Hence, use of a reflective journal is aimed at building learners' content knowledge and their thinking skills at the same time. This is in line with the current educational environment in the UAE, which is geared towards preparing students for the 21st century market with the focus on building not just content and language, but also developing critical thinking skills and growth mindset. Furthermore, there is a need for future research in examining EFL learners' reflective journal writing in the content classroom (Goris, Denessen, & Verhoeven, 2017).

Literature Review

Reflective journals

Researchers view reflective journals as an instrumental tool for alerting and guiding students towards improving their learning. Dewey (1933) was one of the first to write about reflection in education. He stated that reflective thinking is “the active, persistent, and careful consideration of belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it ends” (p. 9). In 1987, Schon further explained the concept of reflection as a conversation between thought and action. Reflective journals are used in many courses as written logs of students’ thoughts about specific concepts and their learning process (Thorpe, 2004). Other researchers stressed the importance of reflective journals focusing on the process of learning in enhancing students’ performance rather than the product (Park, 2003). Boud, Keogh, and Walker (1998) further explain the significant impact of the reflection on the actual process of the learning at a deeper level.

Other authors such as Sumsion & Fleet (1996) state that reflective processes allow the learners to be “looking back on experiences, decisions and actions; recognizing values and beliefs underlying these actions and decisions; considering the consequences and implications of beliefs and actions; exploring possible alternatives; and reconsidering former views” (Sumsion & Fleet, 1996, p. 121). With reflection, people are usually engaged in a period of thinking within which they examine complex experiences or situations. Moreover, it is suggested that in addition to the reflection embedded in the practice, reflective writing provides a measure of the writer’s L2 ability (Hyland, 2007). Importantly:

By engaging in reflection people are usually engaging in a period of thinking in order to examine often complex experiences or situations. The period of thinking (reflection) allows the individual to make sense of an experience, perhaps to liken the experience to other similar experiences and to place it in context. Faced with complex decisions, thinking it through (reflecting) allows the individual to separate out the various influencing factors and come to a reasoned decision or course of action. (Clarke & Graham, 1996)

Theoretical framework

Journaling is utilized as an exercise for reflection and a tool for teaching, learning, and research within education and in academic fields (Fabrizz, Ewijk, Poarch, & Buttner, 2014). This study uses Gibbs’ Reflective Cycle or Reflective Model (1988), which is a theoretical model for reflection often taken as a framework for reflective writing in coursework assignments that require reflection stressed within the learning process of the course. The model has six stages, usually displayed as follows:

1. Description
2. Feelings
3. Evaluation
4. Analysis
5. Conclusion
6. Action Plan.

This study has taken Gibbs’ Reflective Cycle (adapted by Bulman and Shultz, 2013) as its frame because of its clear and elaborated stage settings which can give learners an opportunity to reflect on their experience, and to understand what they did well and what they could do

better in the future. Gibbs' model stems from an earlier theoretical model formulated by Kolb (1984) as an experiential learning model, depicting learning through experience. Kolb's model constitutes a four-stage experiential learning cycle (Kolb, 1984). Referred to, sometimes, as an iterative model, the version of Gibbs' Reflective Cycle given to students may be slightly adapted.

Growth mindset

According to psychologist Dweck's (2006) research, there are two mindsets: a fixed mindset and a growth mindset. Students with a fixed mindset believe that abilities are innate and cannot be enhanced. On the other hand, growth mindset learners believe that effort can bring a positive change and that challenges are ways to improvement if one focuses on the effort and process not just product. Figure 1 outlines the two mindsets.

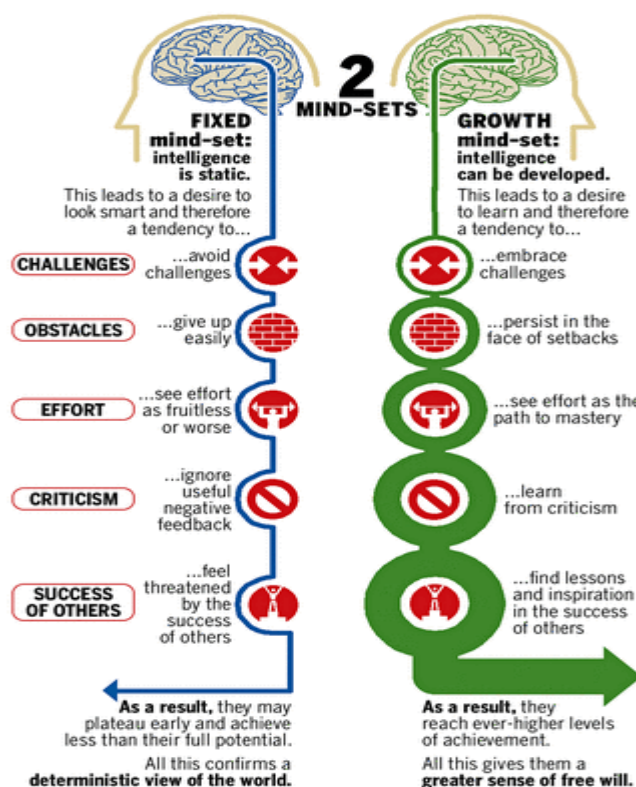


Figure 1: Two Mindsets Chart
(Dweck (2006). *Mindset: The new psychology of success*, p. 245.
New York: Random House.)

This research study supports that these two mindsets are not permanent in that learners can be guided to move from a fixed mindset to growth mindset. This change of the mindset requires a learning effort and does not happen accidentally. Dweck (2015) acknowledges that everyone has a combination of both mindsets, but cautions that there is a need to be aware of when the fixed mindset appears in the behavior.

Other researchers who embraced reflection with growth mindset and applied it in the classroom associate reflection and metacognition to development (Davis, 2016). This research reports that reflective thinking is one of the ways of moving these mindsets from fixed to growth mindset. Boyd (2014) characterizes Dweck's work on growth mindset as "a transformative and

irrevocable way of thinking about something . . .” (p. 29), and a source of qualitatively new outlooks of learning and for course design.

Related work

Current research reports the significance of writing reflective journals (Wallin & Adawi, 2017). However, Wallin and Adawi point out that, in higher education, most of reflective writing research comes from teacher education and nursing. Supported by the work of these researchers and other examples of reflective journal writing, this study aims to fill part of the gap by examining the impact of students’ journal writing thoughts on the value of journaling. The theoretical underpinning of this paper, therefore, is broadly based on concepts contained in Gibbs’ 1988 reflective model and practice. It also draws from Dweck’s growth mindset and the insights that have emerged out of the data gathered for this study.

Methodology

This research paper is based on an empirical research designed as an instrumental case study. This approach gives the study a potential output to provide insight and understanding into the phenomenon of students’ reflective journals and the impact these reflective writings have on learning. Stake (1995) justifies the case study approach as it gives the researcher an opportunity to notice the natural life. Encouraged by such testimony, this research’s qualitative approach is designed to understand more about the students’ learning process through reflective journalling. Because the case study method simulates a representation of an actual situation, Merriam (1998) confirms its usefulness: “Anchored in real-life situations, the case study results in a rich and holistic account of a phenomenon” (p. 41). This qualitative case study research applied two methods of data collection: documents (reflective journals) and focus group interviews. A variety of information sources is used to ensure the use of triangulation, which enhances the validity of the study. This approach is in alliance with those promoting the use of multiple methods, including observation, interview and document review, in a qualitative case study research (Stake, 1995).

This type of design in methodology is appropriate because it is flexible in its nature and suitable for the unpredictability of the findings (Stake, 1995). In qualitative research, the focus is on what meaning and understanding participants attribute to their experiences. Stake notes “a case study cannot be defined through its research methods, but rather in terms of its theoretical orientation and interest in individual cases” (Stake, 2000, p. 435). The questions for the reflective journals were modeled with a growth mindset in design, and were about describing, evaluating and analyzing the situation.

Participants and study design

This research used convenient participant samples – the researcher’s students. The participants were 15 female students who were Emirati nationals and between the ages of 19 and 23. They were studying in a bachelor program in a public tertiary institution in the United Arab Emirates (UAE). This institution has more than 23,000 students and offers various English-taught programs in Applied Communication, Business, Computer and Information Science, Engineering Technology and Science, Health Sciences, and Education. All programs are designed in consultation with business and industry leaders to ensure that students’ skills are job-relevant and to the highest standards. This course, requiring the reflective journals, is a 16 week nutrition course for the bachelor degree. Most of the students are in their second year of college, which is the time they are required to take this general elective course in their program structure. In this English medium program, enrolled students (whose native language is Arabic)

are required to pass English proficiency tests such as the International English Test (IELTS) and/or the Test of English as a Foreign Language (TOEFL) to be admitted to the bachelor programs. Students had also taken three academic English courses in their first year to improve their English competency. As part of the course assessment students write a reflective journal of a minimum length of 200 words concerning their eating habits and in relation to the content of the course. Participants submitted the reflective journal by week 8 of the 16-week semester. Before they started writing, participants responded ‘yes’ to the question of whether or not they were familiar with journal writing. They were familiar with journal writing as it was introduced during their foundation English courses. Nevertheless, the researcher gave a brief orientation and explained about the process of reflective journals. Journals from 15 (one class) participating students were analyzed. The themes that emerged from the reflective journals were examined to better understand students’ growth mindset in relation to their understanding of the course content and their personal experiences of the reflective process.

The participants wrote a reflective journal in week eight of a sixteen-week semester (see Appendix A). The questions for these reflective journals were modeled with a growth mindset in design. Participants were familiar with journal writing in English courses, but have not done it in a content class. An induction of topic preparation was needed and conducted before the start of the writing. Later, a focus group interview was carried out to understand if the reflective journals helped students comprehend the concepts better, enhanced their growth mindset, and to draw out student perceptions (see Appendix B). A group of five students voluntarily participated in the focus group.

Data collection

This study used two ways of gathering the qualitative data: reflective journals and a focus group interview. In addition to being data collection methods, reflective journals and focus groups also serve as a strategy for research when trying to find how a perspective of a problem is formed (Mertens, 2009).

Reflective journals

The main source of data was the reflective journals (see appendix A). There were practical reasons for using journal writing in this study. It was imperative that students in the nutrition class, who were engaged in learning about food and health, reflect on what they are learning and how it is related to them on a personal level. Furthermore, studies suggest that journal writing encourages students to reflect (Fabriz, Ewijk, Poarch, & Buttner, 2014) and to learn content, and that “reflective diaries can focus on learning content or behavior” (Wallin & Adawi, 2017, p. 2). The data from the journals was anonymised for ethical considerations. The journals were identified by number (S1, S2, S3,...). The researcher, who is also the instructor of the course, described the research to students and got their verbal agreement, but no signed consent forms were collected.

Focus group interview

The second set of data for this study came out of a focus group interview (see Appendix B) which took place a couple of weeks after completing the journal writing. The two weeks gave time for students to process their learning, and to take a concept based quiz planned within the coursework. The researcher chose the focus group interview to evoke students’ perspective and have them actively engage in an exchange of information (Mertens, 2009). The focus group interview would provide an opportunity that allows students to express their views and reflect on their learning. Other methods, such as a questionnaire, could not offer that kind of information exchange. One objective of the focus group interview was also to determine

whether participants went on with writing reflectively beyond the class assignment and study exercise. Another objective was to ascertain whether there was perceived merit in reflective writing using the Gibbs reflective cycle. Prior to organizing the focus group, the researcher of this study informally discussed in an open conversation with students about their experience with reflective journals. Five questions guided the follow-up focus group interview (see Appendix B). The interview was conducted with a group of five students. The interview session was recorded using audio recorder and was later transcribed. The researcher took notes with the aim of capturing any evidence of paralinguistic clues such as nods of agreement or disagreement, which added additional dimension to the transcript.

Reflective journal coding

The coding process of this study was guided by an inductive approach based on Gibbs' model of reflective learning. Gibbs' six-stage model would later be used to frame the thematic coding. This qualitative content analysis, using an inductive approach thoroughly discussed in the literature (Merriam, 1998), has followed Gibbs' model of reflective learning (Figure 2). The researcher further used Creswell's suggestions of thinking about the data and its general meaning and recording ideas and thoughts (Creswell, 2007). Data was analyzed concurrently with data collection (Miles, Huberman, & Saldana, 2014). At the first stage, a number was assigned to each student to protect students' identities and initial open codes were allocated to each recurrent word or phrase with a particular idea. Then, the researcher used axial coding and grouped the ideas into the following topical categories: description, emotions, evaluation, and action. After completing this stage, the researcher further examined the data using selective coding and began to merge the recognized categories into three distinct themes by considering the meaning of each theme and how it is connected to the process of reflection. This resulted in an augmentation (Kember, Wong, & Leung, 1999) of the data which helped in organizing each theme and reflection. This helps the researcher in organizing the data. (Glesne, 2011).

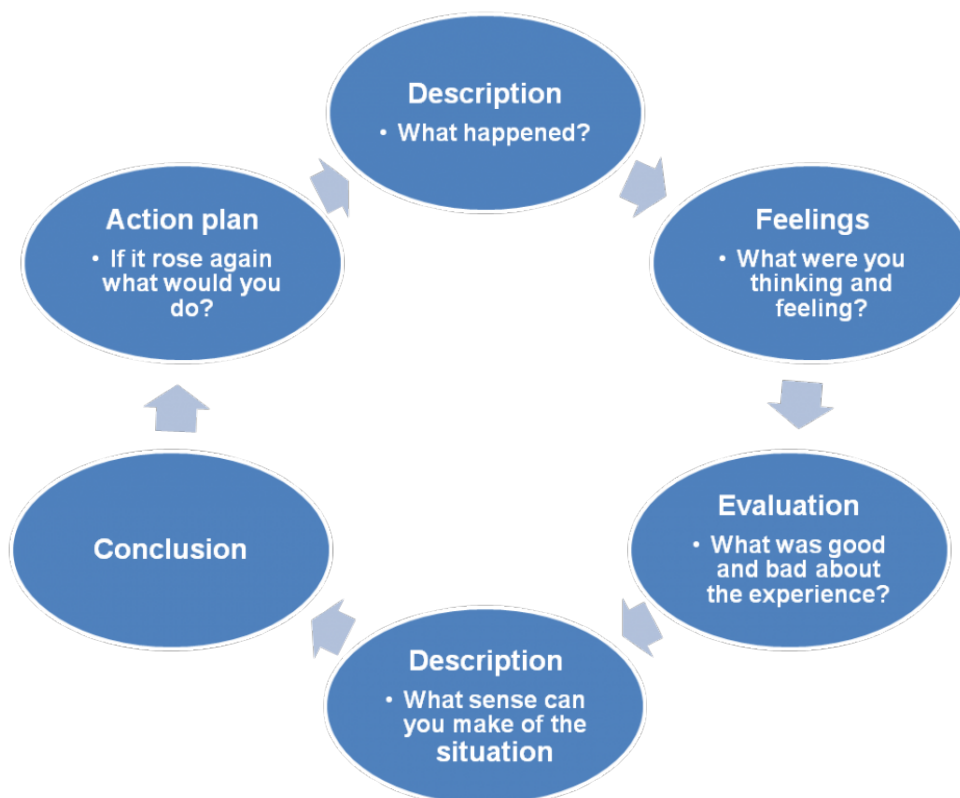


Figure 2: Reflective Learning Model
(Bulman and Schultz (2013). *Reflective Practice in Nursing*, p. 232. Wiley-Blackwell)

After the data were carefully analyzed, three major themes emerged from the categorization of topics:

1. Specific learning experience,
2. Connection to the experience
3. Changes due to the process.

The first theme entails a discussion of the participants' understanding of their specific learning experience. This is followed by a look at their personal connection to the experience as the second theme. Finally, the third theme marks the changes that occurred due to this process. The various models of reflective learning from Kolb's (1984) experiential learning, to Gibbs (1988) reflective model, to the adaptation of Gibbs' model by Bulman and Shultz (2013) support these three themes as key aspects of the reflection process that should be experienced by students (Korstange, 2016).

Data Analysis and Results

The themes that arise from the data of this research clearly respond to the research questions presented at the beginning of the study.

Research question 1: Is there an impact of reflective journals on conceptual development?

In theme one, which constituted remarks on specific learning experience, it is evident in the data as shown in the excerpts below that, through reflection, many participants demonstrated making sense of learning the content as the concepts and theories became embedded in

their writing about their eating habits. The excerpts exhibit students' responses with accurate and specific knowledge of the content of the units studied.

S1: Because of my food diary was focused in simple carbs, but I will concentrate to an intake of more complex carbohydrate by adding on my meals more vegetables and there is a wide variety of them I did not include in my diet such as Broccoli and asparagus which gives me a fiber.

S2: I would like to be away from simple sugars and starches that will help my body to be healthier

S6: By Return to daily food it's clear to see that my food need more of both carbohydrate that's mean simple carbohydrate and complex carbohydrates. If we eat large amounts of carbohydrates, it will negatively affect our health, for example gaining excess weight. If it falls short of the limit, the body needs energy to work so there will be no energy will indicate the body is idle.

S5: So I will replace fast food by eating vegetables every day, because it is the vegetables are a nutrient-rich, low-calorie, high-quality carb. Eating vegetables helps me meet your vitamin A, vitamin C, potassium and folate needs.

But then we have three student responses below which are indicative of a learner who has general knowledge, but not concrete information.

S3: I should add more vegetables, cause it contain a huge amount of vitamins like vitamin B-6, vitamin A and vitamin C to my lunch and dinner, beside I should take not less than 100 mg of mineral a day like fruits, vegetables, milk, meat, legumes, whole grains to balance my diet.

S15: it's better to not take supplement because the high proportion of vitamin caused problem in the body

S11: Improving your intake of carbohydrates and fiber means you will need to start selecting wholesome, non-processed foods. These foods are not refined and they are found in their natural form.

It is at this stage that students receive feedback to guide them back to the units. One common theme in students' responses was that the units that dealt with starches, vitamins and minerals were not well understood by students and thus required more explanations by the teacher. To this end, there is a display of a clear impact of reflective journals on the students' conceptual development.

Research Question 2: Do reflective journals foster growth mindset?

The second theme that is evident in the data is the notion of connecting to the experience. Prior to fostering the growth mindset, Dweck informs researchers that it is important to comprehend students' mindset (Dweck, 2006). In the context of this study, participants candidly described their eating habits and factors that affected those habits. Nevertheless, a close examination of participants' responses indicates that a number of them came with a fixed mindset about their eating habits, as illustrated in the following excerpts:

S4: I have many bad eating habits. For example, I usually stay awake at night, I am a night person which makes me hungry so I like to eat chips and order fast food to satisfy my hunger.

S7: I like sugar a lot, all my family like it and my mother bakes all the time. We have a lot traditional sweets in our house. I eat it when I go to my grandmother house.

S9: I don't know. I tried before to eat healthy, but it never works. I always quit. I tried many diet, but fail.

S3: Every Friday we go to grandmother's house. I love her food, it is rich. We eat a lot.

S4: If one day I went out with my friends to the fast food restaurants, in each restaurant their healthy options I can select from these healthy meals. if there is not I can order a grilled burger with lettuces instead of white bread. I can also add extra vegetables on my meals, or I can order a salad instead of sandwiches that would contain complex carbs. I can ask for brown bread or grain whole one instead of white bread or white pasta.

S4: Of course it is very difficult to change my eating habits, but if I want to do that I must try to change these habits more than once and without giving up. The first thing I should do when I feel hungry I make a salad made up of vegetables that I love and try not to order from fast food restaurants. At lunch eat salad with a little rice because the rice also important to my body.

S6: There are many people trying to change their eating habits to become healthier and without disease. I want to change my eating habits, for example reducing the fast food because it is make me fatter and Increases the incidence of diseases. So I will replace fast food by eating vegetables.

This kind of reflection must precede the development of growth mindset because it transforms the experience into genuine learning about the individual values and goals and about larger social issues. Students' writing repeatedly exhibited discontent with their eating habits, which created an opportunity for a shift of these habits to a positive direction. In this nutritionally personal context, it is encouraging for students to write so freely and connect to their personal experiences. This practice allows the learners to relate facts and connect with them. This is a step in the right direction of analyzing the information and moving towards mind shift (Boyd, 2014). The researcher sees a shift towards growth mindset in the making as the participants discussed steps they could and will do in the future. This study shows that reflective journals can successfully serve as a mechanism to foster growth mindset.

Research Question 3: What are students' perceptions of their own growth mindset?

The students' feelings and perceptions of their own reflective journals were explored from the focus group interview responses. Four out of the five who voluntarily participated in the focus group interview discussed their views about their growth mindset. Respondents strongly recognized the importance of writing reflective journals towards understanding their potential for growth as illustrated in the excerpts below. However, one student found journaling and writing, in general, an unpleasant experience because of the effort required, but would have liked to discuss the journal questions in an informal open discussion instead. The findings showed that most participants realized the benefits of reflective writing as the following excerpts of student writings illustrated.

S2: I learned a lot. I think I can change

S6: I believe I can improve and do better

S9: I know now that I have think positive to change. Usually I don't think I can, but now I think I can

S3: I will make changes slowly day by day

Discussion

The current research established the efficacy of journal writing for EFL nutrition students. The purpose of this research was to answer if writing reflective journals could enhance students' conceptual learning, foster their growth mindset, and to gauge their views of the process of journaling. The first research question focused on finding out students' understanding of the principle concepts of the nutrition course. This question was addressed by analyzing students' reflective journals using a qualitative content analysis approach (Merriam, 1998). The results suggest that journal writing positively improved students' learning of the concepts as can be seen from excerpts of students' writing. It clearly indicated those who understood the concepts and gave an opportunity for the others to review the concept.

The second question was posed to investigate if learners' reflective journals about their eating habits could foster growth mindset. To answer this question, students answered a questionnaire (see Appendix A), which showed that a number of the learners had a fixed mindset in regard to their eating habits. This was exhibited through their writing. This understanding is crucial at this point as students gain deeper understanding of their thoughts, which ultimately paves the way for moving from fixed to growth mindset (Boyd 2014).

As discussed earlier, in order to answer the second question, five students were invited to participate in a focus group interview to gather their views on writing journals (see Appendix). They all agreed that the use of reflective writing was informative as one of the students summarized. Previous studies varied in how they approached the role of reflective journal writing. Some studies focused on allowing students to reflect on new knowledge learned in class, reinforce their learning experience by recording their thought process as they progress further in the course (Wallin & Adawi, 2017). Other studies have used it for language development (Richards & Rodgers, 2001). It can also teach them to formulate new opinions and perspectives, and gives them a risk free venue to explore, think, and practice skills learned in class. The present study explored self-evaluation, intellectual growth and self-awareness resulting from the process of reflective journaling. The current study provides evidence that reflective journals improve learners' conceptual knowledge, promote growth mindset, and enhance understanding their thoughts through writing. Reflective journal writing holds a significant advantage for EFL learners studying content.

Conclusion and Implications

This study examined the effort of reflective journal writing of learners' conceptual development, fostering of growth mindset, and understanding students' perceptions of the journaling process. Reflecting allows a deeper comprehension of the specific experience, concepts learned and offered some new insight to this phenomenon. This paper described the route taken by learners through the process of learning and understanding about their own thoughts, their current mindset and the road towards growth mindset. The findings from the qualitative data analysis clearly show that the use of journaling could positively enhance student's learning process. A number of themes were visible in the documents and the focus interview that could develop learner's critical thinking skills and meta-cognitive skills. These results have important implications for the EFL student in a content classroom as it contributes to the development learners' skills in understanding concepts and their growth mindset. Similarly, it could have significance to teachers' development as they design, deliver lessons and develop materials.

After interpreting the results, two limitations were faced. One of the limitations of this study is that the sample size was small, therefore, future similar research should be done on a larger sample. Another limitation is the fact that there was only female representation and it would be interesting to investigate how male learners would use reflection writing.

References

- Boud, D., Keogh, R., & Walker, D. (Eds.). (1998). *Reflection: Turning experience into learning*. London: Routledge.
- Boyd, D. E. (2014). The growth mindset approach: A threshold concept in course redesign. *Journal on Centers for Teaching & Learning*, 6, 29–44.
- Bulman, C. & Schultz, S. (2013). *Reflective Practice in Nursing*. Wiley-Blackwell.
- Cathro, V., O'Kane, P., & Gilbertson, D. (2017). Assessing reflection: Understanding skill development through reflective learning journals. *Education & Training*, 59(4), 427–442. <https://doi.org/10.1108/ET-01-2017-0008>
- Chau, J., & Cheng, G. (2012). Developing Chinese students' reflective second language. *Journal of Language Teaching and Learning*, 2(1), 15–32.
- Clarke, D. J., & Graham, M. (1996). Reflective practice: the use of reflective diaries by experienced registered nurses. *Nursing Review*, 15(1), 26–29.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Davis, V. W. (2016). Error reflection: Embracing growth mindset in the general music classroom. *General Music Today*, 30(2), 11–17. <https://doi.org/10.1177/1048371316667160>
- Dewey, J. (1933). *How we think*. Amherst, NY: Prometheus (Original work published 1910).
- Dweck, C. S. (2006). *Mindset: the new psychology of success*. New York: Random House.
- Fabriz, S., Ewijk, C. D., Poarch, G., & Buttner, G. (2014). Fostering self-monitoring of university students by means of a standardized learning journal – a longitudinal study with process analyses. *European Journal of Psychology of Education*, 29(2), 239–255. <https://doi.org/10.1007/s10212-013-0196-z>
- Fulwiler, T. (1986). Seeing with journals. *English Record*, 32(3), 6–9.
- Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. London: FEU.
- Glesne, C. (2011). *Becoming qualitative researchers: An introduction* (5th ed.). Upper Saddle River, NJ: Pearson.
- Higher Colleges of Technology, (2017). *Strategic goals*. Retrieved from <http://hct2.hct.ac.ae/strategic-goals/>
- Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. *Journal of Second Language Writing*, 16(3), 148–164. <https://doi.org/10.1016/j.jslw.2007.07.005>
- I. W. (2017). Higher Colleges of Technology. Retrieved from <http://www.hct.ac.ae/en/about/learning-model/>
- Kember, D., Wong, A., & Leung, D. Y. (1999). Reconsidering the dimensions of approaches to learning. *British Journal of Educational Psychology*, 69(3), 323–343. <https://doi.org/10.1348/000709999157752>
- Korstange, R. (2016). Developing growth mindset through reflective writing. *Journal of Student Success and Retention*, 3(1).

- Merriam, S. B. (1998). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Mertens, D. M. (2009). *Research methods in education and psychology: Integrating Diversity with quantitative and qualitative approaches*. Thousand Oaks, CA: Sage Publications.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Murphy, D. L., & Ermeling, B. A. (2016). Feedback on reflection: comparing rating-scale and forced-choice formats for measuring and facilitating teacher team reflective practice. *Reflective Practice International and Multidisciplinary Perspectives*, 17(3), 317–333. <https://doi.org/10.1080/14623943.2016.1164681>
- Park, C. (2003). Engaging students in the learning process: The learning journal. *Journal of Geography in Higher Education*, 27(2), 183–199. <https://doi.org/10.1080/03098260305675>
- Richards, L., & Rodgers, T. (2001). *Approaches and methods in language teaching*. New York: Cambridge University Press. <https://doi.org/10.1017/CBO9780511667305>
- Schon, D. A. (1987). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications.
- Stake, R. E. (2000). *Case studies*. Thousand Oaks, CA: Sage Publications.
- Sumsion, J., & Fleet, A. (1996). Reflection: Can we assess it? Should we assess it? *Assessment & Evaluation in Higher Education*, 21(2), 121–130.
- Thorpe, K. (2004). Reflection learning journals: from concept to practice. *Reflective Practice International and Multidisciplinary Perspectives*, 5(3), 327–343. <https://doi.org/10.1080/1462394042000270655>
- Wallin, P., & Adawi, T. (2017). The reflective diary as a method for the formative assessment of self-regulated learning. *European Journal of Engineering Education*, 43(4), 507–521. <https://doi.org/10.1080/03043797.2017.1290585>
- Yin, R. K. (1993). *Applications of case study research*. Thousand Oaks, CA: Sage Publications.

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Appendix A

Journal Questions:

1. What do you think your general eating habits are like?
2. What things affect the way you eat?
3. What do you think about the quality of your carbohydrates intake?
4. What would you change in your eating habits?
5. How would you make these changes? What could you include? Think practically.
6. If you eat out, how could you make sure you have a better intake of food?
7. Do you think your current diet gives you enough vitamins and minerals? Why, why not?
8. How could you get more quality vitamins and minerals into your diet?
9. What do you think is the long term effect of not having enough vitamins and minerals?

Appendix B

Focus Group Interview Questions:

Prior to the focus group: 5 students voluntarily participated. Researcher explained to them to answer honestly and that there are no right or wrong answers, just what they think:

Mindset Questions
1. Did answering questions in the journal help you understand the concept? How? If no, Why?
2. Have the journal questions make you think or change your health habits?
3. How did the journal reflection writing help you think differently?
4. How did you feel about writing the journal?
5. Would you do similar journal in your other classes? Why?

Appendix C

Open codes	Axial Codes	Categories	Themes
White bread, brown bread, whole grains, soda, milk, laban, yogurt, candy bars,	simple & complex carbohydrates, fiber, vitamins, minerals; Dairy product;	Description of current situation	Specific Learning Experience
Time, sleep, wake up late, get up late class time, homework, tests, busy, Family, friends, school meals, canteen, snack machines, coffee machine, unhealthy snacks, junk food traditional meals, grandmother cooking/visits the way I eat; I can't watch TV or online series without eating snacks.	Not having enough time to eat breakfast or cook. Busy with homework and assignments. Grab anything I can find. Unhealthy food in the college.		
Feel bad, depressed, bad mood, stressed, guilty, my eating is bad; feel guilty after eat lot of snacks; feel very bad; feel bored, nothing to do;	Eating unhealthy foods and feeling bad about it. Bad moods negatively affects choice of food.	Emotions Neutral Positive Negative	Connection to Experience Connection to Experience
Peer pressure, weight gain, skin problems, clothes don't fit', no energy, tired all the time, focus problems in class, tried diets before it never works. My mood can really affect.	Family & friends pressure of food. Having eight gain; Lack of energy; Inability in focusing on studies;	Evaluation	
Change, I should, I can I will, I can replace, try to cook healthy food, fix my habit, for my skin.		Action	Changes to the Process