E-Learning Strategy Based on the Reflective Approach for Enhancing Faculty of Education English Majors' Critical Writing skills

By:

Dr. Ali A. Madkour
Professor of Curriculum and Instruction
Faculty of Graduate Studies for Education
Cairo University.

Walaa Mohammad Ramadan
EFL Instructor
Faculty of Education
Fayoum University

Dr. Kawther I. M. Kotb
Professor of Curriculum and Instruction (TEFL)
Faculty of Education- Minia University.

E-Learning Strategy Based on the Reflective Approach for Enhancing Faculty of Education English Majors' Critical Writing skills[1]

Dr. Awatef Ali Sheir, Walaa Mohammad Ramadan, Dr. Abdel Rehim Saad el Din El – Hilaly

Introduction:

The past few years witnessed a radical change in all the aspects of the educational process in general and in the aspect of teacher preparation in particular (Yang 2003, 293).There has been a shift from a focus on passive memorizing and the amount learning to a focus on the learner himself as a core of the learning process . Reflective approach is a modern trend in pre service teacher education which is based on the assumption that student teachers can improve their attitudes toward teaching and the quality of their own teaching by reflecting critically on their teaching experiences.

The process of reflection involves how to help student teachers to transfer experiences and knowledge acquired as students in their courses to their classrooms as teachers. (Richard 2000, 21) regards reflective teaching as a recalling of past experience to serve the purpose of evaluating it and to make decisions for the future. Moreover reflective teaching has grown to be frequently associated with the best teaching practice (Ur, 1998).In addition many teacher preparation programs have incorporated reflective techniques into their curricula (Wang 2009) and (Morgan 1999).

The implementation of an e-portfolio as a reflective learning tool is thought to enable pre service teachers to

---

1 For The Requirements of the Doctor of Philosophy Degree – PhD In Education (Curriculum and Instruction) Teaching English as a Foreign Language – TEFL.

reach higher thinking skills; critical or reflective and develop their critical writing as well (Hughes, 2008, P.25). .E-portfolios (Wood, 2002) are considered to represent an objective tool to serve the purpose of comprehensive assessment of teachers' performance instead of other conventional or subjective tools.

In teacher education, performance-based assessment in the context of comprehensive e- portfolios allows pre-service teachers to demonstrate what they know and what they are able to do. E-portfolios, then, can provide a dual focus on basic knowledge retention as well as the application and demonstration of teaching-related skills that span an entire teacher education program (Fiedler 2009:P99). Another advantage of e-portfolios in teacher education is the connection made by the students between their professional growth that occurs as a result of coursework and fieldwork during the process of learning to teach.

The comprehensive e-portfolio focusing on the students' learning can provide the teacher with a better understanding of their preferred learning styles, needs, and difficulties. This information also enables the teacher to adjust instruction to the students' individual goals, needs, and learning dispositions. However, and above all, it is considered that the students' reflection about learning leads them to autonomous learning and self satisfaction (Lo 2010:P78) and (Nunes 2004:P328).

Preparing e-portfolios by pre-service teachers plays an important role in enhancing teacher preparation course instruction. It also involves the participant in active learning strategies such as problem solving, writing, analyzing and online researching. It has been regarded by most researchers as a comprehensive, multi-dimensional but integrated system that is adaptive to the multiple attributes of an

effective teacher (Ryan & Kuhs 1993:P75). Meanwhile, the reflective teaching approach has recently gained increasing research interests in different disciplines.

Context of the problem

The problem was documented by the researcher through the the administration of a five-point likert needs assessment questionnaire consisting of main and sub-critical thinking skills to a sample group of 70 English majors at Fayoum Faculty of Education. Findings revealed that those students are in a dire need for most of the skills listed in the questionnaire. The agreement proportion over the listed items ranged from 90 to 95%.

Statement of the problem

The data obtained from the investigative preliminary pilot study and the formerly-mentioned settings guided the researcher to determine the problem in the below statement:

English majors at the Faculty of Education, Fayoum University are in a dire need to promote their critical thinking skills and to implement up-to-date learning and assessment techniques.

Accordingly, there has been a necessity for unconventional interventions to test the effectiveness of a reflective e-learning in enhancing critical thinking skills of English majors at the Faculty of Education, Fayoum University.

Consequently this study was an attempt to answer the following main question:

What is the effectiveness of an e-portfolio intervention based on the reflective approach for enhancing Faculty of Education junior English majors' critical thinking skills?

The above main question was branched into the following sub-question:

1. What is the effectiveness of the e-portfolio intervention based on the reflective approach in enhancing critical

thinking skills of junior English majors at the Faculty of Education, Fayoum University?

Objective of the study:

The study aimed at:

- Investigating the effectiveness of the e-portfolio intervention based on the reflective approach in enhancing critical thinking skills of English majors at the Faculty of Education, Fayoum University.

Tools of the study:

The following tool was administered in the entire study:

- The online 2012 updated format of the Watson Glaser Critical thinking Appraisal (WGCTA).

Hypothesis of the study:

In the course of the present study, the below hypothesis was tested:

- There is a statistically significant difference (favoring the experimental group) between means of scores obtained by the experimental and the control group on the post administration of the critical thinking test (WGCTA)

Delimitations of the study:

This study was confined to:

1. E-portfolio as a reflective e-learning strategy.
2. Three forms of reflection:
   a. Peer reflection: through online synchronous discussions and online reflective journals/blogs.
   b. Self- reflection: through online formative self assessment.
   c. Reflection from the instructor: through the instructor's online feedback.
3. A limited time frame for the intervention implementation (the 2013/2014 academic year).
4. One intact group of sixty students from among third year English majors at the Faculty of Education, Fayoum

University who were randomly assigned and allocated into two groups: experimental and control.

5. Enhancing the participants' critical thinking main and sub-skills based on the initiative pilot study: identifying Assumptions, analyzing arguments, deductions, drawing inferences and interpreting information.

Review of literature and related studies:

The below section tackles the literature and studies related to the variables of the present study:

In a paper presented at the First International Conference on Foreign Language Teaching and Applied Linguistics, Shirkhani and Fahim (2011) presented some ways through which language instructors can enhance critical thinking in foreign language learners through using materials and activities which require critical thinking on the part of learners. EFL instructors can purposefully prepare, choose, and/or adapt already existing materials reflectively so that they enhance learners' critical thinking ability. Instructors can also choose activities which demand learners to develop critical thinking skills since not all activities lend themselves to critical thinking on the part of learners.

Akcil, (2009) investigated the effect of using electronic portfolios for learning purposes of 363 undergraduate students in the Near East University Faculty of Education in Turkey. Data were collected in the 2008-2009 academic year using the attitude scale about e-portfolio usage in education. After the treatment of e-portfolios, the study findings showed that the students had positive opinions towards the usage of e-portfolios for the educational purposes. The study also recommended the implementation of e-portfolios in the field of computer literacy skills.

Beck et al (2005) conducted a study that compared the effect of four different curricula e-portfolios on 207 pre-

service and beginning teachers' professional development. Four categories of e-portfolios were conducted: summative accountability portfolio, two formative teacher development portfolios and one mixed formative/summative portfolio. The 34 item of electronic Portfolio Assessment Scale (ePAS) was used to measure teachers' assessments of the implementation of electronic portfolios. Findings of the study indicated that that formative portfolios that focused on teacher development better supported professional outcomes than did the summative accountability portfolio. The study also declared that portfolios should not be used for the summative accountability of teachers.

Yang (2003) investigated the use of portfolios as a reflective tool to facilitate learning and develop autonomy of 45 English freshmen at a four-year public university course in Taiwan. Students' English proficiency was tested via a pretest and a post-test. Data about the students' beliefs and attitudes towards using portfolios and their learning style preferences were collected by both open-ended and Likert-scaled questionnaires. Results indicated that portfolios raised students' awareness of learning strategies, facilitated their learning process, and enhanced their self-directed learning.

English & Keshavarz (2002) attempted to find out whether portfolio assessment contributes to enhance achievement and feeling of responsibility towards monitoring progress of 60 Iranian 16- year-old female high-school sophomores of English as a foreign language (EFL). The study also identified the probable correlation between the scores of portfolio assessment and those of teacher-prepared tests. The tools included a Nelson English Language Proficiency Test, portfolio assessment, a teacher-made achievement test and a satisfaction questionnaire. Findings indicated that portfolio assessment was received

positively by the subjects. It also contributed to Iranian EFL learners' achievement and their feelings of responsibility towards monitoring their progress. It was concluded that portfolio assessment can be used in conjunction with teacher-made tests to provide the continuous, ongoing measurement of students' growth needed for formative evaluation and for planning instructional programs.

Terms of the study:

E-learning

There is hardly a consensus on a unique definition of e-learning. The diverse of the term identification arises from the diverse of particular professional approaches and interests in which e-learning is contextualized .Such perspectives may be educational, paradigm-oriented, communicative, collaborative, knowledge access or technology-driven.

Simkova and Stepanek (2013) defined e-learning as educational process (also called virtual learning) using information and communication technologies to create courses of study for the distribution of content and communication between students and teachers.

The Ministry of Communication and Technology of New Zealand (2008) defined e-learning as learning facilitated by the use of digital tools and content that involves some form of interactivity, which may include online interaction between the learner and their instructor or peers.

Holmes and Gardner (2006) define e-learning as a form of web-based learning that provides learners with access to resources to promote learning at anyplace or at anytime. Aldrich (2005) defined e-learning as a broad combination of processes, content, and infrastructure to use computers and networks to improve one or more significant parts of a learning value chain, including management and delivery.

The present study conducted the above definition of (Simkova and Stepanek, 2013) as the operational definition **for e-learning.**

E-portfolio

Ambrose et al (2014) defined e-portfolios as reflective tools designed to assist students in improving their goal-setting, decision-making and future-planning; capacities which are necessary for students in order to be actively engaged in managing their own learning.

Jenson and Trever (2014) defined e-portfolio as a tool for documenting and managing the students' own learning over a lifetime in ways that foster deep and continuous learning through ongoing assessment.

Abu Seman, Rashid and Nasir (2012) defined e-Portfolio as a unique compilation of an individual's work including personnel evidence to display accomplishments and referees for others. An e-portfolio documents an example of actual work that contains methods, skill, style, talent, creativity, and innovations in delivering a task.

Bala et al (2012) referred to e-portfolio as an administrative tool to manage and organize work created with different applications and control where anyone can see or discuss the work.

The present study conducted the definition of (Jenson and Trever, 2014) as an operational definition for e-portfolio.

The reflective approach

Schön (1996) defined reflection as a critical process that involves refining the individual's abilities in specific disciplines with full concentration of the individual's own experiences in applying knowledge and introducing new techniques for professional development.

Mantzoukas and Jasper (2004) defined reflection in the context reflective teaching practice as lifelong reflective

learning resulting in the development of autonomous, qualified and self-directed professionals.

Finally, Hinett (2002) defined reflection as an approach which promotes autonomous learning that aims to develop students' understanding and critical thinking skills.

The study conducted the previous Hinett's definition (2002) as the operational definition of the reflective approach.

Critical thinking

There are various definitions of critical thinking depending on the context in which the term is tackled. Critical thinking has been defined from multiple perspectives, with various definitions presenting the concepts of cognition, attitude, process, and skill (Chao 2013, 204). The below definitions reveal that many researchers conducted critical thinking with various research frameworks and diversified theoretical approaches as follows:

Paul and Edler (2007) defined critical thinking at the 27th International Conference on Critical Thinking as the art of analyzing and evaluating thinking with a view to improve it.

Critical thinking was defined by (Sirisopon and Sopeerak, 2013,p310) as a process of thinking carefully based on the use of knowledge, reflections, reasoning, and experiences in the interpretation, analysis, and rational evaluation.

The present study conducted the definition of (Sirisopon and Sopeerak) 2013 as the operational definition of critical thinking.

Methods and Procedures:

The intervention was implemented during the 2013/2014 academic year at the Faculty of Education, Fayoum University on 60 third year English majors who

were randomly assigned and allocated into two groups: experimental and control.

To ensure that both the control and experimental groups were as equivalent as possible before the study was carried out, an independent samples t-test (Levene's Test) was used to determine whether the control group and the experimental group were homogeneous. Then the students' critical thinking mean score of the two groups were compared using independent samples t-tests. *Table1* below presents the results of the pre administration of the Watson Glaser Critical Thinking Appraisal- WGCTA.

Tble1. t value of the pretest on critical thinking

Group	Var.	No.	Mean	S.D.	Leven's Test	Sig	T	D.F	Sig.
Cont.	Argue	30	2.13	2.72	0.522	0.48	.99	58	٠.32
Exp.		30	2.4	2.2					
Cont.	Assume	30	2.17	1.15	0.412	0.52	0.36	58	0.23
Exp.		30	2.17	1.2					
Cont.	Deduce	30	8.3	4.4	9.01	0.32	0.07	58	0.95
Exp.		30	7.5	2.1					
Cont.	Infer	30	1.6	1.0	2.84	0.10	1.1	58	0.6
Exp.		30	2.67	1.45					
Cont.	Interpret	30	1.89	1.0	12.14	0.25	0.8	58	0.5
Exp.		30	2.3	1.78					
Cont.	Total	30	13.1	6.3	3.23	0.18	0.9	58	0.4
Exp.		30	16.8	4.4					

The above *table1* reveals that both the experimental and the control group are approximately equivalent at the same level of performance on the pre critical thinking test- WGCTA. The value of t is insignificant at the level of 0.4 with total mean score 16.8 for the experimental group and 13.1 for the control. The total value on the Leven's test for both groups was 3.23.

The experiment:

The first session of the treatment was devoted for orientation. The researcher presented to the students how to

submit their artifacts to their e-portfolios and how they would be assessed.

Each two weeks a new unit with a new topic was uploaded online by the instructor. Posting the online activities involved in every unit of the intervention was available along the first week whereas the second week was devoted for submitting the artifacts and grading the formative assessment items following each lesson.

Synchronous discussions were purposefully used to promote student-instructor interaction. The instructor was involved in the synchronous discussions in order to comment, ask more probing questions and respond or acknowledge the students' contribution. Thereafter a new unit was presented and the procedures began anew.

The participants were given the chance to respond to the posts of at least five other peers via asynchronous discussions. The purpose of using asynchronous discussions relevant to the activities involved in the intervention directed by the students was to foster student- student interaction.

Each module of the e-portfolio intervention was terminated by formative assessment items to measure the students' acquisition and use of the skills presented. There was also a self assessment questionnaire after each module as a form of self reflection on the participants' performance.

Results and discussion:

After the intervention duration, the post WGCTA was administered to test the effectiveness of the e-portfolio intervention in enhancing the participants' critical thinking skills.

Hypothesis one in this study predicted that:

There was a statistically significant difference between means of scores obtained by both the experimental and the control group (favoring the experimental group) on the post

administration of the Watson Glaser Critical Thinking Appraisal-WGCTA.

To confirm the validity hypothesis one, t-test was used to compare the mean scores obtained by both the experimental and the control group on the post administration of the Watson Glaser Critical Thinking

Table2 below displays the results of t-test for comparing the performance of the experimental and the control group on the post administration of the Watson Glaser Critical Thinking Appraisal-WGCTA.

Table2 t value of the post administration of the WGCTA

Group	Var.	No.	Mean	S.D.	Leven's Test	Sig	T	D.F	Sig.
Cont.	Argue	30	2.13	2.7	0.601	0.441	19.3	58.0	0.01
Exp.		30	16.5	2.9					
Cont.	Assume	30	0.76	1.01	7.639	0.007	23.8	58.0	0.01
Exp.		30	9.1	1.6					
Cont.	Deduce	30	11.3	2.3	0.702	0.4051	8.2	58	0.01
Exp.		30	16.1	2.1					
Cont.	Infer	30	1.4	0.9	12.0	0.001	19.2	58	0.01
Exp.		30	9.3	1.4					
Cont.	Interpret	30	1.5	1.3	0.095	0.758	15.4	58.0	0.01
Exp.		30	7.2	1.5					
Cont.	Total	30	17.2	3.7	3.30	0.72	35.03	58.0	0.01
Exp.		30	58.8	5.2					

The above table reveals that there was a statistically significant difference at the level of 0.01 on the posttest of the overall WGCTA and on the WGCTA subtests of argumentation, assumptions, deduction, inferences and interpretation of arguments. Such a result indicates that the e-portfolio intervention based on the reflective approach was effective in enhancing critical thinking skills of junior English majors at the Faculty of Education, Fayoum University. Consequently, hypothesis one is confirmed.

Discussion of results:

Online self-reflection through self-assessment encouraged the participants to probe deeply into their learning styles, learning performance and learning progress which in turn stimulated their critical thinking. Conducting self reflection in this study led to deeper understanding of the participants' learning needs and empowered their ability to analyze the newly acquired learning experience and hence raised their critical thinking.

This result may also due to the e-portfolio being an effective tool to create a learning environment that enabled students to engage in critical reflections to render judgment based on a compilation of synthesized evidence. Moreover, the online self-paced learning prompted students to provide justifications and founded explanations of their views. Another important point here to mention is the effective method of the instructor to respond to students with effective feedback-supported replies. In doing so, students had the opportunity to receive reflective rather than evaluative responses.

Online reflective journals or blogs was the space where students practiced writing on specific issues. A due date was set for the participants' to submit the required assignments. Therefore, the instructor could ask students to write, revise, edit, and submit a number of drafts before the due date. This flexibility also allowed the students to self-revise, revise on the basis of the instructor's feedback, or on their peer's feedback. These revised drafts could then be used for comparison, reflection, or assessment of progress supporting the participants' critical thinking.

The act of reflection in the e-portfolio intervention has stimulated the participants to examine, clarify, and crystallize their own thoughts and ideas through an electronic media that facilitated student-student interaction

through peer discussions and student teacher interaction through reflective feedback enabled the students to combine experience and knowledge together to produce new learning experience and to apply theory to practice.

This result agrees with (Yang,2005) who stated that active interactions between instructors and students and among students can facilitate students' critical thinking skills by the exchange of ideas and viewpoints, giving new meaning to content, exploring applications to problems, and providing implications for real-life situations.

Introspection through self reflection allowed the learners to debrief and assess their performance on the modules presented. The use of reflection in e-learning paved the way for the participants to articulate and synthesize the concepts and skills they have newly acquired. The reflection process enabled learners to integrate new knowledge with prior knowledge. Such integration process is a key to the lifelong learning.

The results proves that the active e-learning environment helped the students attain better learning outcomes, develop better attitudes toward their learning experiences, and devote more effort in the learning process and so supported their critical thinking.

References

Sangra, A., Vlachopoulos, D., & Cabrera, N. (2012). Building an Inclusive Definition of E-Learning: An Approach to the Conceptual Framework. *International Review Of Research In Open And Distance Learning*, *13*(2), 145-159.

Simkova, M. & Stepanek, J. (2013) Effective Use of Virtual Learning Environment and LMS. *Procedia - Social and Behavioral Sciences*, 83: 497-500.

Holmes, B., & Gardner, J. (2006). *E-learning: Concepts and practice.* London: Sage.

Aldrich, C. (2005). *Simulations and the future of learning: An innovative (and perhaps revolutionary) approach to e-learning.* San Francisco: Pfeiffer.

Ministry of Communication and Technology of New Zealand. (2008). *Digital strategy of the ministry of communication and technology.* Retrieved from :
www.digitalstrategy. govt.nz/Resources/Glossary-of-Key-Terms/.

Welsh, E. T.,Wanberg, C. R., Brown, E. G., & Simmering, M. J. 2003. E-learning: Emerging uses, empirical results and future directions. *International Journal of Training and Development*, (7)245-258.

Derouin,R., Fritzsche, B. & Salas, E.(2005) E-Learning in Organizations. *Journal of Management , 31(6)920-940.*

Sjogren, E., Ragnemalm, E. L., Tingstrom, P., Uhlin, L., & Abrandt Dahlgren, M. (2012). Academics' Reflections on the Use of ePortfolio Documentation of Pedagogical Skills: A Pilot Study. *Quality Of Higher Education*, (*9)*98-119.

Bala ,S., Mansor, W., Stapa, M. & Zakaria ,M. (2012) Digital Portfolio and Professional Development of Language Teachers. Procedia - Social and Behavioral Sciences (6)176-186.

Challis, D. (2005). Towards the mature e-Portfolio: Some implications for higher education. *Canadian Journal of Learning and Technology*,

31(3), Retrieved from:
http://www.cjlt.ca/index.php/cjlt/article/view/93/87

Shouhong, W. (2009). Inquiry-Directed Organization of E-Portfolio Artifacts for Reflection. *Interdisciplinary Journal Of E-Learning & Learning Objects*, *(5)*419-433.

McCowan, C., Harper, W., & Hauville, K. (2005). Student E-Portfolio: The Successful Implementation of an E-Portfolio across a Major Australian University. *Australian Journal Of Career Development*, *14*(2) 40-52.

Tubaishat, A., Lansari, A., & Al-Rawi, A. (2009). E-Portfolio Assessment System for an Outcome-Based Information Technology Curriculum. *Journal Of Information Technology Education*, *(8)*43-54.

Jenson, J. D., & Treuer, P. (2014). Defining the E-Portfolio: What It Is and Why It Matters. *Change: The Magazine Of Higher Learning*, *46*(2), 50-57.