The Impact of Mentoring Program on In-Service Teachers' Perceptions and Self-Efficacy

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Abstract

Teacher turnover has been increasing nowadays and novice teachers often complain from the teaching load and confront burnout. Mentors, as well, lack sufficient mentoring skills and have negative perceptions toward mentoring; which affect their self-efficacy. Research on mentor perception and self-efficacy is also sparse. Therefore, this study aimed at exploring the effects of a mentoring preparation program on 15 Egyptian EFL in-service teachers' efficacy and perceptions of mentorship. The study sought to identify the benefits, barriers, and mentoring strategies during this six-week program. In this mixed-methods study, participants completed a Mentor Efficacy Scale (MES) and a perception questionnaire before the program. Participants filled out mentor logs reflecting on and reporting their activities with mentees. After the program, the MES scale, perception questionnaire, and semi-structured interviews were administered. Results showed that the greatest strengths of the mentoring program were empowering teachers professionally, improving communication and problem-solving skills, and using sustainable mentoring strategies. Participants used some mentoring strategies: setting goals, building effective relationships, observation and conferencing, peer-mentoring, and co-teaching. The study recommends building sustainability in professional development by designing contextual mentoring programs and cultivating mentoring culture in schools.

Keywords: mentoring, professional development, perceptions, self-efficacy, EFL in-service-teachers.

تأثير برنامج التوجيه على تصورات المعلمين أثناء الخدمة والكفاءة الذاتية

المستخلص

تزايد معدل ترك المعلمين لوظائفهم في الوقت الحالي حيث غالبًا ما يشتكي المعلمون المبتدئون من عبء التدريس ويواجهون الإرهاق. كما يفتقر الموجهون إلى مهارات التوجيه الكافية كما أن لديهم تصورات سلبية تجاه التوجيه ؛ والذي يؤثر بدوره على كفاءتهم الذاتية. كما أن الأبحاث التي تناولت تصورات الموجهين والكفاءة الذاتية قليلة أيضًا. لذلك ، هدفت هذه الدراسة إلى استكشاف آثر برنامج التوجيه على فعالية 15 معلماً أثناء الخدمة للغة الإنجليزية كلغة أجنبية في مصر وتصوراتهم للتوجيه. وقد سعت الدراسة إلى تحديد الفوائد والمعوقات واستراتيجيات التوجيه خلال هذا البرنامج الذي استمر ستة أسابيع. وفي هذه الدراسة ذات المنهج المختلطة ، أكمل المشاركون مقياس كفاءة الموجه (MES) واستبيان التصورات قبل البرنامج. كما قام المشاركون بملء سجلات الموجهين لوصف أنشطتهم مع المتدربين. بعد البرنامج ، تم إجراء مقياس MES واستبيان التصورات والمقابلات شبه المنظمة. وقد أظهرت النتائج أن أعظم نقاط القوة في برنامج التوجيه كانت تمكين المعلمين مهنيًا ، وتحسين مهارات الاتصال وحل المشكلات ، واستخدام استراتيجيات التوجيه المستدامة. وقد استخدم المشاركون بعض استراتيجيات التوجيه مثل: تحديد الأهداف ، وبناء علاقات فعالة ، والمراقبة والمؤتمرات ، وتوجيه الأقران ، والتعليم المشترك. وتوصي الدراسة ببناء الاستدامة في التطوير المهني من خلال تصميم برامج التوجيه سياقية وغرس ثقافة التوجيه في المدارس.

الكلمات المفتاحية: التوجيه ، التطوير المهني ، التصورات ، الكفاءة الذاتية ، معلمي اللغة الإنجليزية كلغة أجنبية أثناء الخدمة.

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1. Introduction

Roberts (2000) defines mentoring as "a supportive relationship; a helping process; a teaching and learning process; a reflective process; a career development process; a formalized process; and a role constructed by or for a mentor" (p.145). It is a complex social process where mentors are responsible for creating strong relationships with mentees by being more knowledgeable and experienced (Fowler, 2012). It also addresses the challenges and difficulties facing novice teachers who have little or no support (Clark & Byrnes, 2012). One of these challenges is adapting to the new culture of the organization; therefore, Sterrett and Imig (2011) stress that the turnover rate in the beginning of a teacher's career is high. Thus, they can be retained by providing them with support from mentors and school administrators to feel comfortable in the new environment.

Research showed many positive effects of mentorship programs on teachers' professional development (Hellsten, et al., 2009; Porumb, 2015). Thus, the Ministry of Education in Egypt offers many Professional Development (PD) programs to in-service teachers; however, none of them tackle mentorship. Some private educational institutions provide context-based mentoring programs that are inclusive to their teachers. These programs can be formal where objectives, responsibilities of mentors and mentees, and evaluation methods are specified. In this case, the school administration pairs the mentors and mentees. Other programs can be informal or casual which might not be well-structured as they rely on peer mentoring

by assigning experienced teachers to mentor novice colleagues. Besides, the Regional English Language Office (RELO) at the American Embassy in Cairo conducts an annual Mentor Training Program for in-service EFL teachers since 2016.

At the beginning of 2019, the researchers announced the launching of a mentor training program for Egyptian EFL in-service teachers. The "Capacity Building for Egypt's 2030 Vision on Education" program was funded by the Institute of International Education (IIE) and sponsored by the US Embassy in Cairo. The program aimed at equipping in-service teachers with the necessary knowledge and competencies to sustain the development of their institutions. This paper reported the impact of this mentoring preparation program to explore the participants' perceptions and efficacy and suggest a developmental plan for their institutions.

The findings of this study will contribute to mentoring program designing in Egypt to create context-specific programs to promote the skills of in-service teachers and prepare them to be effective mentors. Additionally, the study will enrich the research in mentors' perception and self-efficacy and provide researchers with tools to investigate mentors' perceptions and beliefs. The findings can raise the awareness of mentors, mentees, and school administrators with the principles and roles of each; thus they collaborate to enhance the professional development of in-service teachers.

2. Literature Review

Conceptual framework

The Social Cognitive Theory formed the conceptual framework for the present study. This theory viewed beliefs as continually formed and reshaped through experience and interaction with others in a learning environment to enhance perception of one's personal abilities. According to Bandura (1997), self-efficacy means the beliefs in one's own abilities and capabilities to plan and perform

certain actions to produce goals. Bandura (1997) assumed that individuals with high outcome expectancy and self-efficacy would behave confidently. Hence, mentors who believe in novice teachers' professional growth by successful mentoring (outcome expectancy) and in their mentoring skills (mentor efficacy) would probably exert more effort and maintain a healthy relationship with their mentees than mentors with lower self-efficacy. Mentor efficacy directly influence mentoring quality as well as mentors' perceptions of new teachers (Gibson & Dembo, 1984).

The study also draws upon the principle of socio-cultural theory of the importance of the socially constructed interaction in which learning happens. Vygotsky (1978) social constructivist perspective and the concept of the Zone of Proximal Development constitute the core for the mentoring process. By this token, mentees have the chance to interact and learn from mentors and vice versa through observing each other's instructional practices. Therefore, self-efficacy and perception of both parties will consequently increase. Teacher self-efficacy and perception are influenced by the availability of resources and professional development opportunities, and the provision of support and mentoring. Mentoring has a psychosocial function encompasses role modeling, agreement, and counseling (Kram, 1985).

In this sense, the mentoring process in this study can be defined as the professional developmental experience in which mentors work as guides, coaches, and counselors for their mentees who are EFL in-service teachers. They work together in a safe environment to build informal relationships by agreeing on specific goals and sharing predetermined plans to promote their instructional practices and overcome common challenges.

Roles of mentor and mentees

Since mentoring is an interactive and dynamic process, mentor and mentee's roles are interconnected based on the roles undertaken by

both parties. Burks (2010) asserts that mentoring is a counseling two-way relationship between two equal partners. The mentor acts as a guide, facilitator, and coach. In this sense, mentors promote their leadership and instructional knowledge and skills; whereas mentees listen attentively to mentors' suggestions, bring their own expectations, goals and perceptions to strengthen the relationship, and make use of feedback to enhance teaching practices. According to Hudson (2013), this can be achieved through modeling effective practices, keeping updated about new pedagogical trends, offering professional development opportunities, encouraging reflective teaching, and providing constructive feedback with mentees. Hence, mentees must engage in discussions and observations and reflect on their own practices. They should take responsibility for their own learning by setting personal and professional goals and assessing their own progress. This leads to acceptance, agreement, and confirmation from both sides of the mentoring process. However, Ingersoll and Strong (2011) highlighted some problems that might arise in the mentoring relationship and cause tension such as time restriction, lack of trust, and differences in backgrounds or expectations and goals. Therefore, mentors should create trust and maintain confidentiality through active listening and sharing personal experiences and teaching backgrounds with mentees.

Benefits of mentoring programs

The mentoring preparation program is a multifaceted process that benefits mentees, mentors, and the organization. Mentorship reinforces mentees' professional development, enhances their teaching-efficacy, guides their professional goal-setting, prepares them to face challenges, and cultivates the new organization culture (Phillips & Fragoulis, 2010; Porumb, 2015). Besides, a mentoring program promotes mentors' ability to reflect on their teaching practices (Mathur, Gehrke & Kim, 2013). Veteran teachers find mentorship a rewarding experience as it fosters their knowledge and communication skills, promotes leadership and reflective skills,

strengthens professionalism and commitment to mentees' professional growth, and increases efficacy and self-esteem. Therefore, mentors should be supporters, role-models, facilitators, assessors, collaborators, and communicators (Phillips & Fragoulis, 2010).

Furthermore, the mentoring program creates a positive organizational environment, boosts professional growth and teachers' satisfaction, establishes better reputation and values for the organization, and improves students' learning. However, the lack of administrative support and necessary resources might hinder achieving the desired outcomes of the mentoring program (Ehrich & Hansford, 1999). These benefits may be affected by time constraints, teachers' workload or unavailability, and mentors' resistance to share their experience or support (Ponte & Twomey, 2014; Salleh & Tan, 2013).

The availability of adequate time for mentoring activities, supportive working environment, effective and experienced mentors, setting-based programs that meet the mentees' needs, and organizational culture that promotes professional development facilitates a successful mentoring program (Anagnou & Fragoulis, 2014; Gardiner & Weisling, 2018). With regards to the literature on the impact of mentoring programs on mentors' efficacy, Chizhik, Chizhik, Close, and Gallego (2018) proposed a Shared Mentoring in Learning Environments (SMILE) model to provide student-teachers with a shared understanding of university supervisors. The analysis of the applications of the efficacy questionnaire, interviews, and evaluation questionnaire revealed an improvement in experimental group teachers' self-efficacy and practices. Similarly, Gardiner and Weisling (2018) conducted a qualitative study to explore the experience and challenges of first-year mentors. Interviews analysis showed negative relationships with school administration and student-teachers and difficulty in applying knowledge affected mentors' self-efficacy.

As for mentors' perception, Schacter, Gilbert, and Wegner (2011) pointed out that perception includes organization, identification, and understanding to form a mental representation of a feeling. Many studies have investigated the effect of mentoring programs on mentors' perceptions. For example, the effect of peer mentoring on creating the professional identity of novice teachers in Finland was investigated in Kupila and Karila (2018)'s study. The interviews and diaries revealed that beginning teachers perceived peer mentoring as beneficial to develop their professional identity. Janikula (2017) sought to explore the effect of a mentoring program on 12 teachers' preparedness (6 mentors and 6 mentees) at a public school in the United States. A self-evaluation questionnaire and interviews occurred before the training to assess mentoring perceptions. Mentees filled in timesheets to reflect on their mentoring activities in lesson preparation. Results showed that mentorship slightly affected novice teachers' preparedness, whereas participants reported that the program was beneficial for their professional development.

Likewise, Mackie (2017) aimed at exploring the perceptions of mentors and mentees on mentoring. Interviews were administered to six mentors and their student-teachers. Results showed that participants perceived mentoring as a complex multidimensional process that guides them professionally. Riebenbauer, Dreisiebner, and Stock (2017) identified the main elements of successful mentors and mentoring programs. 188 student-teachers and mentors accessed an online end-of-program survey to explore teachers' perceptions of their competence as mentors. Findings showed improvement in perceptions and a better understanding of the role of feedback and reflection in mentoring.

Moreover, Tonna, Bjerkholt, and Holland (2017) investigated reflective mentoring practices of new mentors, university instructors, and student-teachers from the Republic of Ireland,

Malta, and Norway through three mixed-methods studies. Results indicated that to promote reflective skills, mentors have to use developmental, collaborative, and inquiry-oriented approaches to mentoring. Additionally, Beutel, Crosswell, Willis, Spooner-Lane, Curtis, and Churchward (2017) investigated mentor-teachers' personal and professional benefits from the Mentoring Beginning Teachers (MBT) program in Australia. Findings from interviews and focus groups showed that the benefits of the program included establishing a common ground with mentees, collaborating inquiry approach to mentoring, enhancing self-awareness, and using self-reflection and critique approaches.

Sheridan and Young (2016) employed the social learning theory to identify perceptions and experiences of mentors and pre-service teachers during the practicum in Australia. Interviews with six participants showed that professional conversations contributed to the establishment of strong relationships between mentors and mentees. The "joint enterprise" was perceived as an important element in a successful mentoring process. Improving the shared repertoire (language, routines, stories, and tools) was also found to be effective in promoting pre-service teachers' competencies. Hudson and Hudson (2016) examined the impact of a mentoring program on novice teachers in Australia with a focus on goal setting. Interviews and document analysis indicated that "negotiated goal setting" helped meeting career standardized goals, enhancing mentor-mentee relationships, and familiarizing mentors with their responsibilities.

Based on this review, it is clear that previous research focused either on mentors' perception or self-efficacy. Little research has been conducted to examine the influence of mentorship on teachers' self-efficacy as well as perception and understanding of mentoring principles and roles. Hence, the current study sought to investigate both variables and describe how they affect mentors' attitudes towards mentoring programs. Like previous research (Chizhik, et

al., 2018; Janikula, 2017; Tonna et al., 2017) the researchers in this study used the mixed-methods approach to collect sufficient data and reach solid conclusions about the strategies mentors used and the challenges they encountered during the mentoring experience. Thus, the current study sought to fill in this gap by examining the mentoring strategies and activities that enhanced in-service teachers' professional development. Unlike the studies that targeted novice or veteran teachers (Hudson & Hudson, 2016) or pre-service teachers (Sheridan & Young, 2016), the present study addressed in-service teachers with various teaching experiences, affiliations, and backgrounds.

In the lights of this review, the present study sought to answer the following questions:

1. How have in-service teachers' perceptions of the mentoring principles and roles changed after the program?
2. To what extent does the mentoring program impact in-service teachers' self-efficacy?
3. What are the mentoring strategies in-service teachers used with mentees?
4. What are the benefits of the mentoring program as perceived by the in-service teachers?
5. What are the barriers encountered by the in-service teachers in their mentoring experience?

3. Methodology

A mixed-method design was utilized to answer the research questions and explore the participants' perceptions and self-efficacy after completing a mentoring program. Quantitative data were collected through a perception questionnaire and mentor efficacy scale (MES). To gain more insights related to the quantitative data, semi-structured interviews and mentor logs were used. Both types of data were concurrently collected to reduce the time required for

data gathering then analyzed and compared to reach a solid interpretation of the findings.

Participants

The sample comprised 15 EFL in-service teachers in Cairo, Egypt. The female to male ratio was ten to five. Participating teachers were chosen purposively after applying to take part in the program via Google survey. The criteria for choosing them were: a) teachers who were currently teaching EFL in different affiliation (public schools, private schools, and Azharite institutions), b) years of experience ranged between 5 to 15 years, c) participation in PD events, and d) age ranged between 30 and 40. Finally, 15 participants were chosen among over 200. Each participant signed an agreement to participate in this program. Table (1) summarizes the sample composition.

Table (1)

Demographic Data of the Sample

Variable	***Category***	***Number***	***Percentage***
Age	*31-35*	*6*	*40%*
	36-40	*9*	*60%*
Gender	*Female*	*10*	*66.7%*
	Male	*5*	*33.3%*
Years of Experience	*5-10*	*8*	*53.3%*
	11-15	*7*	*46.7%*
Qualifications	*BA*	*12*	*80%*
	MA	*3*	*20%*
Institution Type (affiliation)	*Private schools*	*6*	*40%*
	Public schools	*6*	*40%*
	Azharite institutions	*3*	*20%*

Instruments

- Perception Questionnaire:

The researchers reviewed the literature related to mentoring and perception. Based on the findings of Hudson and Hudson (2016)

regarding the mentoring principles, mentor-mentee relationship, and mentoring roles, the researchers created the questionnaire items which comprised 25 statements in 3 domains: principles of mentoring, perceived mentor role and responsibilities, and mentee roles and responsibilities. The questionnaire items were rated on a scale of 1-5, wherein 5 is "strongly agree", 4 "agree", 3 "neutral", 2 "disagree", and 1 "strongly disagree.

The instrument was piloted to check its reliability and validity. Content validity was examined by submitting the perception questionnaire to five professors in TEFL in Egyptian universities. They provide modifications concerning the simplifying 3 items of the perception questionnaire to make them clearer (items 11, 18 & 22). After doing necessary modifications, the instrument were administered to a pilot group of 40 teachers. The perception questionnaire demonstrated high reliability at *a*=.89.

- *Mentor Efficacy Scale (MES):*

To answer the second research question regarding the effect of the mentoring program on mentors' efficacy, the researchers adopted (Riggs, 2000) Mentor efficacy Scale (MES) to explore the participants' efficacy. The scale included 30 statements divided into two subscales: outcome expectancy and the efficacy of mentors. While the former contains 12 statements, the latter consists of 18 items. Participants were asked to respond to a five-point Likert-type scale (1-5) -with "5" strongly agree and "1" strongly disagree". The MES scale was also administered to the same pilot group to check its reliability. Cronbach's alpha was calculated to check the internal reliability of the two subscales of the MES: Self-Efficacy *a*= 0.84 and the Outcome Expectancy *a*=0.78.

- Mentor logs:

To answer the third, fourth, and fifth research questions and support findings from the second research question, the researchers created a mentor log and asked participants to complete a log after each

mentoring activity with their mentees and track the time spent and channels of communication. A mentor log is a journal that requires the mentors to organize their thoughts and reflect on the mentoring experience through answering some questions and completing few items. By so doing, mentors can trace their progress toward mentoring objectives and processes. They can also develop reflection skills and recognize the development their mentees are making throughout the mentoring experience. Each participant completed 5 mentor logs and recorded the names of the mentees, dates, and duration for each mentoring activity, besides reflecting on these activities. Each log contained 5 sections concerning the types of activities or meetings used for mentoring and the description of each, the benefits of performing these activities on the mentor-mentee relationship or the instructional practices, challenges faced in conducting the mentoring activity, and ways to overcome these challenges, types of contact used with the mentees.

- *Semi-structured interviews:*

After completing the program and administering the perception questionnaire and MES scale, the researchers conducted semi-structured interviews with 5 randomly selected participants to answer the third, fourth, and fifth research questions and enrich the findings of the perception questionnaire. The interview questions were adapted from Hudson (2013) and Janikula (2017) to explore participants' perceptions and mentoring experience, validate the quantitative data, and help interpreting the data collected from the mentor logs. The 4 open-ended interview questions addressed the benefits of the mentoring program, the perceived beliefs of mentoring after the program, the challenges they faced in the mentoring experience, and the effective mentoring strategies. All interviews were recorded using a high-quality mobile recorder application. Then, the researchers transcribed the audios into text. The reliability of coding was assessed by the inter-rater reliability check, and it was found to be (.87) which shows high reliability.

The interview questions were also validated by the panel of TEFL professors. Feedback from jurors concerning reducing the number of questions from 8 to 4 assisted in the revision the interview questions. Then the instrument was piloted on three teachers from the pilot group to check clarity and estimated time. Time for administering each tool was calculated and set to be 15 minutes for each of the MES and the perception questionnaire. As for the interview, 10 minutes were appropriate for each interviewee.

4. Data collection procedures

The program was designed in the form of workshops that addressed specific, pressing needs of the participating teachers. Announcements were sent via emails and social media to the teachers interested in this mentorship program. 15 participants were selected after completing an online Google survey and conducting telephone interviews. The program covered these topics:

Workshop 1 Program overview and mentoring principles and models
Workshop 2 Mentor/mentee's roles, responsibilities, and relationships
Workshop 3 Leadership, communication, and mentoring skills
Workshop 4 Observation, conferencing, and giving and receiving feedback
Workshop 5 Planning for PD events
Workshop 6 Reflection on professional learning and development & closure

The MES and the perception questionnaire were administered twice, at the beginning and end of the program, to explore the differences in the participants' efficacy and perception. During the six-session program, participants were involved in readings, discussions, case study analysis, observations, and presentations to enhance their understanding of the materials.

Participants were asked to select one or two novice teachers from their institutions to mentor them. Mentors oriented their mentees on setting objectives of mentorship, professional goals, boundaries, and roles. Each mentor met with the assigned mentee(s) at least once a week and conducted pre-observation conferences before classroom observations. During the observation, mentors used observation lists and took field notes for reflection and discussion in the post-observation conference. All mentors conducted at least two observations. Mentors and mentees communicated via different methods to undertake some mentoring activities.

The data collected include perception questionnaires, the MES scales, and 45 mentor logs that were collected from participants throughout the program. To get more insights into the participants' responses to the questionnaires and reflections on the logs regarding their perceived beliefs and mentoring practices, the researchers conducted semi-structured interviews to 5 participants (three females and two males) who were randomly selected to reflect on their experience in the program.

5. Data analysis

The data collected from the participants' responses to the perception questionnaires were analyzed statistically using SPSS V. 17. These results were supported by responses from the interviews to answer the first research question. Data from the MES were analyzed to answer the second research question. Descriptive statistics (a paired sample t-test) were calculated and data were analyzed.

The deductive approach was used to analyze qualitative data based on the research questions. Qualitative data collected from the mentor logs and the interviews guided the researchers in answering research questions three, four, and five. Nvivo 10 was utilized to analyze the qualitative responses. An external coder, a researcher in TEFL, assisted the researchers in coding and analyzing the data under 4 themes: Types of mentoring activities and strategies,

benefits of mentoring experience, challenges and ways to overcome them, and perceived mentoring roles and principles. The inter-coder reliability was calculated using Cohen Kappa to examine a proportion of the corresponding codes. The inter-coder reliability was found to be high at (0.92). The results are presented in this section to answer the research questions and display relations with relevant literature.

6. Findings and discussion

1. How has in-service teachers' perceptions of the mentoring principles and roles changed after the program?

A paired sample t-test was calculated to examine the difference between the mean scores of the pre- and post-implementation of the questionnaire (see Table 2).

Table 2
Paired sample t-test for perception questionnaire

	N	Mean	SD	t	df	Sign.
Pair 1. pre application	15	68.33	12.630	-11.052	14	0.00
Post application	15	109.00	15.024			

As shown in table (2), data analysis of the paired sample t-test revealed that the mean scores of the pretest (M=68.33) and the posttest (M= 109.00) were significantly different (t= -11.052, p<.001). Hence, there was a significant improvement in the participants' perceptions of mentoring principles and roles after the program.

Furthermore, the first domain of the questionnaire tackled four mentoring principles: mentor and mentee relationship, shared goals and expectations, mentoring as a reflective process, and mentoring

as a tool for PD. Table 3 displays the frequencies of the items in this domain in the questionnaire's post-application.

Table 3

Frequencies of the first domain in the post-implementation of the perception questionnaire

No.	Items	Means	SD
1	Mentoring is a relationship built on mutual trust and respect.	5.00	.000
2	Mentoring is based on a shared goal, expectation and reality.	4.93	.258
3	Mentoring allows mentees to observe and develop insights.	4.87	.516
4	Mentoring promotes the professional development of both the mentor and the mentee.	5.00	.000

As for this domain, 80% of the participants strongly agreed that the mentoring relationship is built on mutual trust and respect, and it promotes PD of both mentors and mentees. All respondents agreed that mentoring is based on a shared goal where mentees observe and develop insights.

Interview responses asserted this result. Interviewees reported that creating rapport with mentees, listening actively to their problems, being supportive, and establishing mutual respect were essential. One interviewee illustrated that this relationship is built by "*open discussions and setting rules for each one's roles. We also set some shared goals and interests, so both I and the mentees can benefit and learn*". Another participant reported that brainstorming and agreeing on certain roles, keeping the relationship positive via continual support, and updating the goals were effective. She said, "*I kept the relationship with my mentees strong by providing support when needed and making sure that our short-term goals are updated*".

Thus, the participants believed that setting shared goals and expectations are an essential principle of mentoring. The findings of Kissau and King (2014) and Sheridan and Young (2016) showed that the benefit maximizes when mentors and mentees set shared goals, content area, and supportive environment, the benefit becomes mutual.

The second domain of the questionnaire explored perceptions of the roles and responsibilities of the mentor whereas the third tackled the roles and responsibilities of the mentee. Participants experienced growth in their perception of the mentor-mentee roles in the post-implementation of the questionnaire. As presented in table 4, statements 5, 6, 7, 10, 11, and 19 had the highest means (M=5.00) in the second domain; thus, nearly all teachers perceived their mentoring roles as multifaceted.

Two-thirds of the respondents agreed that the pivotal roles of mentors were to be active listeners and motivators of the mentees. The second highest reported roles involved are providing constructive feedback to mentees and establishing a relationship based on trust. About 66% of respondents reported the necessity of setting expectations that are aligned with the mentees and the impact of personal and professional differences on setting these expectations.

Table 4

Frequencies of the second and third domains in the perception questionnaire

No.	Items	Means	SD
	A mentor should…		
5	be an active listener.	5.00	.000
6	provide constructive feedback to my mentee.	5.00	.000
7	establish a relationship built on trust.	5.00	.000
8	identify and accommodate different communication styles.	4.93	.258
9	employ various strategies to improve	4.87	.516

	communication with the mentee.		
10	set expectations that are aligned with the mentee's.	5.00	.000
11	consider the impact of personal and professional differences on setting expectations.	5.00	.000
12	help the mentee to set SMART goals and objectives.	4.93	.258
13	build the mentee's confidence.	4.60	.632
14	help the mentee to network effectively.	4.73	.594
15	understand his/her role as a role model.	4.93	.258
16	help the mentee acquire resources.	4.67	.488
17	acknowledge mentee's existing knowledge and experience to the extent of building on them.	4.80	.561
18	acknowledge mentee strengths and accomplishments since the beginning of the mentoring process.	4.87	.352
19	motivate the mentee.	5.00	.000
	A mentee should…		
20	sign the mentoring agreement with the mentor.	4.33	.900
21	explore his/her strengths and development needs.	5.00	.000
22	contribute to the topics to be discussed with the mentor.	4.73	.458
23	be committed to the mentoring program.	5.00	.000
24	seek constructive feedback.	4.80	.561
25	accept new responsibilities and challenges.	4.87	.516

With regards the mentee's roles, 60% indicated that mentees should sign a mentoring agreement with the mentor, 86.6% agreed that they should explore their strengths and development, 66% believed that

mentees contribute to the topics with the mentor, 80% noted that mentors must be committed to the mentoring program, and 73% highlighted the importance of seeking constructive feedback and accepting new responsibilities and challenges.

When the interviewees were asked about their roles, they replied that before taking part in the program, they were unsure about their roles as mentors. Three interviewees reported that mentors need to have content and methodological knowledge to help novice teachers. They said that this knowledge includes being familiar with methods of teaching language skills, tools for assessment, especially, formative assessment, techniques to integrate technology effectively, and activities to meet students' learning styles.

This corresponds with Achinstein and Davis (2014) who examined the knowledge and skills needed for successful mentoring. Findings showed that creating content for beginning teachers is the mentors' responsibility; therefore, a complex mentor knowledge base and a repertoire of skills to meet the mentees' needs are needed.

Additionally, a teacher reported in the interviews that "*Even in facing problems or lack of knowledge, I have to give a helping hand*". Another clarified that "*The main role is to solve problems and upgrade mentees' teaching skills*". Similarly, the interviewees perceived their roles as supportive and helpful. The mentor's advice-giving role is crucial as agreed by Smith and Lewis (2015) and Hudson (2013). Additionally, giving constructive feedback was reported to play a pivotal role to motivate mentees. A teacher said, "*My mentee valued the feedback I gave her as I was friendly and my comments motivated her to improve*"; Riebenbauer et al. (2017) and Kissau and King (2014) supported this result. Overall, qualitative and quantitative data revealed a positive growth in participants' perceptions of mentoring principles and roles.

2. To what extent does the mentoring program impact in-service teachers' self-efficacy?

Analysis of the Mentor efficacy Scale (MES) answered the second research question. The scale contains two domains: Efficacy of mentors (items: 2, 3, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 18, 20, 22, 23, and 24), and outcome expectancy domain (items: 1, 4, 10, 17, 19, 21, 25, 26, 27, 28, 29, and 30). A paired sample t-test was administrated to examine the difference between the mean scores of the pre- and post-administration. Table (5) indicated that there was a statistically significant difference between the mean scores of the pre-application (*M*=53.00, *SD*=10.488) and the post-application (*M*=102.00, *SD*=12.790) of MES in favor of the posttest.

Table 5

Paired sample t-test for MES

	N	Mean	SD	t	Df	Sign.
Pair 1. pre application	15	53.00	10.488	-14.464	14	0.00
post application	15	102.00	12.790			

The data presented in table (5) showed that there was a significant difference at the 0.01 level between the mean scores (*t*= -14.464). Therefore, participants' mentor efficacy has improved after the mentoring program. Table (6) presents the frequencies of the MES in the post-administration.

Table 6

Frequencies of the MES in the post-application

No.	Items	Means	SD
1	If a new teacher is struggling, it is most often related to lack of effective mentoring.	3.60	1.454
2	I have problems facilitating the understanding of beginning teachers of their responsibilities.	2.53	1.060

3	I can easily articulate the beliefs which underlie my teaching practices when I talk with beginning teachers.	3.80	775
4	The inadequacy of a new teacher's instructional program can be improved through good mentoring.	4.53	1.060
5	I am not sure how to work with beginning teachers to identify a starting point for their professional growth.	2.33	1.543
6	I can connect beginning teachers on using ample educational resources.	3.87	1.060
7	When conferencing, I am able to promote the beginning teachers' own problem solving through good use of questioning.	4.20	.862
8	When my beginning teachers have district-related concerns, I am able to facilitate their understanding and problem solving.	3.67	.900
9	I wonder if I have the necessary skills to be an effective mentor.	2.73	1.335
10	The inadequacy of a beginning teacher's management system can generally be addressed through good mentoring.	4.33	.724
11	I am able to use assessment to assist beginning teachers in observing their own professional growth.	4.40	.737
12	I can use my knowledge of the development nature of teaching in my support of beginning teachers.	4.73	.458
13	I am continually finding better ways to be a mentor to my beginning teachers.	4.53	.516
14	When conferencing with beginning teachers, I usually welcome their questions.	4.27	1.223
15	When I observe a beginning teacher's lesson, I find it difficult to analyze what is happening.	2.80	1.568
16	When beginning teachers talk with me, I use good listening skills.	4.20	1.014
17	New teachers' instructional effectiveness is directly related to their mentors' coaching abilities.	2.80	1.014
18	I do not know how to use assessments to facilitate beginning teachers' own reflection for growth.	3.27	1.100
19	Mentors are generally responsible for the	3.60	1.298

	professional growth of their new teachers.		
20	I am not very effective in monitoring my beginning teachers' professional growth.	3.27	1.280
21	If a principal comments that the new teacher is well-acquainted with school policies and procedures, it would probably be due to the performance of the teacher's mentor.	2.93	1.163
22	I struggle when I try to acknowledge the accomplishments of my beginning teachers.	2.67	1.447
23	When conferencing with my beginning teachers, I can communicate how our consultations have promoted my own professional growth.	3.93	1.100
24	I have difficulty managing my time so that I am available to my beginning teachers.	3.00	1.195
25	When a beginning teacher does better than usual in lesson planning, it is often because the mentor exerted a little extra effort.	3.13	1.407
26	Effective mentoring can help beginning teachers make developmental progress.	4.13	1.060
27	A new teacher's understanding of school policy can be developed through good mentoring.	4.67	.816
28	Every new teacher can make incremental steps toward a professional, given effective mentoring.	4.20	1.146
29	If new teachers are unaware of their accomplishments, it may be due to inadequate mentoring.	4.13	.915
30	Mentors have not done their job if their assigned new have little understanding of school procedures.	3.87	1.302

Table 6 shows that the highest agreed-upon statements in the self-efficacy for mentors domain were being able to articulate the beliefs which underlie the teaching practices (73%), connecting new teachers on using ample educational resources (66.7%), promoting the problem-solving skills of new teachers through good use of questioning (60%), facilitating teachers' understanding and problem-solving (86.7%), using assessment to assist new teachers in observing their professional growth (53.3%), using pedagogical knowledge in support of beginning teachers (78.3%), finding better

ways to be a mentor (56%), welcoming teachers' questions (79%), employing good listening skills (70.3%), and communicating how the consultations have promoted professional growth (66.7%).

However, participants disagreed with eight statements including having problems, facilitating the understanding of beginning teachers of their responsibilities (52.5%), being unsure of how to work with beginning teachers to identify a starting point for their professional growth (60%), being uncertain about having the necessary skills to be an effective mentor (55%), finding it difficult to analyze what is happening in class observation (62.3%), not knowing how to use assessments to facilitate beginning teachers' reflection for growth (70%), being ineffective in monitoring beginning teachers' professional growth (53%), struggling when trying to acknowledge the accomplishments of my beginning teachers (76.7%), and having difficulty managing time to be available to teachers (59.7%).Concerning responses to the outcome expectancy domain, about 60% of respondents highlighted the importance of good mentoring as it can improve "the inadequacy of a new teacher's instructional program", "teacher's management system", and "teacher's understanding of school policy". Participants also agreed by 79.7% that effective mentoring can help beginning teachers make developmental progress. Nearly two-thirds of the respondents were believed that effective mentoring can provide new teachers with "incremental steps toward a professional development". Likewise, 73.3% of the mentors agreed that "If new teachers are unaware of their accomplishments, it may be due to inadequate mentoring", and 86% reported that "mentors have not done their job if their assigned new have little understanding of school procedures".

Similarly, these findings were supported by participants' reflections in the mentor logs and responses to interview questions. All the interviewees noted that the mentoring program enabled them to help

mentees solve problems and enhance their professional growth. An interviewee said, "*I developed as a mentor and a teacher. I had the chance to help my mentees and develop my skills*". A mentor wrote in his log "*As a mentor, I support my teacher by motivating him to learn from mistakes and offering some techniques. I learned from these mistakes and tried new techniques myself*".

These findings confirm Janikula's (2017) conclusion on the positive effects of the mentoring program on participants' PD. By the same token, Hudson (2013) found that the mentoring program was a rewarding PD opportunity because it helped participants to upgrade their communication and leadership skills, problem-solving and building capacity, and pedagogical knowledge increase. Furthermore, Chizhik, et al. (2018) and Pratschler (2009) found an increase in teachers' efficacy and professional improvement in their teaching practices.

Being good listeners and responsible for the improvement of mentees were also reported in these words "*Good listening and being responsible as a mentor helped two of us*". Questioning techniques and agreement of shared points with mentees were also mentioned by the interviewees and in the logs as being effective in the mentoring experience. These techniques were found to be effective mentoring tools (Riebenbauer, et al., 2017; Hudson & Hudson, 2016; Helber, 2015; Hudson, 2013).

A participant explained that having a mentor made her more confident in her practices and aware of her weaknesses as shown in this quote: *"I helped not only my mentees to increase their self-confidence, I also increased mine"*. This is in line with previous research (Mathur, et al., 2013; Melanson, 2013; Hellsten, et al., 2009) which indicated a relationship of confidence and preparedness.

3. What are the mentoring strategies that in-service teachers used with mentees?

To answer this research question, mentor logs and interviews were analyzed and responses were coded under "mentors' strategies". Respondents reported many techniques used to achieve effective mentoring including setting goals, debriefing sessions, active listening, case study discussion, problem-solving, co-teaching, peer mentoring, observing classes, conferencing, one-on-one and group meetings, and building a strong relationship with mentees.

A teacher stated that setting goals was the best technique he implemented "*I start by setting goals and agree on several shared needs and expectations*". Half of the participants explained that debriefing sessions at the beginning of the mentoring experience were beneficial as these sessions facilitated the discussions and saved time. A mentor explained, "*Debriefing sessions helped me in making-decisions and use the proper language to communicate with mentees*". Active listening was a powerful technique that half of the mentors reported being useful for gaining the trust of the mentees. While Hudson and Hudson (2016) acknowledged the "negotiated goal setting" in meeting career goals and promoting mentor-mentee relationships, Smith and Lewis (2015) emphasized the mentor's advice-giving role.

Moreover, three teachers noted that the case study discussion was effective in highlighting beneficial teaching practices and improving mentees' problem-solving skills. Two teachers tried out peer mentoring and co-teaching to focus on some instructional aspects like classroom management and active learning. This agreed with Kupila and Karila (2018) who found that peer mentoring is effective in developing teachers' professional identity and practices.

Classroom observation along with conferencing was used by all the mentors more than once during the mentoring experience. A mentor

wrote, "*When I asked my mentee after observing his class about what did he find useful, he told me that meeting after the class visit to discuss and share feedback was of great help to him*". This was supported by an interviewee: "*I think classroom observations and conferencing helped me and my mentee to reflect on our teaching*". Likewise, Riebenbauer et al. (2017) pointed out an improvement in the mentors' understanding of the role of feedback and reflection as useful mentoring tools.

An interviewee said, "*Building a healthy relationship was the first thing I tried to do before advising new teachers. I don't want our meetings to be a burden and load*". To develop a positive relationship with mentees, participants utilized many strategies in accordance with Beutel at al. (2017) and Kissau and King (2014) who recommended that mentors and mentees should find commonalities, agree on shared content areas and goals, and create a safe supportive environment to maximize the benefits. Moreover, Sheridan and Young (2016) highlighted the establishment of a strong relationship between mentors and mentees by improving a shared repertoire.

Furthermore, analysis of mentor logs revealed that the amount of time spent on mentoring meetings, observation, and conferences with mentees varied as some reported spending 2 hours weekly while others averaged around an hour a week. There was no agreement on the total mentoring time spent per week as it depended on many factors: the number of mentees, the activities performed, and means of communication. A mentor wrote "*I spent an average of 30 to 45 minutes meeting with my mentee inside the school in break time. We focused on areas like using videos in teaching, giving reinforcement, dealing with slow-learners, and managing transitional time*". Another participant recorded that she spent an hour divided into two sessions per week with her mentee trying to focus on using games to teach vocabulary and enhance students' learning "*I interact with my mentee twice a week to*

discuss how to teach vocab using games to engage students into learning new words". It is noteworthy that all these meetings were informal using face-to-face meetings or other means of communication like telephone calls, WhatsApp, or skype.

4. What are the benefits of the mentoring program as perceived by the in-service teachers?

Data gathered from the interviews and the logs showed that nearly 80% of the respondents perceived the mentorship program favorably. Two-thirds stated that the most beneficial part was the professional growth of both mentors and mentees. Eight participants acknowledged the benefits of the program as they learned how to give constructive feedback, acquire leadership skills, enhance communicative skills and active listening, and build an enduring relationship with mentees. They also reported that it is effective to have mentees of the same age and experience. One mentor wrote, "*This program was rewarding as I developed my communication skills and active listening. I think having a common ground with mentees like experience and subject maximizes the benefit. I learned how to give and receive feedback and make class visits".* A mentor commented on his experience in creating a PD unit in his school saying "*It doesn't end by the program, I will cascade the knowledge to other colleagues through the PD unit to guarantee sharing experiences*".

Similarly, Lafleur and White (2010) pointed out that the mentoring experience is rewarding to mentors personally and professionally. This also agreed with Janikula (2017) who found that reflective skills of mentors developed through observations and interaction with mentees. Participants reported improvements in their sustainable skills such as persistence, cooperation, decision making, and problem-solving. This conforms to Mathur et al. (2013) who

believed that participants' decision-making abilities have improved which promoted their self-confidence and efficacy.

Moreover, the five interviewees reported that the training was effective in overcoming the challenges they face as teachers in their classrooms. They also highlighted the biggest benefit of being more mindful of their abilities and new teachers' practices. An interviewee said, "*Mentoring training helped me to grow professionally as a mentor and as a teacher as I discovered my areas of weaknesses and tried to improve them".* Beutel et al. (2017) found that mentors enhanced their self-awareness and reflective practices. Likewise, Tonna et al. (2017) indicated that to develop reflective skills, mentors have to use developmental, collaborative, and inquiry-oriented approaches to mentoring.

The majority of the participants indicated that the program upgraded their skills and provided them with sustainable mentoring strategies. An interviewee reported that "*The program developed me professionally by helping me improve my practices and use effective mentoring strategies*". Another interviewee said that he was investing in his mentees and that "*participating in this training enables me to learn from colleagues in the training and from the mentees. I shared experience and grow professionally*". This is supported by previous studies (Janikula, 2017; Mathur et al. 2013; Hudson, 2013; Pratschler, 2009).

5. What are the barriers encountered by the teachers in their mentoring experience?

Seven participants recorded in their logs that the main challenge was selecting the appropriate data collection and mentoring tools to meet the mentees' needs as they spent a lot of time trying ineffective tools which consequently resulted in wasting time and decreasing motivation of the mentors and mentees. One participant wrote, "*We chose phone calls to communicate but the first call*

lasted an hour. We tried WhatsApp to be cheaper and we varied between text and voice message in case of unavailability so we can solve this problem". Another mentor commented, "*I and my mentees chose the break times and days like Thursday when students went into trips or field visits*". Other comments from the interviewees highlighted time limitations to meet with mentees considering workload and difficulty to meet during the school day. Janikula (2017) agreed with this result wherein mentors found it difficult balancing working with mentees and scheduling their meetings.
Interviewees also indicated that the challenges include ineffective communication with their mentees and an inadequate understanding of mentors' roles. One interviewee said, "*At first, I had no idea on how to start the meeting with the mentee. We had different opinions on certain points to focus on. I tried to listen and be patient*". Another interviewee commented, "*My mentee worried about observations and getting a negative feedback as she had negative experience with her supervisor and thought that I will do the same. She was excited after the post-conference due to the friendly way of giving feedback*".

Moreover, nearly 66% acknowledged some administrative challenges including little understanding of school procedures and insufficient knowledge about the roles of mentors. This agrees with Ponte and Twomey (2014) who concluded that negative relationships with school administration and an inability of applying learned knowledge lowered mentors' self-efficacy. Likewise, Gjedia and Gardinier (2018) noted some barriers in selecting mentors, miscommunication with administrators, and lack of planning and coordination of services.

7. Conclusion

This mixed-method study investigated the perceptions and efficacy of 15 in-service teachers after taking a mentoring program. Quantitative data analysis showed an improvement in teachers'

perceptions of mentoring principles and roles. The program's sustainability is displayed in participants' promotion of their self-efficacy as mentors after the program. Qualitative data revealed that the mentoring program served as a capacity-building tool not only for mentors but also for mentees. Participants reported benefits of the mentorship experience in terms of upgrading their communication and leadership skills, teaching practices, content knowledge, reflection and self-evaluation, and problem-solving. Mentors reported some challenges such as insufficient time for meetings, heavy workloads, ineffective communication, and inadequate understanding of mentors' roles. Thus, mentors used goals setting, debriefing sessions, active listening, co-teaching, peer mentoring, classroom observation, conferencing, and sound relationship with mentees.

Consequently, school administrators and curriculum designers should consider mentoring as a sustainable tool for PD. Faculties of education should design programs to prepare early career teachers. Pre-service teachers should obtain training on mentoring during the study at college. Other setting-based programs should meet the national standards and promote the skills of teacher-mentors. Peer mentoring should be also encouraged and cultivated in the cultures of schools. Partnering with universities and professionals to provide mentoring training and PD is also required. Moreover, mentoring programs should be tailored to supervisors and principals' needs to provide them with the necessary skills. Future mentors should receive adequate training to qualify them in line with professional standards. The study also recommends the establishment of PD mentoring units at educational institutions to upgrade the skills of in-service teachers.

For further research, researchers should investigate the role and responsibilities of mentors in different contexts as perceived by mentors and mentees. Researchers should investigate elements of context-based mentoring programs. More studies should investigate

the factors that facilitate or inhibit the sustainable mentorship experience. It is also recommended that future studies explore mentees' perceptions and compare them to their mentors. Measuring the effects of the mentoring experience as a sustainable PD opportunity for teachers, and how it impacts students' learning and performance will be enriching.

Limitations of the current study include selecting only 15 in-service teachers to participate in a mentoring program. Moreover, the participants belong to one governorate in Egypt. They were selected purposively based on preset criteria. A larger number of teachers from different governorates should be considered in other studies to maximize the probability of generalizing the study results. Additionally, the study is restricted to the instruments used to collect data: questionnaires, mentor logs, and interviews. The duration of the program was also short, 6 weeks, which did not offer deep insights into the participants' development and progress. Finally, mentees' perceptions and efficacy were not examined in the current study as the focus was on the participants who consented to take part in this study.

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