

The Role of the Higher Diploma Program for Pre-Service Teacher Preparation in Improving the Skill of Writing Reflective Academic Essays for the Educational Practices of Student Teachers at Yarmouk University for the Year 2022/2023

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Abstract

Objectives: This study aims to explore the role of the Higher Diploma Program for Teacher Preparation at the Faculty of Education at Yarmouk University in improving the skill of writing reflective academic essays for the educational practices of student teachers during the first semester of the academic year 2022/2023.

Methodology The study employed two complementary methodologies: the descriptive method and the quasi-experimental method. The descriptive approach was used to analyze the statistical characteristics of the reflective essays written by pre-service teachers before and after participating in the program. While, the quasi-experimental method focused on measuring the impact of the program's three modules (Pedagogy of Learning and Teaching, Subject-Specific Teaching Methods, and Field Training) on enhancing reflective writing skills. This was achieved by comparing students' performance in the pre-test and post-test and analyzing the differences based on their specialization.

Results: The study's findings showed that the Higher Diploma Program for Pre-Service Teacher Preparation significantly contributed to developing student teachers' skills in writing reflective essays. The results also indicated that the positive impact of the program was more evident among science majors compared to their peers in mathematics and Arabic language majors. Additionally, the findings highlighted the superiority of female students over male students in terms of improving reflective writing skills.

Conclusion: This study concludes that enhancing student evaluation through reflective essays improves their writing skills, particularly for those in the Higher Diploma Program. Reflective writing skills are not limited to literary or theoretical fields but rather reflect critical thinking abilities. Moreover, improving these skills requires motivation, diligence, and a genuine desire to learn, as evidenced by the significant improvement among female students.

Keywords: higher diploma, reflective essays, pedagogy, scholar experience.

دور برنامج الدبلوم العالي لإعداد المعلمين قبل الخدمة في تحسين مهارة كتابة المقالات الأكاديمية التأملية للممارسات التعليمية للطلبة المعلمين في جامعة اليرموك للعام 2023/2022

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المخلص

الأهداف: تهدف هذه الدراسة إلى معرفة دور برنامج الدبلوم العالي لإعداد المعلمين في كلية التربية بجامعة اليرموك في تحسين مهارة كتابة المقالات الأكاديمية التأملية للممارسات التعليمية للطلبة المعلمين في الفصل الدراسي الأول من العام الجامعي 2023/2022.

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المنهجية: اعتمدت الدراسة منهجين متكاملين: المنهج الوصفي والمنهج شبه التجريبي. تناول المنهج الوصفي تحليل الخصائص الإحصائية للمقالات التأملية التي أعدها الطلبة المعلمون قبل المشاركة في البرنامج وبعده. أما المنهج شبه التجريبي، فركّز على قياس أثر وحدات البرنامج الثلاث (بيداغوجيا التعلم والتعليم، أساليب تدريس المبحث، التدريب الميداني) في تحسين مهارات الكتابة التأملية، وذلك من خلال مقارنة نتائج الطلبة في الاختبارين القبلي والبعدي، وتحليل الفروق وفقاً للتخصص.

النتائج: أظهرت نتائج الدراسة أن برنامج الدبلوم العالي لإعداد المعلمين قبل الخدمة ساهم بشكل ملموس في تنمية مهارات الطلبة المعلمين في كتابة المقالات التأملية. كما بينت النتائج أن الأثر الإيجابي للبرنامج كان أكثر وضوحاً لدى طلبة تخصص العلوم مقارنةً بزملائهم في تخصصي الرياضيات واللغة العربية، ولفتت النتائج أيضاً إلى تفوق الطالبات على الطلاب الذكور من حيث تحسن مهارات الكتابة التأملية.

الخلاصة: خلصت هذه الدراسة إلى أن تعزيز تقييم الطلبة في كتابة المقالات التأملية يحسن مهاراتهم في الكتابة، خاصةً أولئك في برنامج الدبلوم العالي. مهارات الكتابة التأملية لا تقتصر على المجالات الأدبية أو النظرية، بل تعكس القدرات التفكيرية النقدية. علاوة على ذلك، يتطلب تحسين هذه المهارات الدافع والاجتهاد والرغبة الحقيقية في التعلم، كما هو واضح في التحسن الكبير بين الطالبات.

الكلمات المفتاحية: الدبلوم العالي، المقالات التأملية، البيداغوجيا، الخبرة المدرسية.

Introduction

The higher diploma program for pre-service teacher preparation is considered one of the most important programs in the Faculty of Education at Yarmouk University. It aims to provide student teachers with pedagogical knowledge (the art and foundations of teaching) and teaching methods in specialized subjects, including mathematics, science, English language, and Arabic language. Furthermore, the program includes field training in schools to apply theoretical concepts in practical settings. This is represented by three school experiences spread over a full year, symbolized by the Scholar Experience Practicum (SEP) (The National Framework for Implementing the Higher Diploma Program for Teacher Preparation, 2023).

The program is regarded as a crucial stepping stone for students in the field of education. It offers them hands-on teaching experience in schools through collaboration with the university's educational partners. The program's key opportunities include:

1. Breaking the stagnation and fear barrier in classroom settings. The Higher Diploma in Education enhances self-confidence among student teachers by advancing their knowledge and skills in the educational field and their application to the grades they teach.
2. Promoting professional knowledge. Student teachers in the higher diploma program learn various educational theories, methods, and strategies, which

help them expand their professional and academic knowledge and become more effective teachers.

3. Improving professional practices. Student teachers in the higher diploma program are trained in teaching principles, modern teaching methods, and the mastery of skills applicable to their future teaching grades. The program enhances their ability to think analytically, solve problems, and improve their communication skills with both students and parents.
4. Continuous education opportunities. The Higher Diploma in Education offers student teachers opportunities for continuous education and professional development in the field. This helps them continually develop their skills and enhance their performance as teachers.
5. Enhancing moral values. The Higher Diploma in Education fosters moral responsibility among student teachers, helping them understand their role as educators and their impact on students and society. It also promotes open and effective communication channels with stakeholders, enabling them to build strong educational relationships and improve the quality of education (Grant, 2012; Jahangir et al., 2012; Kamzi et al., 2011; Ong, 1993).

The Higher Diploma for Teachers' Preparation is a program that integrates theory and practice for teachers of grades four to ten. It spans nine months, comprising 27

credit hours on a full-time basis. The Diploma includes direct teaching at an accredited university that offers the program, along with professional practice through the Scholar Experience Practicum. The diploma is taught and evaluated in both Arabic and English. Assessment for student-teachers specializing in English will be conducted in English, while assessment for student-teachers in other specializations will be in Arabic.

The program of the Higher Diploma for Teachers' Preparation consists of the following major units:

- The first main unit: Pedagogy of learning and teaching, which focuses on principles and practices of learning and teaching.
- The second main unit: Subject teaching methods, focusing on specific teaching methods including Arabic, English, mathematics, and science.
- The third main unit: Scholar Experience Practicum, including practical training for 20 weeks, 6 hours per semester. During this unit, student-teachers are placed in two or three schools in both the public and private sectors.

The program also consists of criteria for predicting the outcomes of the professional practice component. By the end of the program, student-teachers should be able to meet these criteria. Additionally, students can choose an optional three-hour course from various sections of the Faculty of Education (Higher Diploma Handbook for Teachers' Preparation, 2022).

Assessment in the Higher Diploma for Teachers' Preparation is divided into two sections:

1. Formative assessment: This is conducted repeatedly and continuously throughout the year. It involves evaluating students' performance based on a set of indicators that reflect their progress and direction in acquiring knowledge and skills. This assessment includes providing feedback on students' writing, conducting follow-up sessions, and making formal observations during school visits. These observations are aligned with the academic and professional criteria used in summative assessment.
2. Summative assessment: Every main unit has a summative assessment (achievement), and students

must successfully complete the summative assessments of the three courses to pass the diploma.

Reflective essays are considered one of the most useful strategies for thinking and self-learning, training students to reflect on educational content. In these essays, individuals review their educational experiences to gain deeper insights. They serve as a means of building knowledge about oneself and the outside world. Rushton & Duggan (2013) point out that reflective practices should be a vital part of students' learning at universities and an integral aspect of course design.

A written assignment is one of the most crucial assessments in a diploma program. Its purpose is to evaluate students' ability to articulate acquired concepts and knowledge, aiming to assess their capacity to express these concepts effectively. The writing skills assessed include composing critical, analytical, and reflective essays, conducting investigative research, and preparing directed activities that require written expression (Higher Diploma Handbook for Teachers' Preparation, 2022).

Student-teachers present written works for each of the three main units assessed. They are evaluated based on the criteria outlined in the academic and professional guidelines. These criteria are divided into four main categories, each with sub-criteria and indicators for different achievement levels as follows: the first criterion assesses knowledge, understanding, and its application; the second criterion evaluates cognitive skills, including critical thinking and reflection in professional practices; the third criterion measures professional skills and teaching principles demonstrated through initiatives, problem-solving, and teaching arts; and finally, the fourth criterion focuses on presentation and communication (National Framework of Implementation of Higher Diploma Program for Teachers' Preparation, 2021; Higher Diploma Handbook for Teachers' Preparation, 2022).

When assessing the level of student-teachers' work, a comprehensive judgment must be applied, as it reflects the overall achievement of performance based on specific criteria. Table 1 illustrates performance indicators and their corresponding achievement levels, ranging from 4 to 8, for each academic and professional criterion.

Table 1: Performance Indicators and Their Corresponding Achievement Indicators for Assessing Levels of Academic and Professional Criteria of Student-Teachers.

Performance Indicators	Does Not Apply	Applies to a Low Degree	Applies to a Medium Degree	Applies to a High Degree	Applies to a Very High Degree
Their Corresponding Out of 8	4	5	6	7	8

Student-teachers are assessed by teachers who have completed a 63-hour training course supervised by the Queen Rania Academy for Teacher Training, which is supported by the U.S. Agency for International Development (USAID) (Higher Diploma Handbook for Teachers' Preparation, 2022).

The topic of preparing and qualifying teachers has garnered significant interest among researchers. Previous studies have focused on the importance of teacher preparation and qualification, as well as the analysis of best practices and strategies in this area. In this regard, we present some studies that have addressed the importance of preparing and qualifying teachers through these programs, highlighting their results in improving student-teachers' performance in educational practices and increasing their specialized and professional knowledge.

On the subject of reflection, a qualitative study conducted by AL-Rwahia et al. (2024) aimed to identify the concept of reflection among pre-service science teachers at Sultan Qaboos University in light of InTASC and NSTA standards and to determine how field training trainers and their supervisors might help students learn and grow in the area of reflection. A case study was designed, where seven faculty members and supervisors were interviewed individually using a semi-structured format. Focus group interviews were also conducted with 15 pre-service teachers, along with document analysis. The results showed that the two standard documents dealt with the concept of reflection in detail, especially InTASC. In addition, there was a lack of clarity in the true meaning of reflection among participants, including students, teachers, and supervisors. The study recommended the need to include concepts related to reflection in professional development and awareness programs for teachers' in-service, pre-service, and in development programs for academics, and to conduct comparative studies between teacher preparation programs on the concept of reflection.

A study by Liuo (2001) aimed to enhance the reflective practice of pre-service teachers by analyzing 20 written reflections by student-teachers in a pre-service teacher education program for English language teachers at a high school in Taiwan. The results indicated that student-teachers primarily discussed topics related to practical teaching issues and the assessment of other teachers as well as their own teaching practices, categorized into seven main educational subjects. However, over a six-week period, they did not demonstrate significant development in critical thinking. This was attributed to insufficient emphasis in the curriculum on fostering analytical reflective thinking for teaching development. The study recommended enhancing training curricula to promote critical reflective thinking in practice.

Danielle (2011) studied teacher education programs to address the diverse needs of students across different grade levels. The study focused on innovative curricula in preparing pre-service teachers and discussed several models and methods used in educational courses. The study sample consisted of 67 pre-service teachers, whose perceptions of students' needs and desired study outcomes were assessed before and after participating in a 39-hour face-to-face teacher preparation program. The study highlighted political challenges in teacher training, including cultural considerations and inclusive education practices. It emphasized the importance of ongoing professional development for teachers and the need for curricula that cater to all students' needs in schools.

Daradkah (2011) investigated the perceptions of faculty staff regarding teacher preparation programs in Jordanian universities. The study also examined the extent to which these perceptions varied based on gender, specialization, source of obtaining another qualification, type of university, name of university, academic rank, and years of experience. To achieve the study objectives, a questionnaire was developed consisting of 46 items across six domains: program objectives, study plans, study textbooks, books and references, teaching methods, and evaluation methods. The validity and reliability of the questionnaire were verified. The study results indicated that the mean estimation of the study participants regarding the instrument as a whole was 3.56. The "books and references" domain ranked highest, followed by the "program objectives" and "study plans" domains. The "study textbooks" ranked next, followed by the "teaching methods" domain, with the "evaluation methods" domain ranking the lowest.

There are no statistically significant differences at the ($\alpha=0.05$) level among the sample's estimation of the study domains as a whole based on the variables of gender, name of university, academic rank, and years of experience. However, statistically significant differences were found based on the variables of specialization, source of obtaining another qualification, and type of university. Specifically, differences were noted in scientific faculties, graduates from foreign countries, and public universities, respectively. Based on these results, the researcher put forth several recommendations. Among them is the suggestion to reconsider the philosophical and educational vision of the teacher education process. This includes aligning the methodology with contemporary data and future requirements.

Ahmed (2015) assessed the impact of a qualification program on enhancing the performance of teachers who do not hold an educational qualification. The researcher administered a questionnaire to 412 teachers, with a sample size of 103 representing 25% of the study population. The study revealed that, according to the teachers surveyed, the improvement in performance resulting from the program was of moderate degree. As a

recommendation, the researcher suggested a focus on the practical aspects of teacher qualification programs.

Qazaz (2019) investigated the impact of school teachers' enrollment in Sakhnin College for Teacher Training in East Jerusalem on their job performance. The study also examined the perceptions of teachers and principals regarding this impact, as well as the influence of several variables, such as gender, qualifications, years of experience, specialization, and employment classification. The researcher utilized an analytical descriptive method for this study. The sample consisted of 200 male and female teachers selected randomly. The study found statistically significant differences at ($\alpha < 0.05$) in the average responses of the study sample regarding the impact of school teachers' enrollment in Sakhnin College for Teacher Training in East Jerusalem on their job performance, as perceived by both teachers and principals. These differences were attributed to the variables of specialization and job title. However, no statistically significant differences were found based on gender, years of experience, and qualifications. Based on these findings, the study recommended several measures to enhance teacher motivation and job performance. These include promptly confirming teachers with educational qualification certificates in their positions, increasing their financial compensation, and improving the technological resources available to them. These improvements are believed to positively impact classroom implementation and ultimately enhance students' learning outcomes.

Bayer (2014) identified the necessary activities for teachers' professional development. The study involved interviews with teachers from 16 primary schools in Turkey (8 males and 8 females) to assess the impact of their ongoing training over a 12-month period. The results highlighted the importance of professional development through collaboration between teachers and schools, as well as teachers' involvement in the planning process of professional activities. The researcher recommended that the Ministry of Education increase the availability of professional development activities for teachers and work to strengthen their participation. This, in turn, would positively impact students' performance, leading to the enhancement of their skills and professional practices.

Dervent (2015) explored the impact of reflective thinking on the professional teaching practices of pre-service Physical Education teachers. The qualitative research employed field experiments involving pre-service Physical Education teachers to gain a deeper understanding of their experiences. Data were obtained through reflective journals, interviews, and video recordings of the micro-teaching sessions. The analysis utilized a content analysis method, revealing that pre-service Physical Education teachers demonstrated professional development in areas such as lesson planning, time management, and effective teaching

practices. Additionally, they exhibited an understanding of how to address different student levels and teaching methods, as evidenced by their experiments and critical reflections on these experiences.

Hooks (2015) investigated the barriers that hinder effective professional development for teachers and proposed more impactful activities based on a social structure to enhance their development. Adopting an analytical descriptive method, the researcher conducted interviews with nine participants to gather data. The results indicated that prioritizing effective professional preparation and qualifications for teachers is crucial, as it significantly contributes to the progress of the educational process.

A study by Slade et al. (2019) assessed the impact of the Kolb Model of reflective practice on the self-assessment of student-teachers enrolled in a program comprising eight field courses for teacher preparation and development in educational sciences. The results highlighted the significance of the model in enabling student-teachers to analyze their practices objectively, critically, and analytically, thereby helping them identify their strengths and weaknesses. The researchers assessed the reflective written assignments of student-teachers using an assessment scale consisting of four categories, which demonstrated a high degree of reliability and is widely used to assist teachers. The results also showed a need for a level of reliability among the three assessors (90%). The study underscored the importance of developing a level of thinking among student-teachers that enables them to make educational decisions suitable for their specific educational environments.

Jarrah & Abu Ashour (2021) examined the effectiveness of training programs for new teachers and their impact on performance improvement, as perceived by supervisors, principals, and teachers in schools within the Irbid governorate. The study sample consisted of 500 individuals from these roles, selected using simple random sampling. The study employed a descriptive method utilizing a survey instrument with two parts. The first part assessed the effectiveness of training courses with 34 items across four domains, while the second part evaluated the performance of new teachers with 36 items across four domains. The results indicated a high perceived effectiveness of training courses for new teachers among supervisors, principals, and teachers in Irbid governorate schools. Differences were observed based on gender, with females rating the effectiveness of training programs higher than males. However, no differences were found based on qualification or job title. Furthermore, a positive and statistically significant relationship was identified between the perceived effectiveness of training courses and the performance of new teachers, as assessed by supervisors, principals, and teachers. Based on these findings, the study recommended that the Ministry of Education prioritize

the provision of training courses for new teachers to enhance their performance.

Saka (2021) explored the impact of micro-reflective teaching practices on the development of professional skills among pre-service physics teachers in Turkey. The study utilized an experimental method with a single group for pre-post assessment, supported by a case study approach. Data were collected using the Professional Skills Scale, an observation model, and daily reflections. The study included a sample of 13 pre-service teachers (6 females and 7 males) enrolled in a physics teaching methods educational program at a faculty of education in northeast Turkey. Each student-teacher conducted five teaching practices, which were recorded by a camera. After each practice, the teachers watched their recordings and wrote their reflective notes. The data from the scales and observation model were analyzed using the Wilcoxon Rank-Sum Test, while the data from the daily reflective writings were analyzed using interpretative analysis. The results, based on the Professional Skills Scale, the observation model, and daily reflective notes, indicated that micro-reflective teaching practices significantly enhanced the main professional skills of pre-service physics teachers, particularly in the areas of planning, teaching strategies, communication, classroom management, and assessment.

Monthriea & Al-Rashediah (2022) investigated the degree of applying skills gained from the training program from the teachers' perspective, new teachers enroll in the program for one year after their employment as teachers. The random sample of the study consisted of 501 teachers: 94 male teachers and 407 female teachers. The researchers designed a questionnaire that consisted of four factors: teaching & learning strategies, classroom management, students' assessment, and the teacher's role in the school. The results showed that the degree of implementing the skills gained from training was very good, with classroom management being the highest and the teacher's role in the school being the lowest. There were statistically significant differences between teachers who graduated from Omani universities and those who graduated from outside Oman, in favor of teachers who graduated from outside Oman. There were no statistically significant differences between male and female teachers.

By reviewing a group of previous studies, the significance of diploma programs in preparing teachers and enhancing their performance becomes evident. These programs emphasize the use of unique evaluation methods for students, such as reflective writings, which have a positive impact on student-teachers' performance. With the increasing popularity of higher diploma programs in universities, this study aims to explore the role of such programs in improving the performance of student-teachers in academic written assignments.

What sets this study apart from previous studies is its focus on the specificity of higher diploma programs for teacher preparation. These programs primarily rely on the performance assessment of student-teachers, particularly in academic written assignments.

Study Problem

The Higher Diploma for Teachers' Preparation program mandates the completion of tests and various assessment procedures, which may include essay writing, to evaluate student-teachers' written expression and critical thinking skills. Typically, essay topics relate to the field of education or personal experiences linked to the educational field. Essays are evaluated based on specific assessment criteria, and student-teachers are accepted or rejected from the program based on their ability to meet these criteria (Higher Diploma Handbook for Teachers' Preparation, 2022).

It was observed through student scores that there is a weakness in the results of the written admission test, which may indicate a lack of knowledge among student-teachers regarding writing principles and assessment criteria.

Due to the novelty of the Higher Diploma Program on the one hand, along with the evaluation of student-teachers through reflective essays and recognizing the positive impact of such essays on student performance, this study aims to investigate the role of key units in higher education (such as pedagogy, subject teaching methods, and field training) in enhancing the assessment of students' scores in reflective essays. Specifically, this study seeks to answer the following questions:

1. What role do the main units in the Higher Diploma (pedagogy, teaching methods, field training) play in enhancing the assessment of students' scores in academic essays?
2. Does the impact of the main units in the Higher Diploma (pedagogy, topic teaching methods, field training) on improving the assessment of students' scores in academic essays vary by specialization?
3. Does the influence of the main units in the Higher Diploma program (pedagogy, teaching methods, field training) on enhancing the assessment of students' scores in academic essays differ based on gender?

Study Significance

Reflective practice has become a prominent model in educational programs worldwide for preparing pre-service teachers. This approach enhances teachers' critical thinking, raises their awareness of teaching-related changes, and ultimately fosters positive changes in their related conduct (Liou, 2001).

Reading and writing are crucial components of the Higher Diploma for Teachers' Preparation program.

They serve as essential tools for the continuous professional development of student-teachers. Through reading academic research, essays, and books, student-teachers can keep up with the latest advancements in the educational field and enhance their knowledge; therefore, they can improve their teaching practices and reinforce their ability for self-education and continuous development. Additionally, reading and writing contribute to the development of critical and reflective thinking, which is vital for student-teachers' professional practices during their field training. This, in turn, contributes to developing their effective teaching skills, achieving their professional success, and positively impacting their students.

Academic reading and writing are instrumental in helping student-teachers become acquainted with developed research in the educational field. They also enhance their ability to express and convey thoughts using suitable academic language. Furthermore, these skills assist student-teachers in writing academic essays in an analytical and critical manner, as well as in learning how to assess sources, verify credibility, and formulate informed perspectives.

Given the proliferation of teacher preparation programs in universities and educational institutions, coupled with the significance of reflective academic essays in enhancing teachers' performance, the findings of this study offer valuable feedback to academics and decision-makers. This feedback can be used to improve these programs effectively.

Study Limitations

This study was restricted to student teachers enrolled in the Higher Diploma Program for the academic year 2022-2023.

Procedural Definitions

Higher Diploma Program: This program is designed for teachers of grades four to ten, offering a curriculum

that combines theoretical knowledge with practical experience. This full-time program consists of 27 credit hours and includes direct teaching at an accredited university that offers teacher preparation courses. It also incorporates professional practice through a scholarly experience practicum. The program is taught and evaluated in both Arabic and English. Assessment for student-teachers specializing in English is conducted in English, while assessment for student-teachers in other specializations is conducted in Arabic (Higher Diploma Handbook for Teachers' Preparation, 2022).

Pre-service Teacher: These are student-teachers who hold a bachelor's degree in one of the four specializations: Arabic language, English language, science, and mathematics, and who have not yet had teaching experience.

Writing Reflective Academic Essays: This is one of the forms of academic scientific writing that involves describing what the student-teacher wishes to reflect on, engaging in processes of reflection, critical thinking, and analysis of various opinions and ideas regarding educational practices, all aimed at enhancing their performance.

Method and Procedure:

Study Population and Sample

The study population comprised all students enrolled in the Higher Diploma Program for Teachers' Preparation at Yarmouk University. To fulfill the study's objectives, a purposive sample was selected, consisting of all students from the Higher Diploma Program who successfully completed the admission test, which involved writing an academic article during the first semester of the academic year 2022/2023. The sample included 103 students (33 males and 70 females), distributed according to specializations as detailed in Table 2.

Table 2: Distribution of the Sample Members According to Specialization Variable.

Specialization	Number	Percentage
Mathematics	37	35.9
Science	28	27.2
Arabic Language	20	19.4
English Language	18	17.5
Total	103	100.0

Specialization Number Percentage

Mathematics 37 35.9

Science 28 27.2

Arabic Language 20 19.4

English Language 18 17.5

Total 103 100.0

Methodology

The study employed two complementary methodologies: the descriptive method and the quasi-experimental method. The descriptive approach was used to analyze the statistical characteristics of the reflective

essays written by pre-service teachers before and after participating in the program. While, the quasi-experimental method focused on measuring the impact of the program's three modules (Pedagogy of Learning and Teaching, Subject-Specific Teaching Methods, and Field Training) on enhancing reflective writing skills. This was achieved by comparing students' performance in the pre-test and post-test and analyzing the differences based on their specialization.

Procedures and Statistical Analysis

The data for this study consist of student-teachers' scores on reflective essays. These scores were obtained from the records of faculty members in the Higher Diploma program for student-teachers, with data available for each specialization. The records included student-teachers' results from the post-test, which followed the same assessment criteria as the admission test. The data were organized in an Excel file and analyzed using SPSS. Descriptive statistical information, including numbers, means, and standard deviations, was extracted from the sample as a whole, as well as for each specialization and gender. The study utilized a Repeated

Measures Design since the sample was exposed to several treatments (pre-treatment, post-pedagogy, post-subject teaching methods, and post-field training) to evaluate their reflective essay writing skills.

Validity and Reliability of Data

The data in this study consisted of student teachers' scores on reflective essays. The evaluation process involved multiple evaluators, adhering to the principle of triangulation in the evaluation process. This approach enhances the reliability and validity of the evaluation.

Results and Discussion

To address the study's first question regarding the impact of treatments (main units in the program) on enhancing students' scores in reflective essays, researchers employed a Repeated Measures Design. The statistical analysis, specifically the adjusted F value of Greenhouse-Geisser, demonstrated a statistically significant effect of the treatments and their variances among individuals, as indicated in Table 3.

Table 3: Statistical Significant Test of the Treatments Effects and Variances among Study Sample Individuals.

Source	Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Sphericity Assumed	6948.437	3	2316.146	426.422	.000	.807
Greenhouse-Geisser	6948.437	1.530	4541.795	426.422	.000	.807
Huynh-Feldt	6948.437	1.549	4487.191	426.422	.000	.807
Lower-bound	6948.437	1.000	6948.437	426.422	.000	.807

Since the required assumption for conducting the analysis using a Repeated Measures Design was not met, as shown in Table 4, specifically the assumption of sphericity, which refers to the homogeneity of variance among individuals across different measures, we relied on the F value to determine the statistical significance of

the effect of treatments on individuals. According to Girden (1992), when the sphericity of the data (homogeneity of variance across treatments) is not met, we should refer to the adjusted values provided in the analysis results of SPSS. One such adjusted value is based on Epsilon, as shown in Table 4.

Table 4: Sphericity Test in the Study's Sample Data.

Within Subjects Effect	Mauchly's Test of Sphericity						
	Mauchly's W	Approx. Chi-Square	df	Sig.	Greenhouse-Geisser	Epsilon Huynh-Feldt	Lower-Bound
Score	0.096	236.298	5	0	0.1	0.16	0.333

If the Epsilon value is greater than > 1 , the Huynh-Feldt correction is used. Conversely, if the Epsilon value is less than < 1 , the Greenhouse-Geisser correction is used. In this case, upon examining Table 4, we find that the Epsilon value is less than 1, indicating that we use the adjusted value of Greenhouse-Geisser.

In all cases, upon checking all the adjusted values in Table 3, it was found that all of them are statistically significant. The Greenhouse-Geisser correction indicates a substantial effect of treatments, namely pedagogy, topic teaching methods, and field training. The practical

significance is reflected in the variance among individuals, represented by Eta squared, which reached nearly 81%, as shown in Table 3. This implies that 81% of the variance among individuals' scores before and after treatments can be attributed to these treatments. This result confirms the role of the Higher Diploma Program and its units in enhancing educational practices for student teachers, including the writing of reflective essays, thereby improving the basic professional skills of student teachers.

Post-comparisons were conducted to identify the sources of difference in individuals' scores before and

after treatments. Statistically significant differences were observed among the means of students' scores before and after treatments, indicating a significant effect for each treatment in the study. These treatments correspond to the main units presented to students in the Higher

Diploma Program. Table 5 displays the means of the sample before treatments and for each treatment, while Table 6 shows the test of statistical differences among them.

Table 5: Means and Standard Deviations of Students' Scores Before and During Treatments.

	Number	Mean	Standard Deviation
Score Before Treatments	103	20.816	3.7930
Score After Pedagogy	103	30.359	3.0353
Score After Teaching Methods	103	30.369	3.0646
Score After Field Training	103	30.165	2.9575

The difference among students' scores before and during treatments is evident in Table 5. The means of their scores during treatment were close, indicating little variation. However, the difference in the means of their

scores was more pronounced before treatments than during treatments.

Table 6: Statistical Significance Test of Mean Scores Before and During Treatments.

		Mean Difference	Standard Error	Significance
fore	Pedagogy	-9.544*	.416	.000
	Subject Teaching Methods	-9.553*	.417	.000
	Field training	-9.350*	.429	.000
Pedagogy	Before	9.544*	.416	.000
	Subject Teaching Methods	-.010-	.091	.915
	Field Training	.194	.229	.398
Subject teaching methods	Before	9.553*	.417	.000
	Pedagogy	.010	.091	.915
	Field training	.204	.203	.319
Field training	Before	9.350*	.429	.000
	Pedagogy	-.194-	.229	.398
	Subject teaching methods	-.204-	.203	.319

(*)significance at 0.05

When examining the statistical significance in Table 6, it is apparent that all values comparing students' scores in each treatment are statistically significant, highlighting

the differences among students' scores during the treatments. Figure 1 provides a clear explanation of these differences.

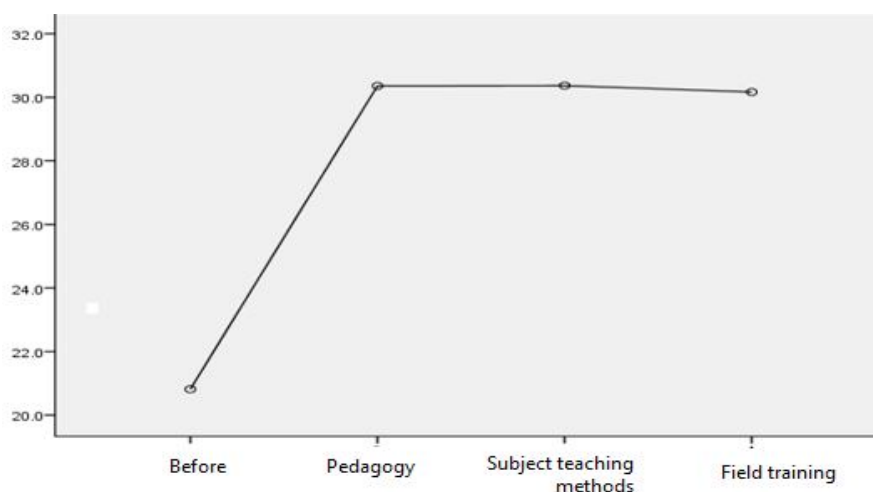


Figure 1: Means of Student' Scores Before and During Treatments.

As shown in Figure 1, the means of students' scores in treatments were very close to each other, nearly forming a single line. However, the difference was evident among their scores before and after treatments. The results of the study indicated that 81% of the variance in scores before and after can be attributed to these treatments. This highlights the significant role that the diploma program plays in enhancing student-teachers' reflective essays. The program's emphasis on intensive reading and writing sessions, along with workshops like Gibbs, likely contributed to this improvement in students' reflective writing skills.

Several studies, including Sake (2021), have suggested the importance of developing training methods to improve critical reflective thinking in work (Liu, 2001). Given that student-teachers' scores in the Higher Diploma are heavily influenced by their performance in reflective essays, this finding offers valuable insights to support such programs. It aligns with previous research highlighting the role of courses and training programs in

enhancing the performance of new teachers (Daradkah, 2011; Ahmad, 2015; Qazaz, 2019).

Regarding the first question of the study, the results indicated no statistically significant differences in treatments. This could be attributed to the consistency and integration between these units (treatments). All students, regardless of their specializations, participate in academic reading and writing sessions, including reflective, analytical, or critical sessions, in the two main units. These sessions are then applied in the third unit.

Regarding the various roles of the main units in the Higher Diploma (focused on enhancing students' scores in academic articles based on their specialization) in relation to the second question of the study, the study included a specialization variable in the analysis of variance using a Repeated Measures Design. Table 7 provides a summary of the means and standard deviations of students' scores before and during the treatments, categorized by specialization.

Table 7: Means and Standard Deviations of Higher Diploma Students' Scores in Reflective Essays Before and During Treatments, Distributed According to Specialization.

	Specialization	Mean	Standard Deviation
Before Treatments	Mathematics	20.054	5.3849
	Science	21.214	1.5953
	Arabic Language	21.600	3.7753
	English Language	20.889	1.6410
	All	20.816	3.7930
Pedagogy	Mathematics	29.108	3.5729
	Science	31.964	1.9338
	Arabic Language	30.150	2.7961
	English Language	30.667	2.4010
	All	30.359	3.0353
Subject Teaching Methods	Mathematics	29.027	3.6779
	Science	32.036	1.9338
	Arabic Language	30.300	2.6378
	English Language	30.611	2.3298
	All	30.369	3.0646
Field Training	Mathematics	29.027	3.4115
	Science	32.036	1.6212
	Arabic Language	29.700	2.7549
	English Language	30.111	2.5179
	All	30.165	2.9575

The adjusted F-value (with 1.545 degrees of freedom) in variance analysis using a Repeated Measures Design indicated a statistically significant effect of this specialization variable. The F-value was 395.118, which is highly significant ($p < 0.001$), indicating a statistical significance close to 0, with a practical significance of 80%. However, there was no statistically significant interaction between the specialization variable and the type of treatment, as the adjusted F-value (with 4.636 degrees of freedom) was 1.315, with a p-value of 0.263. Pairwise comparisons within the specialization showed a statistically significant difference in the effect of

improvement between science and mathematics (favoring science). No other pairwise comparisons were statistically significant, indicating that the treatments had a pronounced effect in science compared to mathematics and Arabic language.

The treatments (main units of the higher diploma) had a more pronounced impact on science students compared to those in mathematics and Arabic language. While one might expect students majoring in Arabic language to show greater improvement in reflective essay writing, it was the science students who showed the most significant

improvement. This unexpected outcome could be attributed to factors such as the type of students enrolled in the program, the number of students in specialization, or the motivation and quick learning abilities of science students compared to their peers in other specializations.

Regarding the various roles of the main units in the higher diploma program (focused on enhancing students'

scores in academic articles based on their gender) (the third question of the study), the study included a gender variable in the analysis of variance using a Repeated Measures Design. Table 8 provides a summary of the means and standard deviations of students' scores before and during the treatments, categorized by gender.

Table 8: Means and Standard Deviations of Higher Diploma Students' Scores in Reflective Articles before and During Treatments, Distributed by Gender.

	Gender	Mean	Standard Deviation
Before Treatments	Male	20.091	5.3054
	Female	21.157	2.8008
	All	20.816	3.7930
Pedagogy	Male	29.091	2.9407
	Female	30.957	2.9114
	All	30.359	3.0353
Subject Teaching Methods	Male	28.818	3.1270
	Female	31.100	2.7670
	All	30.369	3.0646
Field Training	Male	28.667	3.2755
	Female	30.871	2.5248
	All	30.165	2.9575

The inclusion of both gender and specialization variables together in the analysis was excluded due to a decrease in the number of students in the cells resulting from the intersection of specialization and gender variable levels. This reduction in sample size was not conducive to the study's objectives .

The adjusted F-value (with 1.533 degrees of freedom) in the variance analysis using a Repeated Measures Design indicated a statistically significant effect of gender. The F-value was 357.78, which was highly significant ($p < 0.001$). The statistical significance is close to 0, with a practical significance of 785%, indicating a greater improvement in reflective essay scores among females compared to males. However, there was no statistically significant interaction between the gender variable and the type of treatment, as the adjusted F-value (with 1.533 degrees of freedom) was 1.279, with a p-value of 0.276 .

The results indicate that the treatments (main units in the program) had a more significant impact on improving reflective essay scores among females compared to males. This outcome may be attributed to the larger number of females in the study, as well as factors such as motivation, seriousness in study, and potentially more free time among females. This finding aligns with studies that have highlighted the academic superiority of females, as demonstrated in the study by Jarrah & Abu Ashour.(2021)

Conclusions and Recommendations

The results of this study lead us to the following conclusions:

Enhancing the use of student evaluation through reflective essays improves their skills in writing such essays. Given that the Higher Diploma Program is based on this type of evaluation, enrolling student-teachers in this program enhances their writing skills for reflective essays. This improvement positively impacts their educational experiences when they enter the education service.

Reflective writing skills are not solely dependent on literary or theoretical specializations, but rather reflect the ability to think critically within the student's field of study. The study demonstrates that the improvement among students majoring in science was greater than that of their peers in other majors, such as the Arabic language.

Improving reflective writing skills requires the motivation of student-teachers, diligence, perseverance, and a genuine desire to join the Higher Diploma Program. This is evident in the significant improvement observed among female students in their writing skills and their dedication to applying the practices and concepts learned in the Higher Diploma Program.

Based on the study's findings, the following recommendations are made:

1. The study demonstrated that using reflective essays as an evaluation method enhances students' writing skills, which positively impacts their field experiences in education. Therefore, it is recommended to expand the use of this approach in various academic programs, particularly those aimed at teacher preparation.
2. The study suggests that graduate students aspiring to enter the teaching profession should consider enrolling in the Higher Diploma Program. Its clear

role in improving educational experiences through the application of educational concepts, practices, and reflective writing skills makes it a valuable choice for aspiring educators.

3. Despite the improvement in students' writing skills for reflective essays shown in the study, there is still evidence of difficulty and challenges among student-teachers in developing these skills, as indicated by their scores. Therefore, it is recommended to intensify sessions dedicated to reading and academic writing in teacher training programs.

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