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Utilizing a Collaborative Problem Solving Strategy for Developing Essay Writing Skills of EFL Prospective Teachers at the Faculty of Specific Education

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Abstract

The current study focused on developing essay writing skills and tried to overcome some problems that face Egyptian EFL prospective teachers (EFL-PTs)at the Faculty of Specific Education through their essay writing. The basic assumptions behind the research were to find out the impact of collaborative problem solving (CPS) strategy on developing EFL-PTs' essay writing skills. The goal was to collect a sample of EFL-PTs' writing working collaboratively to solve different problems through essay writing (Treatment group, n=100) and then compare them with another writing group working individually (Non-treatment group, n=100). An essay writing test was developed, and then administered to measure how far essay writing skills of the treatment group developed after the intervention with the CPS strategy. It was found that the treatment group students who worked collaboratively significantly outscored the non-treatment group students who worked individually. Discussion of these findings is presented.
<u>**Keywords:**</u> **collaborative problem solving, essay writing skills, EFL prospective teachers**

Introduction

Solving a complex problem is regarded as a sequenced phased process (i.e., problem orientation, problem solution, solution evaluation) in which each phase has its own specific purpose and where each phase requires a specific kind of interaction (Van Bruggen , Boshuizen, & Kirschner, 2003).

Moreover, collaborative learning focusing on the active role of students in the class has owed much credit to constructivism. The main focus of constructivism has been student-centered learning. Constructivism embraces Vygotsy's perspective regarding social interaction as well as Piaget's approach to learning in which students play an active role to learn on their own. It is evident that L2 learners take accountability for their own learning, especially when they contribute to collaborative language output activities. (Biria & Jafari, 2013)

Swain (2005) viewed that collaboration enhances the learners' writing when engaging in collaborative learning activities. Participants make use of problem-solving dialogue to solve their linguistic problems regarding the task. Although writing is generally considered an individual activity through which ideas are transmitted from an address or to an addressee, collaboration in writing has been drawing an increasing attention in language teaching and assessment. (DiCamilla&Anton,1997; Storch, 2005).

Cooper (1986) stated that writing is not only a cognitive activity but a social activity which requires students to interact and discuss ideas in pairs or small groups. In addition, writing, which is traditionally viewed as a solitary activity, could be a venue for enhancing students' collaborative skills (Storch, 2005; Wigglesworth & Storch, 2009; Yong Mei, 2010). Thus, the current research goal is to encourage students to work together in order to promote learning through collaboration and to enable them to improve their essay writing through CPS strategy. So, they are expected to acquire the knowledge of how to work together towards a shared goal. In addition, they should be able to solve different problems together, share ideas and increase their ability to acquire essay writing skills.

Review of Literature

A.1. Origin of collaborative problem solving

The theoretical framework of problem solving as a social process was developed by Vygotsky (1978). According to this theory, personal potential could be realized through a process of interaction with and support from the human environment and from various tools. Interpersonal activity when appropriately implemented could lead to interpersonal mental development. When trying to solve a problem together through the exchange of ideas, a group of learners constructs shared meanings that the individual would not have attained alone. The shared meaning can only be achieved through communication within the group, (Tallinn, 2012).

Accordingly, group communication theory (as functionally applied to decision-making in problem solving) suggests that the degree to which groups contribute time and effort to completing

specific sub-goals predicts final performance. The first sub-goal is to analyze the problem. The next goal is to define the seriousness of the problem or the reason for solving it, followed by identifying causes, and finally consequences to solutions of the problem. Specific concentration to the negative consequences resulting from solutions may increase a group's effectiveness, (Orlitzky & Hirokawa, 2001). The need for communication and achievement of sub-goals leads to the conclusion that predicting group performance in problem solving tasks relies heavily on the time spent and quality of interactions of the group members (Fiore et al., 2010). It is extremely important to place students in an environment that facilitates optimal circumstances for both communicating and reaching a solution. Moreover, collaboration can only occur if the group members strive for building and maintaining a shared understanding of the task and its solutions; shared understanding is achieved by constructing a common ground through communication and interaction, such as building a shared representation of the meaning of the problem, understanding each individual's role, understanding the abilities and perspectives of group members, mutual tracking of the transfer of information and feedback among group members, and mutual monitoring of progress towards the solution (Fiore & Schooler, 2009).

From another perspective, research on the effects of collaboration between peers on cognitive development has primarily been based on piaget's theory concerning the impact of social interaction on cognitive and moral development (Piaget, 1932, 1959). Piaget maintained that opportunities for becoming less egocentric are more common when children discuss things with each other because then they must face the fact that not everyone has the same perspective on a situation.

A.2. Definition of collaborative problem solving

Hennessy and Murphy (1999) referred to the term "collaboration" as a term which is used to describe social interaction within a group or a team, when students actively talk and share their cognitive resources, working together to produce a single outcome.

Teasley and Roschelle (1993) defined collaboration as a process in which human beings negotiate and share relevant meanings

in connection with problem solving tasks. It is a coordinated and synchronic activity resulting from building and sharing a common conceptualization of a problem as well as the procedure to be followed in order to solve it. Accordingly, collaborative problem solving is a coordinated joint dynamic process that requires periodic communication between group members (Clark, 1996).

Collaboration also means working together as a group. Taking "initiative" to mean the ability to direct the group's behavior, a mixed-initiative system is one that allows the participants to separately contribute what they can to the group's overall success. (Ferguson and Allen, 2006).

For Mayer and Wittrock (1996, p.47), collaborative problem solving is "cognitive processing directed at achieving a common goal when no solution method is obvious to the problem solver". Dillenbourg (1999) has a similar view reporting that problem-solving deals with the processes involved in finding solutions to problems. Collaborative problem solving is problem-solving done by peers, performing the same actions, having a common goal and working together. Furthermore, Timothy, Michelle and Daniel (2012) pointed out to collaborative problem solving as situations in which two more participants solve a problem together while working towards the same goal. Thus, collaborative problem solving is an inherently complex mechanism that incorporates the components of cognition found in individual problem solving in addition to the components of collaboration. The cognitive components of individual problem solving include understanding and representing the problem content, applying problem solving strategies, and applying self-regulation and meta-cognitive processes to monitor progress toward the goal (Funke, 2010; Hacker , Dunlosky and Graesser, 2009).

In conclusion, Funke (2010) summarized collaborative problem solving stating that the given state (Givens) is the knowledge the person has about the problem at the outset and the operators are the admissible actions that can be performed to achieve the desired goal state (Outcomes) with the assistance of the available Tools. Barriers that must be overcome (e.g. lack of knowledge or obvious strategies) stand in the way of achieving the goal. Overcoming the

barriers may involve not only cognition, but motivational and affective means.

Figure 1. Funke's (2010) Problem situation.
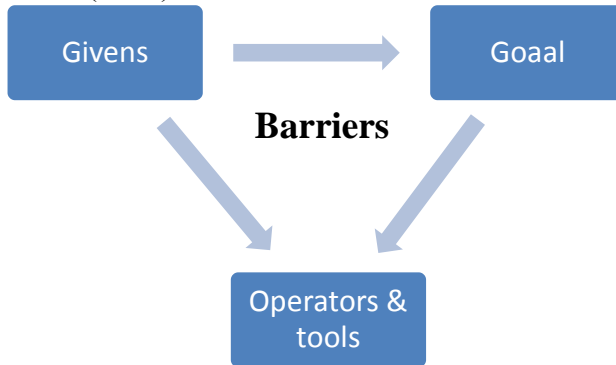
Based upon the aforementioned definitions Timothy, Michelle, and Daniel (2012) concluded that the goal of collaborative solving is to teach children, adolescents and adults how to work toward mutually satisfactory solutions to problems underlying difficult behavior. The approach is based on the belief that children's difficult behavior is often there by product or a delay in the skills of flexibility, adaptability, and frustration tolerance.

A.3. Collaborative problem solving principles

Cormick et al. (1996) provided some collaborative principles. The researcher thinks that they revolve round three main dimensions: (a) the student focus, (b) the content focus, and (c) the context focus. According to the first focus, the participants should *purpose-driven:* Students need a reason to participate in the process*, inclusive:* All students with a significant interest in the issues should be involved in the collaborative process, *voluntary:* Students who are affected or interested participate voluntarily, and *accountable:* Students are accountable both to their constituencies and to the process that they have agreed to establish. According to the second focus, the content should be *flexible:* Flexibility should be designed into the process to accommodate changing issues, data needs, political environment and programmatic constrains such as time and meeting

arrangements, and *achievable:* Commitments to implementation and effective monitoring are essential parts of any agreement. But as for the third focus, the context should be *educational:* the process relies on mutual education of all participants, *self-designed:* All students have an equal opportunity to participate in designing the collaborative process. The process must be explainable and designed to meet the circumstances and needs of the situation, *egalitarian:* All students have equal access to relevant information and the opportunity to participate effectively throughout the process*, respectful:* Acceptance of the diverse values, interests, and knowledge of the students involved in the collaborative process is essential , and *time limited:* Realistic deadlines are necessary throughout the process.

A.4. Importance of collaborative problem solving

According to Barron (2000), collaboration with others has long been a central form of human activity. Now it is being capitalized on more explicitly in school and work settings, a situation that calls for a deeper scientific understanding. New organizational structures in the 21st century workplace rely on team-based projects.

Collaborative work is perceived by educators as a valuable educational activity that enhances learning through active participation, teaches children to work together cooperatively in preparation for their transition into the wider community (Lillian and Alison, 2005). As a result, an advantage of collaboration is that the output of problem solving by a group can be greater than the sum of the outputs from individual members (Aronson and Patnoe, 1997; Dillenbourg, 1999; Schwartz, 1995;) and the individual level does not characterize how the group as a whole can produce better outcomes than individuals. Moreover, CPS receives a significant attention for its potential to increase problem solving skills (Brindley, Walti and Blaschke, 2009; Meisler and Willyerd, 2010; Shaw, 2006), improve critical thinking (Chapman, Gytan and McEwen, 2007; Ramondt and Smiley, 2005;), acquire knowledge (Chen, Gonyea and Kuh, 2008; Palloff and Pratt, 2005;) and develop academic achievements among learners. Collaboration describes social interaction within a group or a team; when students actively talk,

share their cognitive resources and to produce a single outcome (Hennessy and Murphy, 1999). Students work in teams and act as one in confronting problems as they occur (Smith et al., 2011). Although they get insufficient information, students should settle on the best possible way the problem presented to them (Finegold and Cooke, 2006). In problem solving, a number of alterative solutions must be examined and analyzed to meet the goal.

To sum up, Ferguson and Allen (2007) believe that during collaborative problem solving, students are involved in a variety of activities related to the problems they are trying to solve. They reason about what they (and others) are doing, what they ought to do, and whether what they are doing is going to solve their problems. They communicate with others about what they are doing, what they know or need to know, and what they need others to do with or for them. They plan how tasks will be performed and problems solved. They make commitments that allow other students to work with them and that also focus their own attention and resources towards their goals. They learn new ways of performing tasks and solving problems. They respond to and solve new problems that arise during the performance of tasks.

A.5. Components of collaborative problem solving

O'Neil (1999,p.256) described problem solving as consisting of three facets: content understanding, problem-solving strategies, and self-regulation. Besides, collaborative learning situations require three main processes of coordination: (1) mutual activation and sharing of knowledge and skills (2) creating a common frame of reference and (3) negotiation or the process of coming to agreement (Erkens et al., 2005; Kirschner et al., 2008).

To Kevin, Sara and Susan (2012) the main components of CPS include: (1) identifying lagging skills (i.e., skill deficits), (2) identifying the triggers of problem behaviors, and (3) implementing what the authors term the "plans framework".

Identifying skill deficits is the first component and step of implementing CPS; skill deficits are assessed in the domains of executive skills, language-processing skills, emotion regulation skills, cognitive flexibility skills, and social skills.

Identifying the triggers and pathways of the problem behaviors is the second step of CPS. In this way, CPS strongly focuses on the recognition of antecedents of behaviors.

Implementing the plans framework is the third step of CPS; adults have three basic, distinct options for how they choose to respond to problems on unmet expectations.

A.6. Stages of CPS

Although the psychology and education communities have advocated for a greater emphasis on promoting problem-solving skills, few models have been proposed for guiding problem-solving instruction,

CPS seems to have varied stages for different researchers. Arcaro (1997) offered a six-step problem-solving model: (1) Identify and select the problem, (2) Analyze the problem, (3) Generate potential solutions, (4) Select and plan the solution, (5) Implement the solution, and (6) Evaluate the solution implementation. Anderson and Fagerhaug's (2000) provided a problem solving model consisting of problem identification, problem definition, problem understanding, root cause identification, root cause elimination, and symptom monitoring. Sproull (2011) used ten steps to describe the problem solving process: (1) Identify the problem, (2) Describe and define the problem, (3) List the symptoms, (4) List the known changes (that occurred prior to the problem), (5) Analyze the problem, (6) Hypothesize possible causes, (7) Test possible causes, (8) take action on the causes, (9) Test and implement the solution, and (10) Implement the appropriate controls.

Lazer and Friedman (2007) stated that all collaborators in problem solving try to solve the same problem at the same time, sharing information, insights, and partial solutions as they proceed. Another strategy is to decompose the problem into sub-problems to be solved by different individuals or groups. A third strategy is to generate multiple potential solution paths that are explored by different individuals or groups.

Based upon the previous models, Dettmer , Knackendoffel, and Thurston (2013) outlined ten-step problem-solving process as follows:

(1) Prepare for the consultation, (2) Initiate the consultation, (3) Collect and organize relevant information, (4) Isolate the problem, (5) Identify concerns and realities about the problem, (6) Generate solutions, (7) Formulate a plan, (8) Evaluate progress and process, (9) Follow through and follow up on the consultation about the situation, and (10) Repeat or continue consultation as appropriate.

Finally, the components of collaborative problem solving could be presented by Search for Common Ground (2003) shown in Figure. 2 - in a plain way showing the different stages: principles, process and results
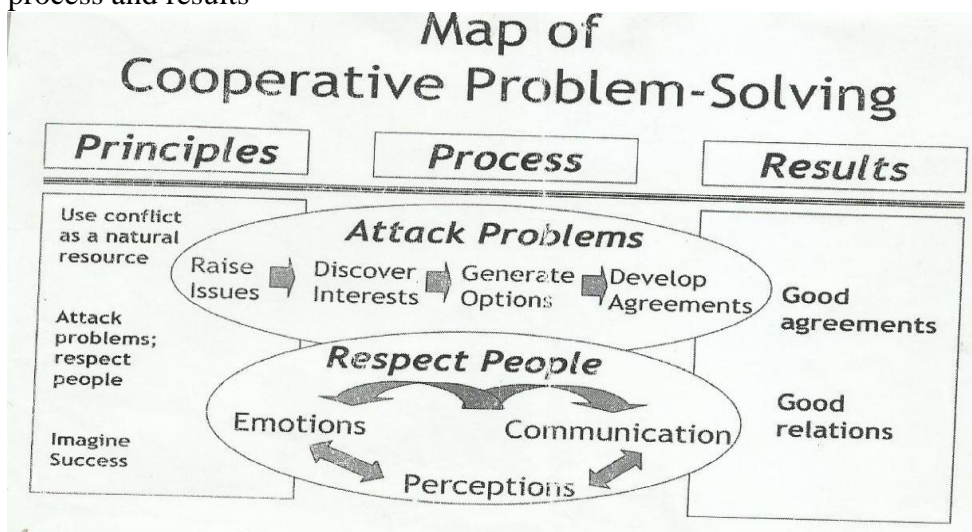
A.7. Collaborative problem solving skills

Griffin, McGaw and Care (2011) viewed collaborative problem solving as a multi-dimensional skill that includes both social or collaborative skills, and cognitive skills. Collaborative problem solving was conceptualized as having five broad skills:

* Social skills include *(1) Participation* and cooperation - the ability to participate as a member of a group and contribute knowledge, (2) *Perspective taking* – the ability to place oneself in another's' position - which can lead to adaptation, and modification of communication to take the other's perspective into consideration,

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and (3) Social regulation - such as negotiation and resolution of conflicts or misunderstandings.

* <u>Cognitive skills include</u> (1) *Task regulation* – the identification of the problem space – its description, its goals, its needs and its resources; clear understanding of the problem space supports the skills of social regulation – being aware of the problem space provides a structure within which learners can locate themselves and each other's needs for knowledge or resource, (2) *Knowledge building* – where unique contributions of information; skills, or resources are combined to contribute to a problem solution.

A.8. Teachers' role versus students' role in collaborative problem solving

Jonathan and David (1989) summarized the roles of teachers in CPS . They see that teachers :(1) Encourage students to interact with each other, (2) Help students clarify or adapt their shared goals. In order for students to pursue goals cooperatively, they must agree upon a clearly delineated goal, and (3) Involve students who are unlikely to initiate. On the other hand, Tatsis & Koleza (2006) could define varied roles for the students in collaborative problem solving since they are the focus of that strategy. They see that the student who is involved in such a strategy can be:

a) The dominant initiator (DI):
   - He/she makes many suggestions, rarely asks for his/her partner's opinion and always tries to maintain face.
   - He or she may be able to elaborate on a suggestion, but seems reluctant to withdraw it easily,
   - sometimes he/she adjusts a norm by her acts and generally, her acts hinder her partner's acts. Whenever he/she is in a difficult position, she attributes it to external factors (e.g. the difficulty of the task or even the inability of her partner).

b) The collaborative initiator (CI)
   - He/she makes many suggestions.
   - He/she asks for the partner's opinion, gives information whenever necessary and—most of the times—tries to maintain face.

-    He/she is ready to withdraw a suggestion but only if the opposing one is strongly grounded.
   c) The collaborative evaluator (CE)
       - He/she makes relatively fewer suggestions compared to the initiators.
       - He/she always gives information (whether asked or not) and tries to maintain face when he/she believes that it is not against any norm. - He/she shows a high level of conformity to the norms established and his/her acts demonstrate a high level of uniformity and facilitation to the partner's acts.

B. Essay Writing

Writing, as a way of expressing ideas, thinking and learning content, must be regarded as an essential tool for language learning as well as communication (Tynjala, Mason & Lonka, 2001; Weigle, 2002).Myhill (2009) explained that writing is perceived as being composed of three domains; A cognitive psychological perspective, a socio-cultural perspective and a linguistic perspective. Thus, writing is seen as a complex activity, a social act which reflects the writer's communicative skills difficult to develop and learn, especially in an EFL context: (Shokrpour and Fallahzadeh, 2007).
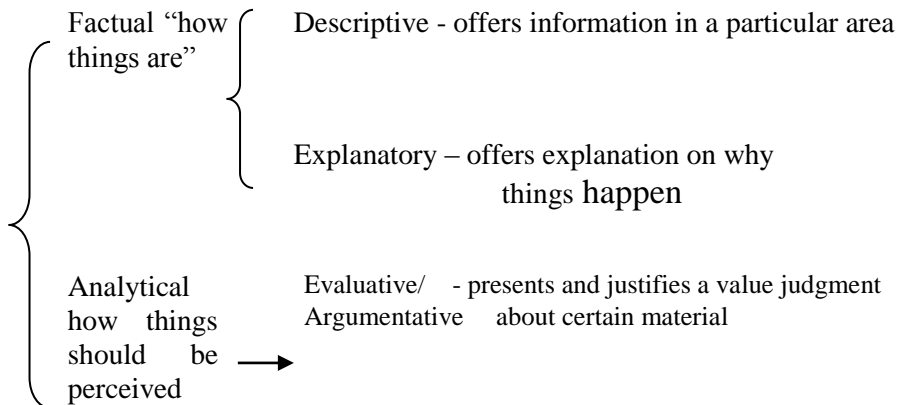
Rao (2007) asserted that EFL writing is useful in two respects: First, it motivates students' thinking, organizing ideas, developing their ability to summarize, analyze and criticize. Second, it strengthens students' learning, thinking and reflecting on the English Language. As a result, the ability to write clearly, and hence communicate effectively is becoming increasingly important. Without being able to communicate face-to-face, students' writing needs to be clear and concise in order to both get our message across and to prevent misunderstandings. In this context essay writing provides a means whereby we are able develop the skills of effective communication (Henry, 2004).

On the other hand, in writing an essay; students will not only deepen their understanding of their subject knowledge, but also learn to be pro-active in finding information and forming their own ideas. Often they will need to critically discuss others' work, compare different opinions and express their own. This will develop their

initiative and self-confidence, as well as their written communication skills. Learning to structure an essay to put across the key points they wish to make within a limited word-count is sometimes the most challenging aspect of essay writing, it requires analytical, decision-making and planning skills. They may do several drafts and have to make decisions about which points to include, which content to keep and which to leave out. In fact, they are learning to design, structure, review and produce a piece of work from very brief instructions (Learning and Information Services, 2013).

B.1. Types, forms and styles of Essay

Essays - according to Martin and Peters (1985) - could be divided into the following types according to their purpose:

Factual "how things are"

Descriptive - offers information in a particular area

Explanatory – offers explanation on why things happen

Analytical how things should be perceived →

Evaluative/ - presents and justifies a value judgment
Argumentative about certain material

Glenn (2005) described different forms (History, Economics, Magazine or newspaper, Employment, Visual arts, Music, and Film) and styles of essay writing which include :Cause and effect, Classification and division, Compare and contrast, Descriptive, Dialectic, Exemplification, Familiar, Narrative, and Critical.

B.3. Stages of essay writing

Neville (2007) illustrated that there are six main stages to writing an essay: Managing your time, Analyzing the title, Gathering relevant information, Planning your structure, Writing-rewriting, Referencing.

B.4. Essay structure

Murray (2012) mentioned that all essays require an-introduction, a body and a conclusion:

First: An introduction: It frames the discussion that is s to come in the body of essay; it prepares the reader by providing context-reference points or hooks-that helps them to engage better with that discussion.

Accordingly, an introduction should:

- Contextualize our discussion by locating it within the relevant literature and, possibly our or others' experience;

- Provide a clear indication of what will be discussed in the body of the essay, how and what order;

- Quickly and effectively engage and stimulate interest in the readers so that they have a real desire to read on;

- Contain a thesis statement, or "statement of intent", which can appear anywhere in the introduction but typically appears at the beginning or the end. A thesis statement can be either explicit or implicit, with the latter often considered more sophisticated;

- Follow the same paragraph rules as any other piece of text, i.e. It needs not be restricted to one or two paragraphs; and

- Be as long as it needs to be, but not longer than a quarter of essay, at most.

Second: The body of essay (discussion) . The body of writing essentially consists of a series of main ideas and each of which is developed through supporting detail, using a combination of the various forms of writing, each new idea requires to begin a new paragraph; however, it is likely that a main idea will involve more detailed, elaborate discussion and as such may well consist of a number of constituent ideas each of which requires a separate paragraph.

Accordingly, the body of essay (discussion) should:

- Typically account for around 70-80 percent of the entire essay, although this can vary.

- Consist of a series of main ideas and more detailed supporting ideas that together form the core of discussion and demonstrate coherent argument structure.

- Be well laid out, presented and include: Sections and sub-sections/titles and sub-titles, where necessary, a systematic numbering, lettering system for headings, correct line spacing, adequate margins, footnotes, if appropriate; page number, figures, where necessary and where they serve to elucidate ideas, and examples to illustrate points in the discussion.

Third: The conclusion is that final part of essay where it is reflected on the key ideas presented and attempt to draw together the various strands of discussion and come to some kind of resolution. That resolution usually consists of a series of observational statements that comment, often in quite general terms, on what is presented in the body of the essay, and typically, fall into one or more of the following categories:

- Summary statements of the key points of discussion;
- Logical entailments and implications of ideas and raised in the foregoing discussion;
- The identification of issues that have not been addressed or addressed adequately and which therefore warrant further discussion;
- Questions that arise from discussion;
- In the case of a research report, any limitations of the research;
- In the case of a research report, reference to how findings compare with those of other studies;
- Suggested directions for future research based on the discussion/findings, and
- A link back to the original question/thesis statement, bringing the essay full circle.

Fourth: Referencing and quotations refer to the different sets of conventions that exist for citing sources in the main body of an essay, dissertation or thesis, and for listing them in the bibliography at the end of the work.

- There are two ways of incorporating the ideas of other scholars into writing: through direct quotation and through paraphrasing.

- Paraphrase should be brief but capture accurately the essence of the source idea.

- Quotations longer than two or three lines should be set off from the text immediately preceding and following it by means of (i) a line space before and after the quotation, (ii) an indentation of the left and right margins and (iii) use of smaller font.

- Quotations shorter than two or three lines should be integrated into the main text of the paragraph.

- Quotations should be accompanied by the author's name, the year of publication of the book, article in which it appeared, and the relevant page numbers.

- Bibliographies should include details of all sources cited and read, listed in alphabetical order according to author surname.

B.5. Essay writing skills

The most definite skills of essay writing are those presented by Langan (2013) and Lee et al. (2007). Those skills are given below showing what students should do.

* Introductory paragraph: students should be able to: Give a brief background to the topic, State the thesis, Outline main points, Provide transition into body paragraphs, and Provide a topic sentence.

* Supporting paragraph: students should be able to: Provide supporting details for the topic sentence, Revise an essay for all three bases which include: (a) Unity (which means that every sentence in the paragraph is relevant to the topic sentence), (b) Coherence (which means that all sentences are logical, smooth, and natural flow from one idea to another),, and Sentence skills which include: (Grammar, style)

* Concluding paragraph

* Recap main point

* Use quotations and references.

B.6. Essay writing difficulties

Despite numerous approaches to the teaching of writing, EFL writing is still one of the most challenging areas for teachers and students. Weigle (2002) confirmed that learning to write in a foreign language is even harder and it takes a considerable amount of time and effort to write skillfully. To become a skillful writer, the role of English writing instruction in foreign language education is quite prominent.

Furthermore, Butter and Britt (2011) added that students are expected to come into the current college classroom already possessing certain skills including the ability to write at the appropriate academic level regardless of discipline and the ability to create well-structured arguments. Research indicates, however, that most students entering college are under prepared in both areas.

In accord with these findings, Gregg et al., (2007) discussed that majority of high-stakes tests from elementary school through post secondary education include the timed impromptu essay as a measure of writing performance. For adolescents with writing disorders, this type of evaluation often presents a significant barrier. The purpose of their study was twofold. First, they investigated the influence of handwritten, typed, and typed/edited formats of an expository essay on the quality scores received by students with (n = 65) and without (n = 65) dyslexia. Second, they examined the contribution of spelling, handwriting, fluency, and vocabulary complexity to the quality scores that student with and without dyslexia received on the same writing task. Analyses indicated that vocabulary complexity, verbosity, spelling, and handwriting accounted for more variance in essay quality scores for writers with dyslexia than for their typically achieving peers.

Therrien et al., (2009) conducted a research to ascertain if an essay-writing strategy was effective in improving the achievement on essay tests for 7th- and 8th-grade students with reading and writing disabilities. Students were assigned via a stratified random sample to treatment or control group. Student scores were also compared to students without learning disabilities nominated by teachers as average writers. A 6-step essay strategy was taught that included

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analyzing the essay prompts, outlining, writing a response, and reviewing the answer. On the posttest, intervention group students significantly outperformed control group students on essay measures related to strategy use, content, and organization.

Wingate (2012) presented research into undergraduate students' concepts of argument when they arrive at university, difficulties they experience with developing arguments in their essays, and the type and quality of instruction they receive. A three-part definition which describes argumentation by what students need to learn was used as the framework for analysis. The findings show that students have only partial or incorrect concepts of argument.

Carter & Sellman (2013) applied socio-cultural theories to explore how differences in essay writing experience are constituted for a group of students identified as dyslexic. It reported on a qualitative study with eleven student writers; seven of whom are formally identified as dyslexic, from the schools of archaeology, history and philosophy in a "traditional" UK university. Semi-structured interviews before, during and after writing a coursework essay revealed well-documented dyslexia-related difficulties and also strong differences in how writing was experienced. The multiple and fluid dimensions that construct these differences suggest the importance of position within the context, previous and developing writing and learning experience, and meta-cognitive, meta-affective and meta-linguistic awareness.

Context of the problem

Based on the previous findings and the researcher's past experience in teaching English in the English Department at the Faculty of Specific education, she observed that sophomore EFL-PTs had some problems in English Essay writing course as indicated by the results of essay writing test administered to them where the percentage of the mastery of essay writing skills was 15%. The deficiencies were reflected in the following points:

• The thesis was too general, or too narrow or no thesis at all.

• In the body of paragraphs, students could not organize their writing in a logical sequence; their writing missed coherence and cohesion.

- There were few, or inadequate transitions.

- There were too many generalizations and too little support for them.

- The introduction and/or the conclusion was week.

- Spelling as well as Function errors were there.

- The use of references and quotations was missed.

Accordingly, the researcher concluded that student's writing problems might be due to any or all of the reasons below:

1) EFL-PTs are not motivated to write English essays as a result of big numbers of students in the lectures.

2) Lecturers tend to use traditional methods in teaching writing.

3) Students are not given the chance and freedom to express their opinions or feelings.

4) Students come to university with a lack of prior knowledge which affects their writing composition.

5) Exams depend on recalling what students have memorized during their study so; students' creativity and critical thinking are neglected.

6) Students are not given the opportunities to work in groups, generate and share good ideas; in other words, they have few or rarely opportunities to participate collaboratively.

7) Problem-solving processes in writing are rarely observed in face-to-face instruction.

9) Students have some difficult language problems concerning grammar.

Hence, using collaborative learning strategy was seen to develop the students' skills to write essays. Reviewing the related studies in the field, it was found that essay writing skills can be developed as a result of using collaborative problem solving strategy in EFL classes. In (1991),   Cullum measured the effects of collaborative learning techniques, and assessed the impact of collaborative learning on reducing writing problems for

developmental students. One-hundred two developmental English students participated in an experimental writing class that used only collaborative learning techniques. The study measured the effects of collaborative learning on sentence structure, word usage, verb form, and an overview of the writing samples through the category of problems detected. Results indicated that collaborative learning appears to have a greater impact in the areas of sentence length, the use of passive voice, the use of the verb "to be," and overall number of problems.

Wells (1992) investigated the problem of students' lack of fluency in standard English despite the traditional paradigm for formal grammar instruction and the emphasis on process writing in most English classrooms. Nineteen (English 2) high school students participated in peer editing groups in a collaborative learning environment. The solution strategy was: (1) to group students of varying fluency levels into editing teams; (2) to monitor errors and revisions via editing checklists; (3) to provide instruction on an as-needed basis; (4) to motivate students to teach and learn from each other; (5) to stimulate the critical thinking necessary for effective editing and proofreading; and (6) to improve attitudes concerning the need for consistent and accurate revision of writing drafts in the context of students' writing. After the implementation of the collaborative revision plan, the target group demonstrated increased levels of fluency in post writing skills.

Yang (2011) illustrated that students' problem-solving processes in writing are rarely observed in face-to-face instruction; they have few opportunities to participate collaboratively in peer review to improve their texts. This study reported the design of a reciprocal peer review system for students to observe and learn from each other when writing. A sample of 95 undergraduate students was recruited to construct texts with the support of web-based reciprocal peer review in the processes of modeling, coaching, scaffolding, articulation, reflection and exploration. The results of the study revealed that these six processes helped students externalize and visualize their internal writing processes so that they could observe and learn from peers in writing as well as support peers in making text revisions.

Rosinski & Peeples (2012) examined how Problem-Based Learning activities in a first-year writing class and an upper-level professional writing and rhetoric class led students to develop rhetorical subjectivities. They concluded that highly engaged pedagogies, like PBL, that purposively situate students/teacher within indeterminate spaces requiring active reflection and meta-cognition are more likely to forge successful writers, writers who have more experience making a wide range of rhetorical choices, have a better sense of writing as contextualized praxis, and know to expect and value the collaborative nature of writing.

Kumar &Refaei (2013) used Problem-Based Learning (PBL) as a new pedagogy in an intermediate composition course. Their course design was based in constructivist pedagogical practices, which suggest that knowledge is co-created through social interactions. Although professors have much to offer students, students can also learn important lessons through interactions with their peers. PBL makes it easier to implement the social and collaborative aspects of writing. Students began with a traditional teacher-led essay and progressed to subsequent writing assignments representing a variety of genres produced while working in teams. All three problems required students to independently apply student learning outcomes by analyzing the writing situation for the concepts of discourse community, genre, and rhetoric. PBL allowed students to apply what they were learning in the classroom to contexts beyond the classroom in an immediate and relevant way.

Dobao (2014) examined the opportunities that a collaborative writing task completed in pairs and in small groups offers for attention to form. Previous research suggests that collaborative writing activities encourage learners to focus their attention on language and to collaborate in the resolution of their language-related problems in ways that facilitate learning. While that research focused almost exclusively on dyads, the present study compared the performance of the same writing task by learners working in pairs (n = 64) and in groups of four (n = 80). It investigated the role played by the number of participants on the frequency, resolution, and length of language-related episodes (LREs) focused on Spanish past tense morphology. It also examined the learners' level of engagement in these LREs.

Findings indicated that both groups and pairs focused their attention on form relatively often, but groups produced a significantly higher number of past tense LREs and were also more successful at solving them..

Robertson (2014) illustrated that students in tertiary education are often faced with the prospect of writing an essay on a topic they know nothing about in advance. Twenty-two essays written by Open University students in the UK, based on three different questions, they analyzed on the basis of the order in which novel concepts were introduced and the extent to which this order mirrored that of the source textbook. Correlations were then carried out between the structure of the essay, the structure of the source text and the eventual grade awarded. The average correlation for all three essays and source texts was 0.8, with some individual essays having a correlation of 0.98, demonstrating that the students were closely imitating the argument structure of the source text.

Yeh (2014) investigated the effects of Synchronous Collaborative Writing on students' writing products and how collaborative dialogues facilitate SCW. Following an initial analysis, 54 students were divided into 18 groups; six groups with higher proportions of collaborative dialogue (HCD), six groups with median proportions of collaborative dialogue (MCD), and six groups with lower proportions of collaborative dialogue (LCD). The data collected includes the students' three reaction essays, their transcripts of text-based collaborative dialogues, and their writing process logs. The results showed that there were significant differences between the LCD, MCD, and HCD groups in terms of fluency and accuracy of their reaction essays. Through collaborative dialogues, students benefitted from text-based synchronous communications, such as clarifying their linguistic misconceptions, and receiving immediate feedback to help resolve their writing problems.

Therefore, the present study aimed to investigate whether using collaborative problem solving helps EFL-PTs' improve their essay writing skills.

Statement of the problem

Guided by the pilot study results and previous discussion, the research problem might be crystallized in the lack of essay writing skills among the EFL-PTs at the faculty of Specific Education, Zagazig University. To help them overcome their writing problems , previously referred to - collaborative problem solving strategy was seen to be used for that purpose. Accordingly, the problem of the research could be stated in the following questions:

1) What are the required essay writing skills for the EFL-PTs at the Faculty of Specific Education?

2) To what extent do EFL-PTs master these skills?

3) What is the impact of collaborative problem solving strategy on developing essay writing skills among EFL-PTs ?

Hypotheses of the study

The research hypotheses have been formulated as thus:

- There would be a statistically significant difference between the mean scores of the treatment group and those of the non-treatment one in their performance in the post essay writing test as a whole and its dimensions in favor of the treatment group.

- There would be a statistically significant difference between the mean scores of treatment group in the pre and post essay writing test as a whole and its dimensions, in favor of the post test.

- Collaborative problem solving strategy is effective in developing essay writing skills among EFL-PTs.

Method

The main purpose of the research was to develop some essay writing skills among EFL-PTs at the Faculty of Specific Education. In order to achieve that purpose, 200 participants were randomly drawn and then assigned into two groups, a treatment group (TG) (n=100) and a non-treatment group (NTG) (n=100). The TG received instruction through collaborative problem solving strategy while students in the NTG received regular instruction. It was assumed that the participants formed a homogenous group as they were chosen randomly. So, they were expected to have a lot in common and would not differ much regarding the quality of experience or their age.

The researcher designed an essay writing skills questionnaire to determine the most important essay writing skills suitable for the TG. Based on the results of the questionnaire, an essay writing skills test was used as a pre-posttest. The test was pre-administered at the beginning of the first semester of the academic year 2016-2017. It was also post-administered at the end of the semester. The intervention that was using a CPS strategy was in between the pretest and the posttest. That strategy contained 14 sessions. At the beginning of each session, some objectives were determined; material and aids were defined, the instructional time was allotted (ranged from 90-120min), and group size, team instruction, class organization were determined. The procedures included two steps: the first was *presentation* that included warm-up, and the second was *practice* that included activities specified to the lecturer and students to practice and evaluate or measure the students' ability to master essay writing skills. The writing process was divided into four stages including: (1) Pre-writing techniques including free-writing, questioning, making lists and clustering, (2) Drafting, (3) Revising, and (4) Editing.

Students worked in small groups and practiced different activities concerned essay writing skills using different steps of problem solving, they worked for a period of (9) weeks.

Having the post-test finished at the end of the semester, data were collected and analyzed statistically using means, standard deviations and t- value. In order to determine the effectiveness of the CPS strategy proposed, the effect size was computed. The study results obtained are presented in the section coming.

Results of the study

In order to test the first hypothesis that states that there would be a statistically significant difference between the mean scores of the treatment group (TG) and those of the non-treatment (NTG) one in their performance in the post essay writing test as a whole and its dimensions in favor of the treatment group, means, standard deviations, t-values and the ES were computed using the SPSS. It was found that the TG significantly outscored the NTG in the three dimensions of the essay writing skills individually, and in their total.

Besides, the effect size related to the introductory paragraph as well as the concluding paragraph were high, while it was moderate in supporting sentences. Table 1 shows the results.

Table 1. Means, standard deviations, t-values and ES of the TG scores compared to those of the NTG on the essay writing skills post test

Essay Writing Skills	Group	N	Mean	Std.	t	df	Sig	ES
Introductory Paragraph	Exp.	100	4.55	0.50	20.22	198	0.000	0.805
	Con.	100	2.50	0.88			Sig.	High
Supporting Paragraphs	Exp.	100	31.41	3.67	14.96	198	0.000	0.686
	Con.	100	20.65	6.18			Sig.	mdrt
Concluding Paragraph	Exp.	100	9.21	0.70	24.25	198	0.000	0.856
	Con.	100	6.14	1.05			Sig.	High
Total	Exp.	100	45.17	3.87	20.94	198	0.000	0.816
	Con.	100	29.29	6.52			Sig.	High

In order to test the second hypothesis that states that there would be a statistically significant difference between the mean scores of the treatment group (TG) in the pre and post essay writing skills test as a whole and its dimensions, in favor of the post test, means, standard deviations and t-values were computed using the SPSS, it was found that the TG scores were significantly higher on the posttest than those on the pretest. Table 2 shows the results.

Table 2. Means, standard deviations, t-values and ES of the TG scores on the essay writing skills pretest compared to those of the post test

Essay Writing Skills	Measure	N	Mean	Std.	t	df	Sig	ES
Introductory Paragraph	Pre	100	1.68	0.83	32.48	99	0.000	0.914
	Post	100	4.55	0.50			Sig.	High
Supporting Paragraphs	Pre	100	10.29	2.90	54	99	0.000	0.967
	Post	100	31.41	3.68			Sig.	High
Concluding Paragraph	Pre	100	3.95	0.90	93.64	99	0.000	0.989
	Post	100	9.21	0.71			Sig.	High
Total	Pre	100	15.92	3.81	70.43	99	0.000	0.980
	Post	100	45.17	3.87			Sig.	High

Discussion

The results of the present study revealed that the treatment group taught through CPS strategy outperformed in the post administration of the essay writing test as a whole and its dimensions. The results showed that there was a statistically significant difference among the mean scores of the treatment group in their performance on the pre and post administration of the essay writing test as a whole and its dimensions favoring the post administration. Hence, the significant difference, shown on the post administration, may be due to exposing such group to CPS strategy, which included the division of labor among students, as an activity where each student is responsible for a portion of the problem solving. In addition, social interaction in the context of problem solving activity could have occurred when students worked together and shared the responsibility to solve problem.

Through CPS, EFL-PTs performed different processes to solve different problems and this is seen to have increased their ability to write different essays correctly using three processes . The first process involved understanding the problem situation by interpreting initial information about the problem situation by interpreting initial information about the problem. In the second process, this information was selected, organized and integrated with prior knowledge and then formulating hypotheses by identifying reasons related to the problem.

The third process included planning which consisted of clarifying the goal of the problem setting any sub-goals, and developing a plan to reach the goal stated; executing the plan was also a part of this process. The final process consisted of monitoring steps in the plan to reach the goal and reflecting on possible solutions and critical assumptions.

Besides, EFL-PTs who worked in collaboration achieved a higher performance towards a common goal compared with individual performance. This result supported the view of Tudge and Caruso (1989) who explained that learners who were paired with a more advanced one were later able to solve conservation tasks at a higher level, while those who worked individually did not improve.

The lecturer's role during the proposed strategy was to support working and learning in direct ways in order to foster higher cognitive and creative processes. The lecturer gave students the problem in the beginning of the lesson, explaining in general how building blocks are used or program is constructed. The lecturer's role was mainly consultative. Students had the chance to ask for help or put questions to the lecturer.

Among the major factors that contributed to the success of CPS was the effective communication among team members and the interaction between the lecturer and students. Achieving good communication allowed students to understand and perform different tasks and activities. This conclusion supported the result of Fiore and Schooler (2004) who clarified that collaboration, is achieved by constructing a common ground through shared understanding communication and interaction.

Moreover, EFL-PTs seem to have acquired the skill of how to achieve effective organization of team including understanding and assigning roles and how to deal with disagreements, conflicts and obstacles points to achieve their goals. Besides, via the effective division of labor, incorporation of information from multiple sources of knowledge, perspective and experience, enhanced creativity and quality of solutions stimulated by ideas of other group member, the study participants could produce good essay writing skills activating their thinking and reasoning. They could be able to generate new ideas and construct their new knowledge. The process of constructing and generating ideas helped them to become flexible and creative problem solvers. This result confirmed the results of Culum, 1991; Dobao, 2014; Kumar and Refaei, 2013; Robertson, 2014; Rosinski and Peeples, 2012; Wells, 1992; Yang, 2011; and Yeh, 2014.

One more interpretation of the improvement of essay writing skills of EFL-PTs is that the CPS strategy could help them : (a) reason about what they and others are doing to solve their problems; (b) communicate with others following the steps of problem solving to write a good essay; (c) plan how tasks would be performed and problems solved; (d) make commitments that allowed other students to work with them in small groups setting goals, making decisions,

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solving problem, finding solutions and evaluating the outcomes through dialogue; and (e) have good social interaction with their teacher and their peers in an effective communication environment.

This result supported the ideas of Aronson and Patnoe (1997); Barron (2000); Brindley, Walti and Blaschke (2009); Chapman, Dillenbaurg (1999) ; Ferguson and Allen (2007); Finegold and Cooke (2006); Gytan and Mc Ewen (2007); Hennery and Murphy (1999); Lillian and Alson (2005); Meister and Willyerd (2010); Pallof and Pratt (2005); Ramondt and Smiley (2005); Schwartz (1995); Shaw (2006); Smith, Sorensen, Gump, Heinded, Caris & Martinez (2011); Springer, Stanne and Donovan (1999); Tallin (2003); who asserted the importance of CPS in instruction.

The results obtained reflect O'Neil, Chung and Brow's (1997) six skills acquired through CPS including: (a) *adaptability* where the participants monitored the source and nature of problems through an awareness of team activities and factors bearing on the task ; (b) *coordination* the participants' process by which their resources, activities, and responses were organized to ensure that tasks were integrated, synchronized, and completed with established temporal constraints; (c) *decision making* where the participants could integrate information, use logical and sound judgment, identify possible alternatives, select the best solution, and evaluate the consequences; (d) *interpersonal skill* where the participants could improve the quality of team member interactions through the resolution of team members' dissent, or the use of cooperative behavior ; (e) leadership where the participants were able to direct and coordinate the activities of other team members, assess group performance, assign tasks, plan, organize, and establish a positive atmosphere; and (f) communication where that process of sending and receiving information was clearly and accurately exchanged between two more team members in the pre-scribed manner and by using proper terminology and the ability to clarify or acknowledge the receipt of information.

One more point is that the EFL-PTs seem to have acquired the three major collaborative problem solving competencies – referred to by Tallin (2012) -   that significantly affected the improvement of

their essay writing skills. Those skills include included establishing and maintaining shared understanding (knowledge flow/resources), taking appropriate action to solve the problem (task behavior), and establishing and maintaining group organization (organization management).

Conclusion

The results of this research revealed that using collaborative problem solving strategy in a non-threatening, adaptive environment, and fruitful of cooperative activities appropriate for the study participants is effective in teaching essay writing skills

Recommendations

In light of the results and conclusions of the present research, the researcher presented the following recommendations:

- Giving more attention for developing essay writing skills through using collaborative problem solving.
- Essay writing lecturers should be trained to use different classroom interaction techniques and teaching methods such as pair work, group wok and any other related techniques such as collaborative problem solving.
- Interaction and negotiation between lecturer and student should be encouraged in the classroom to perform different writing tasks and activities .
- Essay writing tests should be changed depending on the element of creativity and critical thinking to help students become flexible and creative problem solvers.
- Students should be encouraged to work in groups giving opportunities to participate collaboratively.
- Building modern curriculums based on collaborative work.
- Some difficult language problems concerning grammar, structure, punctuation, spelling…etc should be considered through essay writing.
- Developing consciousness with the importance of collaborative problem solving in essay writing as a neglected component in our educational courses in the university.

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