



**Using Action Research Based-program to Promote
Professional knowledge and Attitude of EFL General Diploma Students**

By

Dr. Howida Mostafa A. Masoud

*Assistant Professor in Methodology and Instruction Dept.
Faculty of Education, Minia University, El-Minia, Egypt.*

Abstract

The present study aimed to investigate the use of an Action Research based program (AR) for enhancing EFL general diploma students ' professional knowledge (PK) and attitude at the Faculty of Education. The study adopted a pre-post group design. The study sample was thirty students (the whole group) who were submitted to an intensive training in Action Research based-program. The instruments of the study included a needs assessment questionnaire, a checklist to determine the PK domains and their indicators, a pre-post PK test and a pre-post attitude scale. Analysis of data obtained by students (using t- test) revealed that the AR program was so efficient and effective in promoting EFL general diploma students' PK and attitude in the post-performance of the test and the scale. Discussion of these findings, recommendations and suggestions for further research are presented.

Key Items: Action Research, Professional knowledge and Professional Attitude.



المستخلص العربى

استخدام برنامج قائم على البحث الإجرائى فى تنمية المعرفة المهنية والإتجاه المهنى لطلاب الدبلوم العام تخصص لغة إنجليزية

إعداد

أ.م.د/ هويده مصطفى عبد الرحمن مسعود

أستاذ المناهج وطرق تدريس اللغة الإنجليزية المساعد - كلية التربية – جامعة المنيا

هدفت الدراسة الحالية إلى استخدام برنامج قائم على البحث الإجرائى فى تنمية المعرفة المهنية والإتجاه المهنى لدى طلاب الدبلوم العام تخصص اللغة الإنجليزية بكلية التربية جامعة المنيا. استخدمت الدراسة المنهج شبه التجريبي (عينة تجريبية واحدة) حيث تم تطبيق البرنامج التدريبي المقترح القائم على إستخدام البحث الإجرائى على عينة الدراسة لمعرفة أثره فى تنمية المعرفة المهنية الإتجاه المهنى لتحقيق أهداف البحث. وتكونت عينة الدراسة من عدد ثلاثون طالبا وطالبة من طلاب الدبلوم العام- شعبة اللغة الإنجليزية. واشتملت أدوات الدراسة على استبيانات واختبار تحصيلى فى المعرفة المهنية ومقياس للإتجاه المهنى والبرنامج التدريبي. وقد أوضح تحليل النتائج فاعلية البرنامج القائم على البحث الإجرائى فى تحسين المعرفة المهنية لدى عينة البحث وكذلك واكتساب إتجاه موجب لمهنة التدريس؛ حيث وجدت فروق ذو دلالة إحصائية بين متوسطى درجات عينة الدراسة فى التطبيقين القبلى والبعدي لصالح التطبيق البعدي. وقد تم عرض النتائج ومناقشتها. أوصت الدراسة بإدراج مفهوم البحث الإجرائى فى برامج إعداد المعلم فى كلية التربية والتركيز على تنمية مهاراته لدى طلاب الدبلوم العام تخصص اللغة الإنجليزية والمعلمين ما قبل وأثناء الخدمة. كما اشتملت الدراسة على أهم التوصيات والمقترحات لبحوث مستقبلية.

الكلمات المفتاحية: بحوث العمل، المعرفة المهنية والموقف المهني.



Introduction

Teaching is a very influential activity which needs unique types of teachers who are capable of bringing about significant change on students' life. Being a teacher is extremely complex and as it requires high level of expertise in many skills as well as theoretical knowledge. Student teachers need input from both university and school settings. Prospective teachers also should be carefully selected. They should be the kind of persons who can get on well with other people and hold the great responsibility of teaching the pupils, as the teacher's quality will affect the education of these pupils at schools. The context in which prospective teachers are trained could shape their beliefs, concepts and tendencies towards teaching and their abilities to be effective teachers (Masoud, 2005). A key concern of effective teaching is professional development. Creating efficient classroom lies in the heart of teacher professional development. Professional development of teachers is a "lifelong" term which implies how teachers learn, how to make use of theoretical knowledge and transform it into real practices inside the classroom aiming at improving their students' learning. Professional development refers to various types of educational experiences related to teaching work and practices (Mizell, 2010).



Professional Knowledge

For teachers to recognize and implement effective classroom, they need to demonstrate a various facets of knowledge. Professional knowledge is considered as the cornerstone of teacher's professional development. Identifying the professional knowledge, beliefs and attitudes teachers may hold about teaching could be greatly useful on being a successful teacher. Teachers have particular ways to build their own epistemology to develop their teaching performance and create a favorable learning environment. As teaching is a “practical profession”, it is so crucial to investigate teachers' PK which is anchored in classroom situations (Evens et al, 2018).

Professional knowledge is considered as one of the main bases of teacher preparation programs whether for undergraduate or postgraduate students. Empowering teachers with professional knowledge, which is a main element of their professional development helps them to manage their self and workload and informs them about teaching. It provides teachers with an in-depth practical knowledge and skills needed to be a successful teacher (Capel et.al, 2016). It not only empowers teachers with pedagogical and content knowledge it also offers them a clear understanding of students' learning, different assessment techniques and how to create dynamic classroom. Based on this type of knowledge, possible obstacles and difficulties that both



teachers and students encountered in different teaching and learning situations in classroom could be predicted (Gurm, 2013).

There is a consensus among researchers on the value and importance of PK for teachers to enhance the quality of teaching and students' achievement and performance in class. They also agreed on the different crucial domains of PK which teachers should demonstrate to be effective and successful. PK should encompass content knowledge; pedagogical knowledge; technology pedagogic knowledge; curriculum knowledge; knowledge of learners and their characteristics; knowledge of educational contexts; knowledge of educational ends; knowledge of the classroom learning environment and knowledge of educational measurement and evaluation. Acquiring this type of knowledge could influence teachers' perspectives, concepts, self-esteem and efficacy and their attitudes towards the teaching profession (Evens et al, 2018, Janssen & Lazonder, 2016 and Konig & Pflanzl, 2016).

Professional Attitude

In addition to empowering teachers with a great bulk of professional knowledge, they need to cultivate a positive attitude towards the profession. The positive attitudes one has toward a profession could influence his/her success in that particular profession. Having a positive attitude towards the teaching profession



has its great impact on teachers' performance in class. Teachers with positive attitude work hard to promote their talents and strengths and contribute effectively to create a more comfortable and motivating learning environment for their students (Said et al., 2013). Requirements of the profession could be competently fulfilled through establishing a positive professional attitude which is considered as a key to improving the quality of teaching and learning process. Teachers' response and reactions to teaching situations are basically determined through their permanent organization of belief and tendency to react 'favourably' or 'unfavourably' (Khan et al, 2013).

Professional attitude also determines teachers' satisfaction on their job and greatly influences students' learning and the quality of education offered to them (Ravi, 2013). When teachers feel satisfied about their profession, this will be reflected on their teaching performance and students might develop an encouraging attitude towards the subject matter and the teachers themselves (Kanadlı, 2017). Accordingly, for prospective teachers to be successful and effective and have a positive attitude towards teaching, they need an innovative way to learn. They are likely to learn through a method which encourages an ongoing professional development aiming to enhance their teaching performance; to gain a better understanding of what works well and what does not work. They need to learn from the



beginning how to reflect on their own performance in order to grow professionally and to expand their PK and this is actually what Action Research implies.

Action Research

Using Action Research as a tool for ongoing professional development is a strong trend in the literature. Most studies recommend utilizing and integrating AR into the overall teacher preparation programs. The rationale of AR is giving teachers the opportunity to frequently evaluate their own performance and constantly check what they are doing really works well. AR was early coined by John Elliott (1994) who called for providing opportunities for teachers to conduct research and promote their own performance in order to improve the quality of teaching and learning. This movement is followed by a great concern on teachers' professional development through AR. Citing Nasrollahi (2015), Stringer (2004, 2007& 2010) is also encouraging the use of AR to help teachers to reflect on their teaching practices and gain a better understanding of classroom incidents as he perceives AR as a process of enquiry and an effective tool for learning about classroom. AR is viewed as practical way of checking teachers' work and is also a 'self-reflective practice' where teachers can deeply think and reflect on their work (Ferguson, 2011). Conducting AR aims to support teachers in dealing with the



challenges and problems of teaching in classroom in a reflective way (Nasrollahi, 2015). AR provides opportunities for deep engagement, critical reflection and action in the teaching and learning process and also supports teachers to have more confidence to find solutions to problems faced in their classrooms (Hathorn & Dillon, 2018).

Why Action Research

Action Research gained a great concern among researchers as an influential tool for teachers' professional development where PK and attitude are key component of it. They found a range of merits of AR as in the following: (Hathorn & Dillon, 2018, Yigi & Bagceci, 2017, Mertler, 2013, Martell, 2014, Steele, 2012, Chiou-hui, 2010, Stringer et al., 2010).

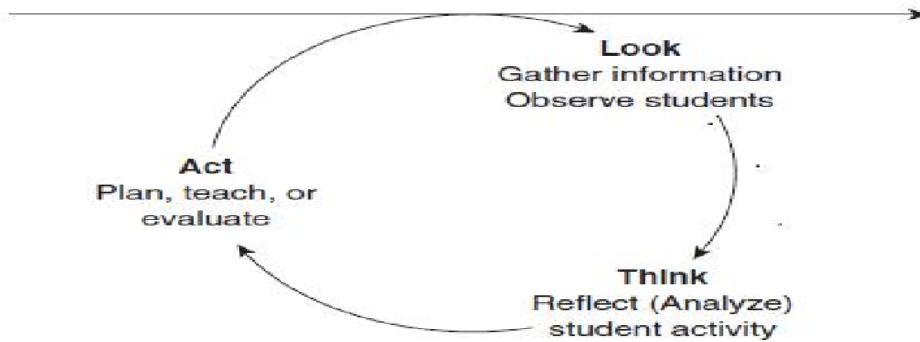
- It alerts teachers of the gap between their teaching and students' learning.
- It heightens teachers' awareness of their strengths and weaknesses.
- It expands teacher professional capacities and concerns.
- It develops teachers' practical professional knowledge.
- It positively influences teachers' efficacy and attitude towards their teaching profession
- It effectively increases teachers' engagement in work.



- It provides teachers with a framework to systematically check their teaching practices.
- It promotes teachers' constant professional development.
- It gives teachers a good opportunity to think critically and reflectively on their own classroom practices.

Action Research Model

A number of AR models are presented in literature. Stringer's model (2010) is one of the most famous one in which elements of AR is presented as a cycle. This cycle includes three basic phases as shown in the following figure:



According to the above figure, **Look** is the first phase which allows teachers (in-service or pre-service) to gain a better understanding of the issue presented through gathering more information. **Think** is the second phase which helps teachers to check the implementation and achievement of the different targets and **Act** is



the last phase which is more concentrated on evaluation and giving feedback. Conducting AR using this cycle helps teachers to systematically reflect on classroom problems and planning in order to move forward and enhance their teaching performance.

Generally speaking, doing AR encourages teachers to grow professionally, to widen their own PK and creates a positive attitude towards teaching. It paves the way to further fostering teachers' professional development and understanding of different classroom settings. Through AR teachers are engaged in the process of planning, action, observation, and reflection.

Literature Review

An ample number of studies revealed the effectiveness of conducting AR in educational settings. Some of the studies revealed its impact on the general professional development of teachers. For example, in an attempt to explore Educational Reform with Action research in UAE, Hathorn and Dillon (2018) investigated teachers' experiences of Action Research as professional development with the purpose of improving pedagogy. They used a survey as a tool of collecting data for the study. Findings of the study found that teachers should be given more individual support to apply AR process and they should be allocated more time to work on classroom-based research as it had an effect on their professional development. Similarly, the aim



of Yigit & Bageci's study (2017) was to explore the contribution of action research to teachers' professional development. The study was a kind of a case study in which teachers were asked their opinions about the impact of AR on their professional development. The study concluded with teachers' emphasis on the positive impact of AR on their professional development in various aspects.

Aligned with the above studies, Emily (2016) attempted to find an answer to the impact of AR on language teachers' professional development. The researcher used teachers' reports on conducting AR, online survey, and semi-structured interviews as basic tools of the study. Results of the study were so encouraging and promising as they showed that teachers' engagement and involvement in AR program had a significant impact on their professional development. The study suggested covering other aspects when conducting AR for its great influence on teachers' professional performance. Having a great belief on the impact of AR on teachers' professional development, Emily and Burns (2016) continued working on AR and raised a question on the sustainability of the impact of AR. To achieve this end, they used survey and interviews which, according to analyzed data, clarified that teachers felt more confident and engaged in research after conducting AR. Data also revealed that teachers' motivation and positive attitude is so crucial to ensure the sustainability of the impact of AR over time.



In order to examine teachers' perception on AR, Morales et al. (2016) used a survey and interviews with teachers to achieve that end. Results indicated that teachers built positive feelings and views when applying AR as it helped them to enhance their students' learning, particularly in science and mathematics. They addressed the importance of integrating AR for further professional development of teachers.

Other studies are concerned with the PK aspect. For example, Evens et al. (2018) investigated the importance of integrating PK (pedagogical content knowledge (PCK), pedagogical knowledge (PK), and content knowledge (CK) in teacher education programs. In order to measure these domains of professional knowledge, three tests were given to the experimental group. The mean scores increased between pretest and posttest for each knowledge domain. The study emphasized integrating PK in pre-service teacher preparation programs.

Emran's study (2017) attempted to explore how action research acts as means of pushing student teachers' professional attitude forward. The researcher used a professional attitude scale as a tool for the study. The study investigated the effectiveness of a program based on AR on third year English majors' professional attitude. Findings of the study revealed that AR was so effective in improving and encouraging a



positive attitude towards the teaching profession. The findings of a study carried out by Said et al. (2013) through using a questionnaire for nearly 250 teachers revealed that there is a strong relationship between the professional attitude of teachers and their teaching performance. They also recommended, as revealed from data, to improve teachers' professional attitude through ongoing professional development and applying innovative ways for training. In a study conducted by Halim et al. (2010) investigated AR from another perspective. The study attempted to explore the impact of AR on the professional development of supervisor and student teacher in a practicum setting. Findings showed that there is an improvement of subject matter knowledge and pedagogical content knowledge of student teachers and research skills were developed. According to the results of the study, AR was found so useful for both the student teacher and the supervisor as it also enabled them to reflect on their act of supervision to enhance student learning.

From the aforementioned review of literature, it is clearly evident that AR found to be very useful and effective in fostering pre-and in-service teachers' professional development in general and PK and attitude in particular. It is perceived as an 'empowering experience'. Despite the increasing concern about AR and its importance and effectiveness, studies are still insufficient in the Arab World and particularly in Egypt. In addition, only one study in the area around



(Emran, 2017) referred to the effectiveness of AR in developing student teachers' professional attitude, but no one study referred to its effectiveness in fostering the PK of General diploma. Accordingly, more studies are needed to explore the effectiveness of AR in promoting both PK and attitude of General diploma. This is the objective of the current study which attempted to fill the gap in this aspect

Background of the problem

EFL general diploma students joined the Faculty of Education to be proficient teacher in the future. They are enrolled different educational courses for this end as they are academically well-prepared but not educationally. They didn't have any background information about the different areas of PK and they lacked the basic competencies, skills and techniques of teaching (e.g. basic knowledge of planning a lesson, dealing with students in the class, preparing suitable teaching aids or having the technique of solving any problem they encountered in class). Having previous experience on teaching and observing EFL general diploma students in teaching practice in previous years, the researcher found that they still lacked the PK and techniques needed although they had a whole term of practicing teaching and had different educational courses. Therefore, as prospective teachers, they need to be taught in a different way to acquire these basic skills and knowledge required in teaching. They



need an intensive training program to accomplish that end. They also need an innovative way of teaching, from the beginning, to learn how to be reflective, competent and professional teachers in the future. This urged the researcher to think of a method that could help them to acquire and demonstrate those basic elements of being a successful teacher and be more involved in their own learning.

To document the problem, two preliminary ways of collecting data were used to investigate EFL general diploma students' professional knowledge, attitude and belief on teaching.

The first source was an informal interview conducted with a number of EFL general diploma students in the previous year. Data revealed that the majority of them clarified that they feel bored and unmotivated in most of the courses as they were basically taught through lecturing. They also confirmed that lecturing was not effective on them to acquire knowledge and skills needed for practicing teaching in school

The second source was the questionnaire applied on EFL general diploma students (the participants of the study) to explore their knowledge and skills of PK and attitudes towards the profession. Data from the questionnaire confirmed the same results obtained from the informal interview. Consequently, the rationale of conducting the current study was twofold. The first one was to shed more light on the



kind of PK needed by EFL general diploma students and the second to teach them how to reflect on their performance aiming to improve it.

Piloting

Prior to commencing the collection of data of the main study, the researcher conducted a pilot study of the research instruments. The pilot study was conducted two weeks before implementing the program to test the validity and reliability of the instruments. Participants of the pilot study were thirty 4th year English Majors at the Faculty of Education, Minia University. Face validity of all tools was determined by consulting a panel of experts, whereas the internal validity was decided by internal consistency or Cronbach Alpha Coefficient. The reliability of all tools was determined by Cronbach Alpha Coefficient and test-retest. The pilot study revealed that all tools were valid and reliable for the actual experimentation.

Statement of the Problem

Based on the results obtained from the pilot questionnaire, it became evident that EFL general diploma students need to develop their Professional Knowledge. Reviewing literature, Action Research is found to be effective for achieving this purpose. Therefore, the present study was an attempt to answer the following question:

- "How far is the effectiveness of using an action research-based program in promoting professional knowledge and attitude of



EFL general diploma students at the Faculty of Education, Minia University?

More specifically, this major question was branched into the following questions:

- What are the basic features of the suggested AR program?
- How far is the effectiveness of using AR program in promoting the overall professional knowledge of EFL general diploma students at the Faculty of Education, Minia University?
- How far is the effectiveness of using AR program in promoting the professional knowledge domains of EFL general diploma students at the Faculty of Education, Minia University?
- How far is the effectiveness of using AR program in promoting the overall professional attitude of EFL general diploma students at the Faculty of Education, Minia University?
- How far is the effectiveness of using AR program in promoting the overall professional attitude domains of EFL general diploma students at the Faculty of Education, Minia University?

Objectives of the Study

The present study was conducted to achieve the following objectives:



1. Identifying the effectiveness of using AR program in enhancing the overall professional knowledge of EFL prospective teachers at the Faculty of Education, Minia University.
2. Identifying the effectiveness of using AR program in enhancing the different professional knowledge domains of EFL prospective teachers at the Faculty of Education, Minia University.
3. Identifying the effectiveness of using AR program in enhancing the overall professional attitude of EFL prospective teachers at the Faculty of Education, Minia University.
4. Identifying the effectiveness of using AR program in enhancing the professional attitude domains of EFL prospective teachers at the Faculty of Education, Minia University.

Hypotheses of the Study

The following hypotheses were tested:

1. There would be statistically significant differences between mean scores of the Experimental group in the pre and post administrations of the overall professional knowledge test in favor of the post administration.
2. There would be statistically significant differences between mean scores of the Experimental group in the pre and post administrations of the professional knowledge test in favor of



the post administration in each professional knowledge domain.

3. There would be statistically significant differences between mean scores of the Experimental group in the pre and post administrations of the overall professional attitude scale in favor of the post administration.
4. There would be statistically significant differences between mean scores of the Experimental group in the pre and post administrations of the professional attitude scale in favor of the post administration in each professional attitude domain.

Significance of the Study

The present study was expected to be significant in constructing a program particularly directed to prospective teachers to enhance their basic PK and their attitude towards the profession. The study might be significant to pre-service students as it provides an instructional strategy based on using different tasks and activities. The findings of the present study could be both theoretically and practically significant for EFL in-service teachers, curriculum designers and researchers.

Delimitations of the Study

1. The study was delimited to 30 (the total number of students) EFL general diploma students at the Faculty of Education, Minia University. General diploma was chosen, particularly, because they



- basically joined the faculty of Education to be teachers and they had a particular course entitled "Micro-teaching" in which they were trained on teaching. They were prospective teachers who need to demonstrate some basic PK and skills to make use of them in their teaching. Preparing to be teachers, they also needed to enhance their attitude towards the teaching profession.
2. The treatment lasted for the whole term (from September till December) in the first term of the academic year 2018-2019, Four hours per week.
 3. The PK domains were limited to the indicators that are most needed by EFL prospective teacher and these were decided upon after administering a questionnaire on a sample of those students, TEFL staff members and experts. These domains were:
 - Knowledge of Subject matter
 - Knowledge of EFL Pedagogy
 - Knowledge of General Pedagogy
 - Knowledge of Educational Measurement and Evaluation
 4. The professional attitude domains were limited to the indicators that are most needed by EFL prospective teacher and these were decided upon after administering a questionnaire on a sample of those students, TEFL staff members and experts. These domains were:



- Professional Identification
- Building Rapport
- Code of conduct

Definitions of Terms

Action Research

According to Yigit and Bagceci (2017), Action Research is “based on solving problems through research by teachers’ following a certain process for a specific problem, stands as an alternative with regard to offering a solution to teachers’ professional development”.

For Martell (2014) AR is “a form of enquiry that enables practitioners everywhere to investigate and evaluate their work”.

Stringer et al. (2010) gave another definition of AR which is “the systematic collection and analysis of data relating to the improvement of some aspect of professional practice”.

AR is operationally defined in this study as the process of teachers’ self-reflection on their own performance through following certain systematic steps.

Professional knowledge

According to Wikipedia (2019) PK is “the standards of education and training that prepare members of the profession with the particular knowledge and skills necessary to perform their specific



role within that profession”.

Kleickmann et al. (2013) defined PK as “broad principles and strategies of classroom management and organization that appear to transcend subject matter”.

The operational definition of PK is the kind of knowledge that assists teachers to perform their work effectively in classroom settings (e.g. classroom management, assessment, lesson planning, teaching and learning resources, etc.).

Professional Attitude

Renthle & Malsawmi (2015) believed that the professional attitude is the “tendency of individuals that affects success and satisfaction”.

According to Bujor and Schipor (2015) professional attitude is defined as a “predisposition, feeling, emotion, or thought that upholds the ideals of a profession and serves as the basis for profession”.

Professional Attitude is operationally defined in this study as the reaction, concepts, beliefs and feelings that teachers have towards the teaching profession.

Research Design

The study adopted a one group design. Thirty EFL general diploma students were submitted to an intensive AR program. Students were trained to apply the AR model (LTA: Look, Think,



Act) in dealing with classroom teaching problems. The data were gathered by a pre -post PK test and pre -post PK attitude scale.

Variables of the Study

Independent Variable

Using an Action Research-Based program

Dependent Variables

- 1- Developing students' professional knowledge.
- 2- Developing students' professional attitude.

Control Variables

All students were EFL general diploma students.

Instruments of the study

1. A Professional Knowledge checklist
2. A Professional Knowledge questionnaire
3. A Professional Knowledge test
4. A Professional Attitude scale

1. A Professional Knowledge Checklist

The checklist aimed at identifying the different domains of the PK that are mostly needed by EFL general diploma students. For the validity of the checklist, it was submitted to a panel of 7 qualified and experienced TEFL specialists. They were asked to assess its validity and appropriateness for the purpose of the research and to choose the basic PK domains. The jury members confirmed the suitability and



applicability of the checklist. The checklist consisted of ten items to which students responded with either 'Needed', 'Not Needed' or 'Not sure'. The checklist was modified to be four crucial PK domains according to the jury members' choice (For final form, see appendix A).

2. A Professional Knowledge Questionnaire

The questionnaire aimed at identifying the different indicators of the PK domains. It consisted of four basic domains under which there were many indicators related to each one. It was administered to a panel of eight TEFL specialists who were asked to evaluate the relatedness of these indicators with regard to each domain. Indicators were tailed into ten ones under each domain according to the viewpoint of the TEFL experts. The jury members, approved the face validity of the questionnaire, its suitability and necessity for the participants (For final form, see appendix A).

3. A Professional Knowledge Test

Objectives: This test was designed to:

- 1- Assess EFL general diploma students' performance
- 2- Measure the degree of improvement after the program is over.

The test consisted of forty multiple choice items. Questions were written in the form of different situations. Each situation is followed by a question. The total score of the test is (40) points.



Testing time was 90 minutes (For final form, see appendix A).

Validity of the Test

Face Validity:

The test was submitted to a jury of 8 qualified and experienced TEFL specialists. They were requested to evaluate the linguistic stating of the items, appropriateness, clarity of instructions, difficulty level, length, applicability, and fitness of the items for the participants, and how far the items measure the skills they are intended to measure. Their suggestions were taken into consideration. They confirmed the suitability, validity and applicability of the test.

The Internal Consistency of the Test Items

The validity of the test was determined by computing internal consistency of each question. This was calculated by using (Pearson correlation formula). Correlation coefficients between each item and the total sheet of the test ranged from 0.308 to 0.735 (For more details, see appendix (B)). Correlation coefficients between each domain and the total sheet of the test ranged from 0.645 to 0.853 as shown in Table (1) below. This indicates that the test has high validity.

Table (1) Correlation Coefficients between each domain
and the total sheet of the of the Professional knowledge test No.=30

No	Domain	R
1.	Knowledge of Subject matter	0. 645*



No	Domain	R
2.	Knowledge of EFL Pedagogy	0.713*
3.	Knowledge of General Pedagogy	0.853*
4.	Knowledge of Educational Measurement and Evaluation	0.764*

*Significant at 0.01 level

The Reliability of the Test

The reliability coefficient of the test was determined by two ways: Cronbach Alpha which was (0.911) as shown in Table (3) and test-re-test method in which the correlation coefficient was 0.970 and t-value was 0.16 as shown in Table (2). This shows that the PK test enjoys a high degree of reliability.

Table (2) Test-Retest correlation coefficient of the of
the Professional knowledge test

No	Group	Mean	SD	DF	t.value	R
30	Test	26.60	3.07	58	0.16**	0.970*
30	Re-test	26.73	3.14			

*Significant at 0.01 level

**Not Significant at 0.01 & 0.05 levels

Table (3) Cronbach Alpha reliability Coefficient of
Professional knowledge test

No	Variable	Alpha
30	Professional knowledge	0.911*

*Significant at 0.01 level



4. A Professional Attitude scale

Objectives: This scale was designed to:

- 1- Assess EFL general diploma students' attitude towards the teaching profession.
- 2- Measure the degree of improvement after the program is over.

The researcher developed this scale in order to figure out students' interest and attitude towards the teaching profession before and after the submission of the training program of AR. This scale includes three main domains (ten items in each one) that represented TEFL experts' view about teaching profession: Professional identification; Building rapport and Code of conduct. It is a five point rating scale ranging from strongly agree to strongly disagree given to each statement. The students' role is to choose the alternative that best suits their view about teaching. For final form see Appendix (A).

Scoring of the scale

The ratings of the scale were numerically treated. Each item was given a score from one to five. Consequently, the total score was the same as the total number of points given for each statement regarding students' view of teaching (150 score).

Validity of the scale

The scale was submitted to jury of TEFL experts to assess its validity according to the following criteria: linguistic stating of items, its



applicability, relatedness and fitness. The jury confirmed the suitability and applicability of the scale, hence, confirmed its validity.

The Internal Consistency of the Scale Items:

The validity of the scale was determined by computing internal consistency of each domain. This was calculated by using (Pearson correlation formula). Correlation Coefficients between the each item and the total sheet of the scale ranged from 0.384 to 0.799 (For more details, see appendix (B). Correlation Coefficients between each domain of the scale and the total were found to be 0.854 for the personal identification domain; 0.868 for building rapport domain and 0.753 for the code of conduct domain. They were significant at 0.01 levels. This shows that the scale enjoys a high degree of validity.

The Reliability of the Test

To ensure the reliability of the scale, it was estimated by two ways: Cronbach Alpha which was (0.921) as shown in Table (4) and test-re-test method in which the correlation coefficient was 0.971 and t-value was 0.18 as shown in Table (5). This shows that the professional attitude scale enjoys a high degree of reliability.



Table (4) Cronbach Alpha's reliability coefficient of the Professional Attitude Scale

No	Variable	Alpha
30	The Professional Attitude	0.921*

*Significant at 0.01 level

Table (5) Test -Retest correlation coefficient of Professional Attitude Scale

No	Group	Mean	SD	DF	T.value	R
30	Test	67.47	6.21	58	0.18**	0.971*
30	Re-test	67.77	6.56			

*Significant at 0.01 level **Not Significant at 0.01 & 0.05 levels

Procedures Followed in Teaching the Experimental Group

- The treatment group was taught using the AR program that was developed by the researcher. The implementation of the research lasted for the whole term (four hours each week). The training program adopted Stringer's model of AR (2010) which was divided into three basic phases **Look, Think** and **Act (LTA)**: the first phase was (**L**) **look** in which students built a general picture and gather information about the topic or the situation at hand; the second (**T**) **Think** in which students interpreted and explained the topic or the situation and make a plan; and the third phase (**A**) **Act** in which the students really carried out the prepared plans and reflect on it as presented previously.



- In the first session, the researcher posed a question to arouse students' interest and motivation about the title "AR and PK followed by a general introduction on the steps of AR and the different domains of PK i.e. knowledge of general pedagogy, knowledge of subject matter, knowledge of EFL pedagogy and knowledge of educational measurement and evaluation.
- The session usually began with the first phase of AR cycle **Look** in which watching a video about the target topic in order to gather information about the topic presented in the video. The instructor tried to stimulate students' knowledge about AR and PK through some leading questions. The first phase was devoted to introducing information and knowledge for students on different issues in action research.
- After collecting information about the different topics through videos, students began the second phase of AR cycle **Think**. In this phase students were engaged in analyzing and reflecting on classroom problems presented on these videos. In order to increase their participation, they were given an opportunity to make an open discussion for 10 min about their ideas, reactions, thoughts and knowledge. For example, in one of the sessions in which knowledge of general pedagogy was presented, students were instructed in grouping learners in sizes to give more space



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for cooperation and collaboration among them and how to use gestures and eye contact to deal with trouble makers in class. In another session, they were instructed in designing different types of tests with different item types in the knowledge of educational measurement and evaluation domain. So, this phase was devoted to reflecting and analyzing what they have learnt to be prepared for the next phase. This stage paved the way for the students to execute the tasks efficiently and accurately. Students were also encouraged to write diaries, make peer observations and preparing portfolios as part of final step of assessment.

- The third phase of AR cycle was **Act** in which students were provided opportunities to accomplish real and authentic tasks on different PK domains (e.g. planning a lesson, designing different language tests, applying different techniques in teaching, using formative or summative evaluation, grouping students homogenously or heterogeneously, conducting self and peer evaluation, etc.). Students were engaged in the actual performance and applied the previously learnt knowledge to execute their activities. During this phase, students sometimes presented their own videos while they were teaching in school in the teaching practice periods to show how they apply what they'd learned through the training program in AR.



- Finally, the instructor provided them with constructive and instructive feedback concerning their knowledge and skills acquired through performing the task.

Findings

The present study was conducted to explore the effectiveness of using AR in promoting PK and attitude of EFL general diploma students. The “t-test” was utilized for the analysis of data obtained from the PK test and professional attitude scale. Scores of the participants on the pre-post tests were analyzed and compared.

Hypothesis (1)

The first hypothesis predicted that the experimental group would achieve higher in the post PK test. Results indicated that the experimental group's mean scores on the post administration of the whole PK test were higher and statistically significant as compared to the pre administration. T-value (28.62) is significant at 0.05 levels. Eta- squared is (0.91). Consequently, the first hypothesis is confirmed and accepted. See Table (6)

Table (6) Means, Standard Deviation and t-value & η^2 between mean scores of the Treatment Group in the total Pre- Post- Professional Knowledge Test

No	Treatment	Mean	S.D	DF	T-value	η^2
30	Pre	12.40	2.40	58	28.62*	0.910*
30	Post	32.83	2.00			

- Significant at 0.01 level



Hypothesis (2)

The second hypothesis anticipated that the experimental group would score higher on the post application of the PK domains. Results revealed that the Experimental group achieved a significant improvement on each domain of the post PK test as the difference in the mean scores between the pre and the post administrations was statistically significant. Results also showed that students got high marks on particular domains, i.e. (as t-values were high as shown in table (7). These results illustrate that the improvement of the Experimental group's performance was due to learning through the AR program which was found to be effective in enhancing PK of the participants. Consequently, the second hypothesis and its branches are confirmed and accepted.

Table (7) T-value & η^2 between mean scores of the Treatment group in the Pre- Post- Professional Knowledge Test domains

Domain	Mean Pre	Mean Post	SD Pre	SD Post	t-value	η^2
1- Knowledge of Subject matter	2.97	8.10	0.795	1.51	16.17*	0.919*
2-Knowledge of EFL Pedagogy	3.20	8.27	0.833	1.24	18.30*	0.922*
3- Knowledge of General Pedagogy	3.23	8.30	0.844	1.13	19.35*	0.937*
4- Knowledge of Educational Measurement and evaluation	3.03	8.17	1.05	1.46	15.36*	0.891*

- Significant at 0.01 levels



Hypothesis (3)

The first hypothesis anticipated that the experimental group would achieve higher in the post professional attitude scale. Results indicated that the experimental group's mean scores on the post administration of the whole professional attitude scale were higher and statistically significant as compared to the pre administration. T-value (8.24) is significant at 0.05 levels. Eta- squared is (0.93). Consequently, the third hypothesis is confirmed and accepted. See Table (8)

Table (8) Means, Standard Deviation and t-value & η^2 between mean scores of the Treatment Group in the total Pre- Post- Professional Attitude Scale

No	Treatment	Mean	S.D	DF	T-value	η^2
30	Pre	67.47	6.21	58	8.24*	0.933*
30	Post	87.17	11.27			

- Significant at 0.01 level

Hypothesis (4)

The fourth hypothesis predicted that the experimental group would score higher on the post application of the professional attitude scale domains. Results revealed that the Experimental group achieved a significant improvement on each domain of the post professional attitude scale as the difference in the mean scores between the pre and the post administrations was statistically significant. Results also showed that students got high marks on particular domains, i.e. (as t-values were high as shown in table (9)). These results illustrate that the



improvement of the Experimental group's performance was due to learning through the AR program which was found to be effective in enhancing professional attitude of the participants. Consequently, the fourth hypothesis and its branches are confirmed and accepted.

Table (9) T-value & η^2 between mean scores of the Treatment group in the Pre- Post- Professional Attitude Scale domains

Domain	Mean Pre	Mean Post	SD Pre	SD Post	t-value	η^2
1- Professional Identification	25.03	30.97	4.04	4.85	5.06*	0.993*
2- Building Rapport	22.77	29.53	2.03	4.17	7.86*	0.986*
3- Professional Code of Conduct	19.67	26.70	4.15	4.97	5.85*	0.964*

- Significant at 0.01 levels

Discussion

On the bases of previous results, improvement of general diploma students' PK and attitude according to the training program based on action research has been achieved. There is evidence that the proposed Action Research-based program (AR) had a significant effect on enhancing both of the dependent variables of the study: PK and attitude of EFL general diploma students. This is clear in the formerly presented statistical analysis where scores of the experimental group on the pre-post administrations of PK test and professional attitude scale were compared using t-test. The researcher attributes these results to the use of AR program which was found to



be efficient and useful for the experimental group. This is consistent with the results provided by previous studies that proved the effective role of AR program on enhancing students' professional attitude (e.g. Emran, 2017); on promoting their PK (e.g. Hathorn & Dillon 2018 and Halim et al., 2010) and on general professional development of pre-service teacher (e.g. Yigit, 2017 and Emily & Anne, 2016).

Actually, the program was very useful and efficient for students as it provided them with an adequate bulk of knowledge and information about different issues and topics related to PK which is considered as one of the basic elements of teaching. Dividing the session into three phases following Springer's cycle of AR helped students to be more engaged and involved in each step of their learning. It generally prepared general diploma students to be reflective teachers, which is the core of AR. Through the first phase **Look**, students were busy brainstorming in order to gather different data and ideas on the topic on hand and get a clear picture of it. This phase helped students to develop enquiry skills as they were always asking different questions on the topic (e.g. what other ideas relating to this issue, how to plan for it, what steps to be applied, how it is relevant to professional knowledge, how far it is essential for teaching, etc). Providing students with the opportunity to deeply think of the topic in advance by their own encouraged them to organize their work



and content and to handle any kind of pressures before moving on to the second phase. Through this phase, students also got rid of anxiety and fear of giving incorrect responses or expressing their ideas or view points as they worked together as a team and there was no right or wrong answers. This encouraged them to share information on topics they didn't handle before as stated by students e.g. *“Really, I liked working with others and exchange ideas on topics I didn't know before”*, *“This stage helped me to know more about teaching and encourage me not to be shy as I didn't know much about teaching”*. Preparing students in advance helped the instructor to get an accurate insight of their actual knowledge, abilities and skills. This phase was considered as the paved way for the next.

In the second phase **Think**, students were allowed to interpret, analyze, explain and recognize the key features of the topics being investigated. This phase had a great impact on developing students' PK as they have learnt the different domains of knowledge which could be the core of teaching: how to plan a lesson; to find feasible solutions to problems that might surface in classrooms; to detect the best modifications to be done to improve the teaching and learning process; to try new teaching methods in the classroom; and to observe firsthand how a strategy could be applied and how well it worked. In addition to this, they learnt how to design different tools of assessment



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(e.g. tests, observation sheets, conducting interviews, steps of creating portfolios, writing a diary for classroom events, etc.), how to teach the different language skills and how to select innovative and motivating teaching aids to attract their students' attention. This phase helped students to be acquainted with the basic PK and its different domains which helped them particularly, in teaching practice periods in schools as stated by students e.g. *“Actually, I tried to use AR cycle in teaching in my class and it works well and was interesting to the whole class”*, *“For me I enjoyed AR cycle here so it was so motivating for secondary students to be engaged in it for better understanding of the lesson”*.

With reference to the third phase **Act**, students were encouraged to apply what they learned in the previous phase and execute real activities. They were encouraged to keep up collaborative exchange of knowledge and information where they supported each other in their performance. The kind of activities that AR program offered assisted the students discover new abilities and skills in themselves which, consequently, increased their self confidence and motivation. They started to have a positive attitude towards teaching as stated by students, e.g. *“I become more confident and motivated to do different teaching tasks”*; *“I feel like teaching is a very interesting profession and I can do well with it”*; *“ I discovered new concepts of teaching I did not recognized before”*. These meaningful and enjoyable activities



and tasks not only assisted students acquire deeper understanding and develop interpersonal skills but also gave them authentic experiences that will help them be reflective teachers. Students actively and enjoyably participated in all the activities of AR Program. They were interested in practicing new activities and gaining new experience. They were so excited to plan for the next performance and presentation as every time they learnt a new skill and information.

Furthermore, encouraging students to evaluate their own and others performance-in the Act phase of AR cycle -enabled them to pay more attention to their points of strength and weakness. This motivated them to become more willing to self-correct and gain the skill of rebuilding and re-thinking of their knowledge and making modification and improvements in teaching performances. Actually, providing students with feedback , whether teacher or collegial, on how they use these skills and apply the acquired knowledge not only helped to create more positive relationships among students, but it also helped to increase their achievement, skills and knowledge. It is remarkable that AR program was so effective and significant in enhancing general diploma students' skills and PK and attitude.

Concerning the different PK domains and their indicators introduced in the program, statistical results showed that students typically enjoyed some domains and gained a deeper understanding of



their different indicators whereas they found others less motivating. This was evidently clear from the significant differences in t-value among the domains presented in the findings of the study. Students' progress on different domains can be described descendingly as follows: 1) Knowledge of General Pedagogy 2) Knowledge of EFL Pedagogy, 3) Knowledge of Subject matter, 4) Knowledge of Educational Measurement and evaluation. The greatest performance of students was on Knowledge of General Pedagogy domain, which indicates that tasks and activities were highly enjoyable, interesting and motivating for them. The least performance was on Knowledge of Educational Measurement and evaluation, which indicates that students found difficulty when executing tasks in this domain. Referring to the professional attitude domains, results also showed that students gained positive attitude towards domains more than others. For example, Building rapport got the highest score among other domains which means that students positively changed their professional attitude due to AR program on this domain.

In general, AR program provided opportunities for students to learn new knowledge and empirical skills effectively, actively and in authentic context. This is the essence of the call for developing not only pre-service but also in-service teacher' professional development in general and PK in particular through using AR as advocated by



researchers (e.g. Hathorn and Dillon, 2018, Yigit, 2017 and Capel et.al, 2016).

Conclusion

The findings of the study reflect the utility of AR program in enhancing general diploma students' professional knowledge and attitude. Students highlighted the benefits of using AR program as they gained a bulk of professional knowledge about certain terms and issues related to teaching which was so useful for them as prospective teachers. They indicated that they enjoyed the different phases of AR program which were very motivating and interesting. They were satisfied with learning through performing their activities and tasks in front of the whole group which gave them more confidence and challenge to get rid of tension and pressure when facing the same situation in teaching practice periods in school.

After submitting the AR program, general diploma students had an analytical and a comprehensive vision of looking at classroom incidents. Evidently, students began to think and teach reflectively depending on AR cycle which organized their work and made teaching easier for them. AR training program changed general diploma concepts of teaching from just presenting knowledge to students into reflective teachers who always enquire and reflect on their own and peers performance aiming to modify weakness and



promote strength in order to move the process of teaching and learning forward.

AR program encouraged students to keep records, design tools and communicate with each others. It increased collaboration among students as it gave them opportunities to effectively share and discuss ideas and topics, feelings, opinions and to prepare plans for their next performance. AR keeps students on their toes as there is always something new to learn, new discoveries which makes teaching very motivating exciting for them. It helped prospective teachers to be capable of searching for suitable answers to existing problems in the classroom. AR increased students' capacity for detecting and analyzing areas for improvement and perfection.

The study concludes that the use of AR program has a significant impact on the students' teaching performances. Undoubtedly, results gained from the quantitative data are clear empirical evidence that the program works effectively.

However, more research is needed on using AR as tool for developing professional development for both pre-and in-service teacher. Teacher Education programs should focus on preparing prospective teachers to be reflective practitioners more than just teachers with a bulk of knowledge. This will help students making correct decisions in classroom incidents as suggested by advocates of



using AR (Hathorn and Dillon, 2018, Garcés & Granada, 2016 and Emily, 2016).

Suggestions for further studies

Studies could be done to investigate:

1. The effect of using AR on developing students' different language assessment skills and motivation.
2. The effect of using AR on developing students' critical thinking skills.
3. The effectiveness of using AR on improving students' teaching practice periods and self efficacy.
4. The effectiveness of using AR on enhancing students' general professional development in Egypt.
5. The effectiveness of using AR on enhancing mentoring.



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