Critical Reading as an Impediment for Effective Synthesis: Case of Master 2 Students at Saida University

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Abstract

Writing an appropriate research paper requires the mastery of effective synthesis. This paper intends to highlight students' hindrances in producing a sound synthesis, particularly weak critical reading, and proposes equally outlets for congruous comprehension. The motivation is linked with the slenderness of studies addressing the critical reading/effective synthesis binary. This will have pedagogical implications regarding the teaching of synthesis. The researcher used purposive sampling with Master two didactic students (39 students) at Saida university. A self-assessment of the teaching strategy, corpus analysis, and a seven-item student questionnaire were used. The findings indicated that the major problems surrounding the internalization of good synthesis were related to the complexity of the different operations required for critical reading. The paper put into evidence the necessity of integrating the subject of academic writing into the syllabi of Master didactic students, the design of adequate critical reading tasks, and urged equally the necessity of more condensed practice, both in-class and off-class.

Keywords: Critical reading, effective synthesis, paraphrasing, master 2 students, shortness of instruction.

1. Introduction

Synthesis is a cornerstone element in any literature review and a significant tool for interpreting data. Its teaching, on the other hand, is extremely onerous, as students struggle with smooth internalization. They fail specifically to produce value judgment, relying instead on a mere compilation of scholars' views without any comparison/contrast, reflecting an awry acquisition, specifically in terms of critical reading.

The aim of this study is to unravel students' hurdles with synthesis and highlight the importance of critical reading in producing appropriate synthesis. To elucidate this problem and propose strategies that ease its grasping, it is pertinent, first, to undertake a mapping of synthesis and its nexus with critical reading. This presupposes the following questions: What does effective synthesis mean? What is the link between synthesis and critical reading? How does critical reading boost the synthesis skill? What strategies can be implemented to promote it?

2. Literature review

To map the synthesis process, it is first important to consider the definition of this term, and then the link between synthesizing and critical reading will be probed in second lieu.

2.1. Definition of synthesis

Synthesizing refers to the act of comparing, contrasting, classifying, dividing, and arranging information. Moore (2018, para.5) asserts that synthesis alludes to "the combination of two or more ideas or concepts into your writing using your own words." Wiley and Voss (1999) believe that it is a knowledge-transforming task (as cited in Linlin & Kenneth, 2019). In this context, Spivey (1997, as cited in Mateos & Sole, 2009) qualifies synthesis as hybrid writing. The end

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product of synthesis is, evidently, the generation of new knowledge (Eykelbosh & Fong, 2017). This operation necessitates a set of roles, basically, source-reader, note-writer, new-text-writer, and new-text or draft-reader (Mateos & Sole, 2009, p. 436). In plain words, it refers to the combination of different sources and their transformation so as to obtain new knowledge that expounds clearly one's point of view.

Wyborn et al. (2018) mention two types of synthesis: explanatory synthesis, where only facts are described without referring to any particular views, and argumentative synthesis, where the researcher is expected to mention all that has been said about the topic and then comment on it on the basis of evidence. Most commonly, it is this type of synthesis that is taught. Synthesis writing is extremely important in undertaking any appropriate literature review. It promotes one's creative aptitude through harnessing critical thinking.

The ability to synthesize cannot be learned quickly because it requires extensive critical thinking practice. In this vein, Johnson (2009) asserts, "the ability for people to assimilate the information they find into coherent personal strategies is perhaps the critical modern survival skill" (as cited in Rosenshine, 1986). It requires the delimitation of the connections, the things that deviate, and the missing points (synthesising sources). It scours not only the similarities and differences but also questions the viability of the ideas advanced. In that process, one important thing that is realized is the delimitation of the literature gap.

Synthesizing is, glaringly, different from summarizing (Findley, n.d.) since the latter refers simply to the reporting of the key points of the sources; while the former is much more than that as it evaluates the source's strengths and weaknesses with a view to creating the researcher's interpretation of those sources. It follows, then, that any successful synthesis is intimately linked with critical reading. At this junction, it is pertinent to scrutinize how this occurs.

2.2. Critical reading and successful synthesis

Successful synthesizing is intimately linked with critical reading (Irvin, 2010). Critical reading (also termed as critical literacy, close reading, deep reading) has been defined by different researchers (Bartholomae & Petrosky, 2008; Burke, 2008; Irvin, 2010; Shor as cited in Taglieber, 2008; Wolf & Barzillai, 2009). They all considered it a complex activity that necessitated perseverance. Shor associated critical literacy with analytical habits of thinking that involve the unraveling of deep meanings.Shor associated critical literacy with analytical habits of thinking that involve the unraveling of deep meanings. Similarly, Burke considered it as a thoughtful analytical process that targets a profound and concise comprehension of the text. The RAND Reading Study Group (2002) expanded this view by considering reading as a concurrent process of extraction and construction of meaning. Wolf and Barzillai (2009) provided the operations involved in deep reading as inferring, deductive reasoning, analogical skills, critical analysis, reflection, and insight. Critical reading requires, hence, readers to be actively engaged in deciphering texts (Bartholomae & Petrosky, 2008). It follows, then, that deep reading has to do with the desiccation of information with a view to building a new meaning. This skill can be developed through constant intelligent questioning. Careful and inquisitive reading is, indeed, the key that unravels all types of information: linear, indirect, and missing ideas. This implies that the researcher should use genuine observation, which, in a parallel line, involves constant questioning. A sentence such as (most scholars assert that grammar can be acquired through subconscious exposition to the target language) leads automatically to raising the following questions: does this result apply to all types of learners? When and how should this exposition occur? Once appropriate questions have been raised, the reader ought to make inferences with regard to the missing ideas. This step can also encompass the evaluation of the ideas. Those three stages are, henceforth, the basis of synthesizing.

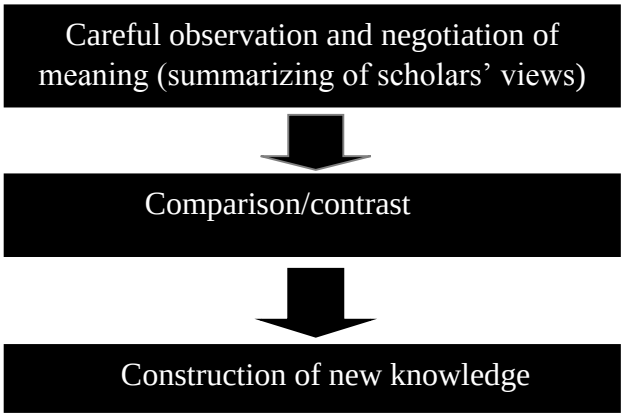
Henceforth, successful synthesis should involve approximately the same operations (see figure 1). The researcher should first carefully observe the scholars' views and consider their meanings; this comes to summarizing their opinions. Then, an astute comparison/contrast

operation will yield to the demarcation of the similarities, the differences, and the gaps. In turn, this propels the researcher to construct new knowledge, which includes rational inferences and interpretations. This is referred to as the "thesis statement."

In brief, prosperous synthesizing relies heavily on critical reading of the literature. This requires an ineluctably step-by-step approach since information processing requires time (Rosenshine, 1986). To counteract the difficulty of synthesis, the use of a synthesis matrix is advisable. The latter should comprise the following information:

− accreditation of the author
− reporting of the ideas
− points of agreement/disagreements between authors
− raising of new questions as to the topic

Fig.1. Operations involved in synthesizing (Authors 'design)



Having mapped the synthesis process and its close relation with critical reading, it is important at this level to veer into the research methodology with a view to canvassing students' synthesis deterrents.

3. Methods and materials

To survey the problems encountered by students in synthesizing writing, a field of study was conducted with English master two didactics students at Saida university. The entire population was used (39 students). The choice fell on this specialty (purposive sampling) for two reasons: (i) the researcher teaches those students the courses of research methodology and research techniques; (ii) the researcher can better observe the difficulties within the teaching process.

3.1. Data collection

To collect data, three research instruments were employed: a self-assessment of the synthesis teaching process whereby the authors reflected on both of the curricula of research methodology, the time allotted for teaching synthesis, and the strategies employed. The other research tools encompassed a corpus analysis of students' synthesis and a questionnaire destined for students. Ample details of those research tools are provided in the following sections. The researchers used a descriptive-analytical method that combined both qualitative and quantitative approaches.

3.2 Results

The results of the three research instruments, namely the self-assessment of the teaching process, the corpus analysis, and the students' questionnaire are tackled below:

3.2.1 Self-assessment of the synthesis teaching process

The observation of the synthesis teaching process was undertaken with the same class (master II didactics students) along their course of study. The observation of the synthesis teaching process was undertaken with the same class (Master II didactics students) throughout their course of study. It aimed at evaluating three elements: the syllabus; the time allotted to the teaching of synthesis; the teaching strategies; and the elucidation of the hindrances. As the

official program of research methodology prescribes, students ought to be introduced to synthesis writing within the third semester of master studies, most specifically in the course of research methodology (see figure 2). Synthesis is taught alongside other units such as paraphrasing, transition, and coherency. It should be noted, however, that in the preceding level, i.e., Master I, there was no trace of this unit. Besides, didactic students, to the reverse of literature and civilization students, are not dispensed the course of academic writing. This would have indeed facilitated the grasping of the synthesis skill if it had been integrated into the syllabi of the didactics specialty.

With regard to the time devoted to the instruction of synthesis, the pedagogical texts recommend twelve sessions per semester for each academic subject; yet, as this is rather a theoretical assumption, teachers barely achieve 10 instructional sessions. In practice, instructors score, merely, nine teaching sessions that include lessons, consolidation exercises, and tests. In the context of research methodology, the instructor assigned two sessions for teaching synthesis as paraphrasing, coherency, and transition consumed more time (seven sessions with the bulk of time devoted to paraphrasing). This was by far a short time, which did not ease the promotion of the synthesis skill. Even four sessions would not meet this objective, especially with an overcrowded class.

As to the strategies resorted to in teaching synthesis, the instructor used guided synthesis given the difficulty of making an extensive literature review (time constraint). This implied that the learners were directly offered the material to be synthesized to avoid a lengthy process of relevant data collection. Two guided-synthesis samples are mentioned here (see samples 1 & 2).

Fig.2. Syllabus of research methodology. Master II didactics.

1. Consolidation of Paraphrasing
• Paraphrasing a short passage
• Paraphrasing a long passage
2. Synthesis
• What is a synthesis
• Importance of a synthesis
• Conducting a synthesis
3. Transition
• How to set a transition between one idea and the other
• How to set transition between one section and the other
• How to set transition between one chapter and the other
4. Coherency
• What is coherency
• Coherency within a paragraph
• Coherency within a section
• Coherency within a chapter

Source: Rahmani, M. & Ghounane, N. (2019). Syllabus of research methodology for Master II level Workshop on curricula design, Saida University.

Sample one

An essay was offered to students encompassing different sources (summaries of authors' views) alongside the researcher's point of view as to the ideas expressed. Explanations were equally provided in bold character, displaying the instances of synthesizing. See the example herewith:

The literature on the imposter phenomenon (IP) is limited regarding graduate students, and no known studies have compared online graduate students to traditional graduate students. Previous studies on graduate students have indicated that online students experience low degrees of anxiety (De Vaney, 2010). Researchers have theorized that the loss of social cues and pressures in electronic communication may reduce anxiety associated with asking for help (Kitsantas & Chow, 2017), **(the writer has included multiple sources)** and may create a more comfortable, open environment where all members are equal (Sullivan, 2002). Many cues about the context of an interaction are not present in electronic communication, such as body language non-verbal cues, physical appearance and emotional reactions (Parks & Floyd, 19). Without this information, communication online should result in less social influence and conformity (Parks, Floyd, 996). **(the writer has included multiple sources)**. Because face-to-face communications are absent or limited, in online graduate programs, it is theorized that online graduate students will experience less anxiety and less intense IP, when compared to their traditional counterparts **(the writer has also included an analysis of the topic and added something new to the scholarly conversation)** (Fraenza, 2016).

Sample two

Students were generally presented with a set of scholars' views related to a specific issue (summarized views). Those views were then displayed via a table, and afterwards different synthesis examples were offered to students (see Table 1):

Research question: What increases students' motivation?
Below authors' points of view with regard to this question are displayed in the table:

Table 1. Sample on reporting authors' points of view

Authors' names	Authors' views
Knowles (1978)	Meaningful work builds upon learners' life experiences, and links new knowledge with previous life experiences
Seifert (2004)	Meaningful work contributes to confidence
Rogers (2002)	Meaningful work tasks meet an immediate need
Bandura (1997)	Meaningful work leads to task persistence
Craft (2005)	Reflective journals can be meaningful to the student

Source: Taylor, Cosette. (n.d.).What is synthesis? Retrieved from https://umanitoba.ca › faculties › nursing › students

The synthesis of the five scholars' views yields different synthesis possibilities. Three syntheses were selected for students (see Figure 3):

− Synthesis 1: a comparison of authors' views
− Synthesis 2: a contrast of scholars' points of view
− Synthesis 3: the thesis statement (researcher's view and the literature review)

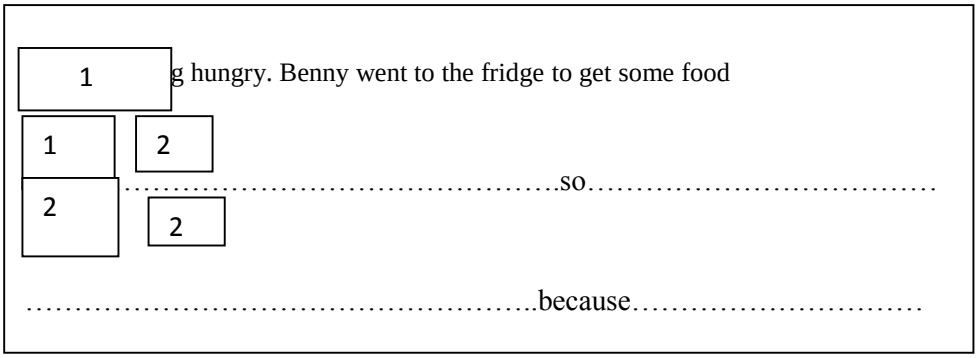
This strategy of guided synthesis did not afford the teaching of full-fledged synthesis as it did not really consecrate time to the students' individual identification of the interesting materials that fit the research question, the paraphrasing of the scholars' ideas, the detailed comparison/contrast, the questioning, and the inferring operations.

Fig.3. Samples of synthesis

Synthesis 1
Much of the literature claims that student motivation increases when the tasks are meaningful (Bandura, 1997; Craft, 2005; Knowles, 1978; Rogers, 2000; Seifert, 2004) (Taylor). This synthesis mentions a common trait between the above authors, but the researcher's view is not mentioned (Taylor, n.d., par. 3).
Synthesis 2
Bandura (1997) and Rogers' (2000) findings indicate that meaningful tasks are more likely to lead to the completion of learning tasks or the fulfillment of a need. However, the learning process itself is more enjoyable when the task is important to the learner (Taylor). This synthesis contrasts scholars' views in order to elucidate the differences (Taylor, n.d., par. 3).
Synthesis 3
While satisfying the professor's expectations can be satisfying for the student, meaningful work contributes to a student's confidence (Seifert, 2004) and persistence of a task (Bandura, 1997) (Taylor). This synthesis contrasts the researcher's point of view alongside with the scholars' views. It is more inclusive than the previous examples as it does not simply allude to the authors' opinions, but also integrates the evaluation of those views (Taylor, n.d., par. 3).

The other strategy used to teach synthesis was the use of the face-deep-transfer learning approach (Hattie & Donoghue, 2016), which puts emphasis on three stages of synthesis consolidation, namely: (i) a linear identification of the discussed themes; (ii) a more profound grasping of the ideas which involves note-taking; and (iii) a transformation of the ideas into a new thought. However, it is safe to say that this technique was introduced in a very brief manner due to time constraints. A third strategy was the adoption of the Punch method, which delimits the chronological order of ideas (which idea comes first, and which one comes after) (Tim, 2017) (see Figure 4). Here again, the researcher noticed the great influence of the time factor in the sound acquisition of synthesis. Indeed, a short lapse of time inhibits a conspicuous comprehension of what synthesis is and how it can be realized, above all as it requires extensive practice.

Fig.4. Punch method.



Source: Tim, J. (2017). Applying the 1-2 Punch method in synthesis and transformation.

Now that the strategies have been highlighted, the survey of students' research deterrents proves highly momentous. Such a survey was conducted via the examination of students' syntheses (corpus analysis), particularly that of the exam.

Students were given three quotes (see Figure 5) and were asked to synthesize. The evaluation of their synthesis products took into consideration the following elements:

− Is there an introductory and concluding sentence?

− Is the content of the quotation understood?
− Is there adequate combination of scholars' ideas or mere summarizing?
− Is there an identification of the ideas to be synthesized?
− Are there transitions?
− Is there appropriate in-text citation?

Fig.5. Corpus for synthesis

First semester exam in research methodology. (2019). Saida University

Synthesize the sources below:
-"Many teachers would agree that the best discussions in class are those that arise spontaneously either because of something personal that a learner reports or because a topic or a text in the course book triggers some debate' (Thornbury, 1998, p. 102).
-"Learners occupy a permanent position of inferiority before a critical audience with little opportunity for asserting their own individuality. They are likely to feel drawn out to communicate with those around them […]. On the contrary, many learners will prefer to keep a 'low profile', in the hope that they will not be called upon to participate openly" (Littlewood, 1981, p. 93).
-Krashen "the ability to speak fluently cannot be taught directly but it emerges independently at time when acquirer has built linguistic competence by understanding it" (Richards & Rodgers, 1986, p. 132).

exam).
− Problem with comprehending authors' views. This is conveyed in the following examples produced by students: (i) "Littlewood (1981) stated that learners do not have enough opportunity to speak and express their ideas or to share their experience, in this way they feel like ignorant individuals on the one hand. On the other hand, there are other learners who prefer to show a low profile so as not to participate openly"; (ii) "discussions in class occur only when learners have enough information about a topic, (Thornbury, 1998)"; (ii) "many learners give up speaking in front of a large audience Littlewood (1981)".
− Reporting authors' views (summarizing) without evaluation as expressed in the following; "Thornbury (1998) stated that the best discussions are those that emerge without any planning. While Littlewood explained that the learners need to be more confident in order to face the audience" (student's synthesis in the exam).
− Incapacity of the student to identify the appropriate ideas that should be contrasted or compared.
− Absence of transition as in "Thornbury (1998) confirmed that most learners feel obliged to perform in front of an audience even though they are afraid of facing it. Krashen (1986) said that fluency in speaking is a skill that a language learner acquires through linguistic competence" (student's synthesis in the exam).
− Inappropriate in-text citation like the writing of quotation marks when the student is reporting the scholars' views: "According to Thornbury (1998), the best discussions involve no previous planning". Another error is the reference to the page number when reporting: "Krashen (1986, p.132) maintains that fluent speaking is a skill inherently acquired through linguistic competence" (student's synthesis in the exam). Though these hindrances are rather related to inappropriate parenthetical citations, they do, nevertheless, constitute an impediment to correct synthesis.

Those results converge in majority towards one important point, which is the deficiency in the reading skill. This implies that learners do not master the intricacies of critical reading (insightful observation, crafty questioning, adequate summarizing, and intelligent inferring).

3.2.3 Students' questionnaire

A semi-structured questionnaire was emailed to the students. It comprised seven questions (close and open-ended questions) that scrutinized students' standpoints pending to the following elements: significance of synthesis for academic research, its meaning, its degree of difficulty, its link with critical reading, the difficulties encountered, the length of time required for its teaching, the procedure for reading a text critically, and students' suggestions for the acquisition of this skill. The answers to the questions are mentioned below.

With reference to question item one (is synthesis required for academic research?), all the students answered positively. In relation to question item two (does synthesis refer to: a-summarizing authors' ideas; b-paraphrasing scholars' point of view; c-reporting and commenting authors' ideas), two students (05.12%) selected answer (b); while the others (94.87%) chose answer (c) (see table 2).

Table 2. Students' definition of synthesis

Options	Number of students	percentage
a)Summarizing authors' ideas		
b) paraphrasing scholars' points of view	02	04,12%
c) reporting and commenting authors' ideas	37	94,87%

In response to questions three (is synthesis a difficult task?) and four (does it require critical reading?), all of the students agreed. As to question item four (does the synthesis skill require a long span of time to be acquired?), all the learners acquiesced. But when asked to define this duration (question item five), there were divergences: 10 students (25.64%) indicated 1 month, 17 students (43.58%) selected one semester, 10 informants (25.64%) believed that synthesis should be distributed over master one and two levels, and two students (05.12%) held that the teaching of synthesis should start at the level of the third year (see table 3).

Table 3. Students' views as to the span of time required for synthesis

Options	Number of students	percentage
1 month	10	25,64%
Master 1	17	43,58%
Master 1 & 2 levels	10	25,64%
Master 1 & 2 levels	02	05,12%

Concerning question item six (how do you read critically?), seven students (17,94%) replied that to read critically they should read between the lines, while the majority of informants (82,05%) said they had no idea about a critical reading of a text (see table 4).

Table 4. Students' ways of reading critically

Options	Number of students	percentage
Between the lines	7	17,94%
No idea	32	82,05%

Regarding the last question (what do you recommend in order to internalize the skill of synthesis?), twenty-eight students (71,79%) selected more practice, whereas eleven students 28, 20% suggested that a step-by-step clarification of synthesis would enhance the acquisition of this skill (see table 5).

Table 5. Students' recommendations as to the internalization of the skill of synthesis

Options	Number of students	percentage
More practice	28	71,79%
Step-by-step clarification of synthesis	11	28,20%

All in all, the field investigation reflects, conspicuously, both the high momentum of synthesis for academic research and its difficulty. The latter pertains, essentially, to the complexity of critical reading (Bartholomae & Petrosky, 2008; Burke, 2008; Irvin, 2010; Shor as cited in Taglieber, 2008; Wolf & Barzillai, 2009). Learners' hindrances are, glaringly, linked to comprehending a text, identifying properly the themes to be discussed, reporting scholars' ideas, use of the thesis statement, and inferring the researcher's point of view. Learners display clear signs of theoretical comprehension of what synthesis is about and its close relationship with critical reading. They are also conscious of the fact that its internalization requires a long span of time which ranges from three semesters, one semester, to 1 month. Furthermore, the majority of learners show their inability to read profoundly as most of their training (in the preceding years) yielded only to the promotion of superficial reading. Thus, they recommend highly intensive practice in synthesis.

4. Discussion and recommendations

The aforementioned results reveal clearly students' muddle with synthesis. Effective synthesis is conspicuously intertwined with critical reading because it helps in the identification of relevant content and the weaving of adequate combinations (Bartholomae, D. & Anthony, P, 2008; Taglieber, L. K.2008), and urge the necessity for re-thinking both the syllabi of Master II didactics and the strategies for teaching synthesis. Given its importance for academic research, essentially the literature review, the subject of academic writing ought to be incorporated in the official program of didactics at the level of Master one so that learners can retain the instructions and writing procedures for the following year, notably in terms of acquiring the basics of synthesis. Furthermore, synthesis should be taught in an extensive way in view of its complexity. It would be, indeed, highly momentous to instruct synthesis both at Master 1 and 2 levels. In fact, experience displays learners' slender memory, above all in the context of studies undertaken for non-personal motivation.

As to the strategies, teachers should pay heed to the Punch method, which helps learners get accustomed to the logical order of ideas. Another significant technique is the implementation of the face-deep-transfer learning approach, which helps in the consolidation of synthesis through the superficial and profound demarcation of themes discussed (Tim, J.2017). In this scope, teachers should devise intensive learning sessions which aim at consolidating the drawing of inferences and the use of the latter to build one's point of view (Wolf, M. & Barzillai, M. 2009). This implies, glaringly, the teaching of critical reading. In this vein, the deep text-study technique would be greatly effective. To achieve that, teachers should work with small groups where a detailed dissection of the text would be initiated. This means that each idea would be questioned with reference to its meaning, its connection with the previous idea, and its link with the subsequent idea. In this way, students would develop an inquisitive mind and, in the long run, would identify the gaps and hence expound their own evaluation.

Teachers should use semi-guided synthesis whereby clear samples are provided with a view to inspiring their learners. This involves necessarily sketching diagrams where the authors' views are summarized. This helps enormously in spotting the relationships (similarities, differences, and gaps). However, the use of semi-guided synthesis writing should not constitute the bulk of the teaching strategies; rather, the instructor ought to initiate learners to raw-data synthesis (Lundstrom, K.et al. 2015). This means that all the operations should be undertaken by the learners themselves, and that the teachers would act as simple guides. Such tasks ought to be carried out both in-class and off-class. In addition to those techniques, teamwork can be used as an appropriate teaching tool. More specifically, it contributes to the acquisition of the basics of synthesis as it offers more opportunities for ample data comprehension and interpretation. Collective work can be relied on both in in-class and off-class assignments. The latter would secure better results as students would have a large amount of time to collect ideas related to the research topic and then synthesize them.

5. Conclusion

The study tried to dive into the hindrances of synthesis with a view to entrenching the assumption that any effective synthesis necessitates, necessarily, effective reading. The data collection, which was conducted with English didactics master two students at Saida University, revealed the myriad shortages associated with synthesizing writing. Most notable among these are the following lacunae: incapacity of clear comprehension of the authors' views, difficulties in identifying the discussed themes; failure to use transitions; and most importantly, inability to make inferences and interpret scholars' standpoints. These impediments are, conspicuously, related to a non-mastery of critical reading. In view of that, certain recommendations can be made. Firstly, critical reading should be given the utmost importance in teaching synthesis. This implies that instructors of research methodology must consider intensive training on observation, questioning, and inferring. Secondly, learners must acquire, tacitly, the drawing of logical order through the use of the Punch method. Thirdly, to facilitate the smooth internalization of synthesis, teachers ought to teach this in a steady process so as to cater for appropriate acquisition. To realize that, ideas should be brainstormed on the topic. On the basis of that outline, the material must be read critically in order to extirpate the relevant ideas. Once these have been localized, then the following operations need to be undertaken: summary of ideas, comparing and contrasting, and evaluating (building new knowledge). Fourthly, instructors ought to consider a combination of semi-guided and free synthesis to a degree that fits the needs of their learners. This involves equally the resort to teamwork given its influential impact on boosting data interpretation. Lastly, pedagogical decision-makers have to integrate the course of academic writing into the official program of didactics, alongside the integration of synthesis in the syllabi of the third year and master one.

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