



Enhancing Teaching Effectiveness through Professional Training: Evidence from the Higher Diploma Program in Eastern Ethiopian Universities

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Abstract

The main purpose of this study was to examine the contribution of the Higher Diploma Program (HDP) for teacher professional training to instructors' teaching effectiveness in three selected public universities in Ethiopia. An equal-subject causal-comparative research design was employed. Instructors and their respective students were selected through a simple random sampling technique, yielding 150 instructors (75 trained and 75 untrained; 50 from each university) and 600 students as participants. Of these, 123 instructors (82%) and 571 students (95.2%) successfully completed and returned the questionnaires. Participants included instructors who had completed the HDP training but had no other exposure to education courses, and a comparable group without HDP training. Data were collected using the Teacher Effectiveness Scale for Higher Education and a self-developed questionnaire. Descriptive statistics (percentage, mean, and standard deviation) and One-Way ANOVA were used for data analysis. The results indicated that instructors who had undergone HDP training were perceived by their students as more effective across all four dimensions of teacher effectiveness. The One-Way ANOVA further revealed statistically significant differences between the two groups in teaching-related competence ($F(1,569) = 265.702, p < .001$) and relational competence ($F(1,569) = 364.025, p < .001$). However, no significant differences were found in subject-matter competence ($F(1,569) = 258.016, p = .086$) and personality ($F(1,569) = 183.697, p = .096$). It is therefore recommended that HDP training be sustained and extended to all instructors, accompanied by regular follow-up programs to ensure continuous application and reinforcement of acquired pedagogical skills.

Keywords: Higher Diploma Program (HDP); Instructor effectiveness; Teaching-related competence; Relational competence; Higher education

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1. Introduction

Traditionally, in the Ethiopian context, being an instructor in a higher learning institution has primarily depended on possessing sound subject matter knowledge, as reflected in a high cumulative grade point average (CGPA) upon graduation. However, across the world, there is growing recognition that subject expertise alone is insufficient for effective teaching; pedagogical competence is equally essential. The major aim of introducing pedagogical training in universities globally has been to enhance active learning and promote student-centered teaching approaches (Gibbs & Coffey, 2004). In several countries such as Norway, the United Kingdom, and Sri Lanka, pedagogical training for university teachers has even become compulsory, reflecting the paradigm shift from teacher-centered to learner-centered instruction (Nevgi et al., 2007).

Research consistently shows that participation in pedagogical training helps university teachers become more effective by increasing their awareness of teaching approaches, learning processes, and professional practices (Gibbs & Coffey, 2004; Karm & Remmik, 2008; Postareff, Lindblom-Ylänne, & Nevgi, 2007, in Karm, 2010). Such training fosters reflective practice, improves teacher-student interaction, and enhances student learning outcomes. However, the empirical evidence remains mixed: while some studies report that pedagogical training has a direct and immediate positive impact on promoting student-centered learning (Nevgi et al., 2007; Gibbs & Coffey, 2004), others suggest limited or inconclusive effects on actual teaching behavior (Norton et al., in Karm, 2010). This inconsistency highlights the need for context-specific research, particularly in developing countries where pedagogical training is relatively new.

In Ethiopia, concerns about the declining quality of education in higher education institutions (HEIs) led the Ministry of Education to introduce the Higher Diploma Program (HDP) in 2002 (MoE, 2002). The HDP was designed as a one-year, on-the-job professional development program aimed at improving the pedagogical competence and professionalism of teacher educators (Jordan & Spinney, 2004). The program enables instructors to apply newly acquired skills directly in their classrooms, thereby bridging theory and practice. Initially intended for teacher educators, the program was later expanded to include all university instructors, recognizing that effective teaching requires both pedagogical and subject matter mastery.

Despite its nationwide implementation, questions remain about the extent to which the HDP has achieved its intended goals, particularly in fostering instructor effectiveness. The effectiveness of any training program is determined by the degree to which it translates into observable improvements in performance and learner outcomes (Guskey, 2000). Although several studies have examined the HDP in various Ethiopian universities, their findings have been inconclusive, often limited by scope, methodology, or regional focus. In particular, few studies have assessed the contribution of the HDP in the eastern cluster universities, such as Dire Dawa University, Haramaya University, and Jigjiga University.

This study was therefore designed to address these gaps by examining the contribution of the Higher Diploma Program to instructor effectiveness in higher education institutions in Ethiopia, with special emphasis on the eastern cluster universities. It seeks to determine how instructors perceive the importance of the HDP for their professional development, whether HDP graduates are more effective than non-HDP graduates in terms of student learning satisfaction, and how the program can be improved to better achieve its objectives.

By exploring these issues, the study aims to generate evidence-based insights that can inform policy decisions and institutional practices regarding professional development in higher education. The findings are expected to create awareness of the impact of pedagogical training on teaching effectiveness, guide decisions about improving or restructuring HDP implementation, and contribute to the broader literature on teacher professional development in higher education. Furthermore, the results may serve as a springboard for future research on the professional growth of university instructors in Ethiopia and beyond. Given resource and time limitations, the present study focuses on instructors without prior pedagogical training who have completed the HDP in the eastern cluster universities.

2. Review of Related Literature

2.1. Concept and Purpose of Continuous Professional Development (CPD)

Globally, reform initiatives have emphasized the teacher as the most critical factor influencing student achievement (Desimone et al., 2006; Knight & Wiseman, 2005; Wanzare & Ward, 2000). Teachers, who have sustained and direct contact with students, greatly shape learning outcomes and school climate (King & Newman, 2001). Thus, improving teachers' knowledge, skills, and dispositions through professional development is essential to educational quality.

Continuous Professional Development (CPD) refers to ongoing, structured learning activities that enhance teachers' professional knowledge and skills after initial training (Craft, 2000; Speck & Knipe, 2005). It is a collaborative, job-embedded process designed to foster teachers' growth, enabling them to promote student learning effectively (Day & Sachs, 2004; Sharma & Bindal, 2013). CPD encourages reflection, experimentation, and collaboration (Guskey, 2002; Putnam & Borko, 2000), thereby aligning teacher learning with student learning outcomes.

Grundy and Robison (2004) identified three interrelated purposes of CPD: extension (adding new knowledge or skills), growth (developing higher levels of expertise and autonomy), and renewal (transforming teachers' practices and beliefs). Through these processes, CPD leads to positive change in teaching practices, attitudes, and ultimately, student achievement (Clarke & Hollingsworth, 2002; Guskey, 2002; Fraser et al., 2007). Effective professional development is therefore characterized by being aligned with student learning needs, intensive and ongoing, content-focused, collaborative, and evaluated for impact (Guskey, 2000; Loucks-Horsley et al., 2010).

2.2. The Need for Continuous Professional Development

Changing educational contexts and increasing demands for accountability necessitate continuous learning for teachers. As Mundry (2005) noted, modern professional development emphasizes: (a) recognizing teachers' experiential knowledge, (b) focusing on subject-specific pedagogy, and (c) supporting all learners to master challenging content. Lifelong learning has thus become indispensable for teachers to remain responsive and effective (Van Eekelen et al., 2006).

However, many teachers struggle with self-reflection and problem-solving in practice (Steyn, 2011; Ono & Ferreira, 2010). Professional development efforts that rely solely on workshops without classroom application often fail to improve outcomes. Darling-Hammond (2003) advocates for inductive, problem-centered, and context-sensitive approaches, where learning is situated in teachers' real-world settings and grounded in reflective practice.

2.3. Impacts of CPD on Teacher and Teaching Effectiveness

CPD enhances teachers' pedagogical skills, subject knowledge, and self-efficacy, which collectively improve classroom practices and student learning outcomes (Boam & Weindling, 2006; OECD, 2009). Teachers with strong self-efficacy—defined as confidence in their ability to influence student learning—tend to demonstrate higher effort, persistence, and innovation (Tschannen-Moran & Hoy, 2001). Research consistently links teacher self-efficacy to improved student engagement and achievement (Bruce et al., 2010; Goddard et al., 2004; Ingvarson et al., 2005).

Quality teaching remains the single most important school-based determinant of student success (Darling-Hammond, 2000; Hattie, 2008; Rockoff, 2004). Improving teacher competence, therefore, directly contributes to educational quality (McNeil, 2004). Studies indicate that well-designed CPD positively influences teachers' satisfaction, reflective ability, and commitment to innovation (Desimone, 2009; Tzivinikou, 2015). It can also improve classroom management, formative assessment, and teacher-student interaction (Akalin & Sucuoglu, 2015; De Roos et al., 2010; Furtak et al., 2016).

2.4. Theoretical Perspectives on CPD

Two major perspectives guide effective CPD: the Cognitive Psychological Perspective (CPP) and the Professional Development Perspective (PDP) (Kwakman, 2003). From a cognitive psychological perspective, teachers construct knowledge through self-directed and contextually embedded learning. Learning occurs through interaction with the environment and is influenced by prior knowledge (Dadds, 2006). This perspective supports learner-centered, assessment-centered, and community-centered professional learning (Adu & Okeke, 2014).

The professional development perspective emphasizes situated learning—acquiring skills through active engagement in teaching contexts. Effective teacher learning thus occurs at the workplace, within schools or networks, where theory meets practice (Lee, 2005). Constructivist-based CPD promotes reflective, collaborative, and needs-driven learning aligned with local contexts (Pitsoe & Maila, 2012; Steyn, 2011).

2.5. Factors Affecting Implementation of CPD

Despite its recognized value, several factors hinder effective CPD implementation. At the institutional level, constraints include inadequate time, heavy workloads, limited resources, and insufficient administrative support (Buczynski & Hansen, 2010; Georgina & Hosford, 2009). Teachers often lack the time to apply, reflect on, and refine new practices (Guskey & Yoon, 2009). Moreover, the absence of systematic follow-up and mentoring reduces program impact (Caena, 2011; Postholm & Waege, 2015).

Contextual and motivational factors also play crucial roles. Teachers' willingness to apply new knowledge and their perceived relevance of CPD to daily practice determine success (Hill et al., 2013). Supportive environments—both physical and psychological—enhance learning transfer, while unsupportive settings discourage innovation (Tannenbaum, 1997). Hence, effective implementation requires adequate resources, leadership support, and a culture that values continuous learning (Darling-Hammond, 2017).

2.6. Conditions for Effective CPD

Successful CPD depends on a combination of structural, pedagogical, and relational factors. Acknowledging teachers' prior knowledge enables tailored learning experiences (Lee, 2005). Opportunities for application and feedback encourage teachers to integrate new practices (Elmore, 1996; Lam & Pang, 2003). Expert facilitation and sustained support are also essential for lasting change (Garet et al., 2001; Steyl, 2009). Programs facilitated by knowledgeable trainers who combine theoretical and practical expertise tend to produce greater instructional improvement (Porter et al., 2000).

Active learning and collaboration are central to effective CPD. Engaging teachers in analyzing student learning, reflecting on evidence, and experimenting in classrooms fosters ownership and long-term change (Cordingley et al., 2015; Darling-Hammond, 2017). Collaborative professional communities enhance teachers' collective efficacy and professional judgment (Kraft & Papay, 2014; OECD, 2014). Furthermore, creating a conducive learning environment and continuously evaluating outcomes help sustain progress (Mestry & Grobber, 2004; Tooley & Connally, 2016). Ultimately, effective CPD empowers teachers to be flexible, reflective, and innovative—qualities essential for adapting to changing educational realities (Bubb & Earley, 2007; Kennedy, 2016).

2.7. Student Engagement and Effective Teaching

Effective teaching is inseparable from student engagement. Traditional teacher-centered instruction often leads to passivity and disinterest, while active learning strategies enhance motivation and understanding (Bovill et al., 2016). Engaged students demonstrate higher academic performance, attendance, and persistence (Christenson et al., 2012; Newmann, 1992).

Involving students in learning processes fosters deeper understanding and ownership of their education (Bartley et al., 2010; Bergmark & Westman, 2016). Teachers who adopt participatory, learner-centered pedagogies—often as a result of CPD—create environments conducive to meaningful engagement and higher learning achievement (Bovill & Bulley, 2011; Carey, 2013).

3. Methods and Materials

This study employed a quantitative causal-comparative research design to explore the contribution of the Higher Diploma Program (HDP) pedagogical training to instructor effectiveness in higher education institutions in Ethiopia. The design was chosen because it allows examination of possible cause-and-effect relationships between two or more existing groups, in this case, instructors who have completed the HDP training and those who have not. The purpose was to determine whether participation in the HDP program results in measurable differences in teaching effectiveness as reflected in student learning satisfaction.

The study was conducted in three universities located in eastern Ethiopia: Haramaya University, Dire Dawa University, and Jigjiga University. Participants included instructors who had completed the HDP training but had no prior exposure to educational or pedagogical courses, and their counterparts with similar backgrounds who had not taken the training. The instructors were identified and selected with the assistance of the HDP training centers and the human resource departments of the respective universities. To measure instructor effectiveness from the students' perspective, up to five students were randomly selected from each participating instructor's class using a simple random sampling technique. These students completed a questionnaire measuring their learning satisfaction with the instructor's teaching performance. The aggregated student scores were used as the primary measure of teaching effectiveness.

In total, the three universities had approximately 1,545 instructors and 11,347 students enrolled in regular programs. From this population, 150 instructors (75 HDP graduates and 75 non-HDP instructors, with 50 drawn from each university) were selected, along with 600 of their students. Out of these, 123 instructors (82%) and 571 students (95.2%) returned properly completed questionnaires suitable for analysis. The inclusion criteria ensured that the instructors in both groups were comparable in all respects except for their participation in the HDP training, which allowed for a more valid comparison.

Two instruments were used to collect data. The first questionnaire, developed by the researcher based on related literature, was administered to instructors and focused on their perceptions of the HDP program, its benefits, and areas for improvement. The second instrument, the *Teacher Effectiveness Scale in Higher Education* developed by Calaguas (2013), was adapted for use with students to assess their satisfaction with instructors' teaching performance. The adapted scale underwent pilot testing to ensure its contextual relevance and psychometric soundness. Reliability analysis using Cronbach's alpha yielded coefficients ranging from 0.707 to 0.968 for the four variables, with an overall reliability coefficient of 0.972, indicating high internal consistency.

To establish validity and reliability, the instruments were first reviewed by experienced colleagues for content clarity and relevance. A pilot test was then conducted with instructors who were excluded from the main study but shared similar characteristics with the target participants. Based on feedback and analysis, necessary revisions were made before the instruments were used in the actual data collection.

Data analysis involved both descriptive and inferential statistical techniques. Descriptive statistics, including means and standard deviations, were used to summarize and compare performance levels between HDP-trained and non-trained instructors based on student satisfaction scores. To determine whether the observed differences between the two groups were statistically significant, a one-way analysis of variance (ANOVA) was performed.

Prior to conducting the ANOVA, the necessary statistical assumptions were tested. The assumption of homogeneity of variances was examined using Levene's test, which yielded a non-significant result ($p = .155$), confirming that the variances were equal across groups.

Table1 Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
TRB	380.960	1	569	.155
SMC	497.235	1	569	.155
RE	549.581	1	569	.155
Personality	128.136	1	569	.155

The normality assumption was verified using the Kolmogorov–Smirnov goodness-of-fit test, which produced a non-significant result ($p = .077$), indicating that the data followed a normal distribution.

Table 2 here: One-Sample Kolmogorov–Smirnov Test for Normality

		TRB	SMC	RE	Personality	Training
N		571	571	571	571	571
	Mean	3.9082	3.8086	3.8536	3.4722	1.47
Normal Parameters ^{a,b}	SD	1.03019	1.15351	1.26714	1.13000	.499
Most Extreme Differences	Absolute	.213	.214	.229	.111	.357
	Positive	.145	.147	.183	.088	.357
	Negative	-.213	-.214	-.229	-.111	-.325
Kolmogorov-Smirnov Z		5.090	5.111	5.469	2.646	8.530
Asymp. Sig. (2-tailed)		.077	.077	.077	.077	.077

a. Test distribution is Normal.

b. Calculated from data.

Finally, the assumption of independence was inherently satisfied through the study design, as the two groups (HDP-trained and non-trained instructors) were mutually exclusive and independently sampled. The fulfillment of these assumptions confirmed the appropriateness of the ANOVA procedure for analyzing the data. Consequently, the analysis proceeded to compare the mean scores of the two groups to determine whether HDP training had a statistically significant effect on instructor effectiveness as reflected in student learning satisfaction.

4. Data presentation, Analysis and Interpretation

4.1. Introduction

This part of the study presents the analysis and interpretation of data collected to answer the basic research questions raised earlier. To this end, data was collected from study participants

using self-developed questionnaire. To collect data first instructors have similar years of teaching experience and those who haven't taken education courses at university studies were selected.

Then these teachers and their students were asked to fill the questionnaire. Altogether, 850 questionnaires, 700 for students and 150 for instructors were distributed to respondents selected. However, out of these 627 questionnaires out of the 700 distributed for students and 123 questionnaires out of the 150 distributed for teachers were filled and returned. However, from these 56 questionnaires collected from students and 17 questionnaires collected from teachers were partially filled and found to be not useful for the study and were excluded from the analysis. Thus, the analysis was carried out with the data collected with the 571 (81.6%) questionnaires from students and 123 (82%) questionnaires collected from teachers filled and returned. The collected data was deemed sufficient for the analysis; answer the basic questions and to reach at the conclusion of the study. The collected data was analyzed using both descriptive and inferential statistics to answer the research questions.

4.2. Demographic Characteristics of Respondents

Table 3. Demographic characteristics of respondents

S/N		f	%
Students by Sex	Male	405	70.9
	Female	166	29.1
	Total	571	100
Instructors by sex	Male	91	74
	Female	32	26
	Total	123	100
Student from instructors participated Training	HDP trained	303	53.1
	Not Trained	268	46.9
	Total	571	100
Student respondents from each University	DDU	192	33.6
	HU	188	32.9
	JJU	191	33.5
	Total	571	100
Study year	3 rd year	566	99.1
	4 th year	5	00.9
	Total	571	100
Years of experience	<3 years	65	52.85
	4 to 6 years	41	33.33
	>6years	17	13.82
	Total	123	100

To answer the basic question of the study which is whether the higher diploma training has contribution to instructor effectiveness respondents were sampled from students as well as

instructors. Students were selected from instructors who have participated in the training and those with similar experiences but who have not participated in the higher diploma teacher professional training program. As revealed in the table above table one it is evident that more male students participated in the study than female students. Besides, the respondents were predominantly third year students which help have a more reliable data as these students are more familiar with their teachers than first or second year students. Most of these students are about to graduate and can offer mature response than their counterpart at first or second years. The demographic data also reveals that those who participate on the higher diploma teaching skill development training are predominantly early career teachers who are trying to establish themselves in the higher education teaching profession. The fact that more male teachers participate in the training program is acceptable as a significant number university teachers all over the nation are males.

Table 4 Student respondents selected from instructors of both groups

		Training		Total
		HDP	NON-HDP	
	Dire Dawa	84	108	192
University	Haramaya	114	74	188
	JigJiga	105	86	191
Total		303	268	571

In order to assess the effectiveness of the higher diploma training program participants were selected from all three universities in the eastern cluster in a proportional manner. The above table 2 shows that students of instructors who have been training in the higher diploma program as well as those who have not been trained in the higher diploma teaching skills development program were selected from all three universities based on the proportion of teachers trained in the program in each of the three universities. The table depicts that 33.6% (192) are selected from Dire Dawa University, 33.5% (191) from JigJiga University and the rest 33% (188) are selected from Haramaya University.

Table 5. Mean ratings of instructors on all effectiveness categories

	TRB	SMC	RE	Personality
N	571	571	571	571
Mean	3.9082	3.8086	3.8536	3.4722
SD	1.03019	1.15351	1.26714	1.13000
Minimum	1.13	1.27	1.00	1.00
Maximum	5.00	6.45	5.00	5.00

As table 3 indicates, students were asked to rate their instructors on the four teacher effectiveness indicators, namely, teaching related behavior, relational competence, subject matter competence and personality. Accordingly, instructors were rated above average on all the four instructor effectiveness indicators while teaching related behavior got a slightly better rating than all the others whereas instructors were rated a slightly above average on the personality indicator. This may be due to two major reasons. On the one hand students may rate their instructors above average thinking that the response they are providing may have a negative effect on their instructors or that they may have performed well due to the higher diploma training and are exercising the required behaviors and have been liked by their students. However, its more convincing to think that the higher rating is due to the desirable attributes teachers are exhibiting as a result of the training as the higher ratings are obtained from all the three universities and expecting all to be positively disposed towards their teachers for no apparent reason is implausible.

Table 6. Mean ratings of both groups of instructors by their students

		N	Mean	SD
TRB	HDP	303	4.4543	.33366
	NON-HDP	268	3.2907	1.19103
	Total	571	3.9082	1.03019
Subject Matter Competence	HDP	303	4.4140	.40564
	NON-HDP	268	4.4242	1.32975
	Total	571	3.8086	1.15351
Relational E	HDP	303	4.5974	.37698
	NON-HDP	268	3.0128	1.38913
	Total	571	3.8536	1.26714
Personality	HDP	303	3.9967	.70972
	NON-HDP	268	3.8791	.22104
	Total	571	4.0722	1.13000

The mean rating of the two groups of instructors reveals perception of students as to which group is more effective in terms of the four effectiveness indicators of instructors. As the results in Table 6 reveal, students perceive that instructors who are trained in the higher diploma program are better effective in terms of teaching related behavior and relational competence while they rated both groups almost similarly in terms of subject matter competence and instructors personality.

4.3. Benefits of the Training

A training program can only address the needs and interests of individuals when it's content and the way it is conducted considers the level of understanding of trainees as well as the gaps trainees think they have in their professional practice. The reason why the training was offered in the first place was to improve the professional practice of instructors i.e. to enable them be better teachers, to tailor their teaching to the needs and interests of students by using different teaching methods based on the learning style of students. Moreover, they are expected, after their training, to conduct action research project to solve any problems they face in the course of their professional practice to improve their professional practice. To identify whether the higher diploma pedagogical training is helping address the interests of its trainees and whether its bringing benefit to them questions were prepared and administered to students.

Table 7 Instructors response on the usefulness of the program

Items	Options	f	%
Is the training useful?	Yes	56	83.6
	No	0	0
	Difficult to say	11	16.4
In what way is the HDP training useful?	Improvement of professional practice	36	53.7
	Financial benefit	14	20.9
	Employment opportunity	17	25.4
Which part of the training did you find challenging?	Attending	33	49.3
	Writing the activities	11	16.4
	Conducting the action research	14	20.9
	Completing the projects	17	25.4
	Lack of proper follow-up	7	10.4
Which aspect of the training did you find good?	The module	20	49.3
	The trainers	27	40.3
	The time	7	10.4
	The implementation of what is learnt	13	0

As depicted in the above table 5 a significant number 56 (83%) of the instructors questioned believe that the training program to be useful especially for their professional development. However, some instructors believe that there is no benefit obtained from going through the training program. Moreover, instructors were questioned how the training is going to benefit them, to which most replied as it is beneficial to improve their professional practice while others are more focused on its secondary benefit as improving ones employment opportunity and financial benefits which they might get through additional workloads. Further, they indicated that while they can say little on the implementation of what is acquired, they liked the timing its offered and the trainers but some complained that since the module is generic it fails to address specific issues in their fields of study.

4.4. The Training & Instructor Effectiveness

4.4.1. Pedagogical Competence

Among the most important objectives of the higher diploma training, the major one is the improvement of the pedagogic competence of trainees. To this effect, the module used for the training dedicates a large portion of its topics and time to the study and practical application of the different teaching strategies that are useful for student engagement in their learning as well as the effective use of them in classroom instruction by the teacher. Being pedagogically competent requires that a teacher become dedicated to work, ethical, passionate about work, fair, positive role model, having a sense of integrity. Also, a pedagogically competent teacher is expected to use teaching strategies that encourage student engagement through explaining complicated material well, use flexible instructional style, being student-centered, having instructional clarity, using varied instructional strategies, effective in using of instructional equipment, integrating values in lessons, giving homework, showing love for subject taught, encouraging the asking of questions, encouraging discussions, teaching in an organized manner, developing sense of responsibility among the students, being a good communicator, and making classes interesting.

Furthermore, a pedagogically competent teacher is expected to maintain students' on task behavior, not yelling at students, modeling positive behaviors, always maintaining discipline, rewarding good behaviors, and creating safe environment. Thus, to identify whether instructors are exhibiting these behaviors or not instructors themselves and their students were given questions to answer. Therefore, a one-way between subjects ANOVA was conducted to compare the effect of HDP training instructor effectiveness in terms of teaching related behavior, for those trained in the higher diploma program and those instructors who were not trained in the higher diploma training.

Table 8 One way ANOVA between teaching related behavior and HDP training

Multiple R= .56		R²= 31.8			
ANOVA Table					
	Sum of Squares	Df	Mean Square	F	Sig
Between groups	192.563	1	192.563	265.702	.000
Within groups	412.373	569	0.7247		
Total	604.936	570			

In order to see if there is difference between instructors trained in the higher diploma program and those who haven't taken the training a hypothesis was developed and tested using a one

way ANOVA.

Ho= there is no statistically significant difference between instructors who are trained in the higher diploma program and those who haven't attend the training program in terms of teaching related behavior.

In order to test this hypothesis a one way ANOVA was conducted to see if the difference between the two groups is statistically significant. There was a statistically significant difference between the two groups, namely instructors who have participated in the higher diploma training and those who didn't participate in terms of teaching related behavior as demonstrated by one- way ANOVA ($F(1,569) = 265.702, p = .000$). The analysis revealed that there is significant difference between the two groups in terms of teaching related behavior. The one way ANOVA analysis between the two groups conducted to see if there is difference between those who have gone through the training and those who didn't participate in the higher diploma training shows that those who have taken the training are perceived as way better effective in the eyes of their students in terms of teaching related behavior than those who didn't attend the training.

4.4.2. Subject Matter Competence

A higher education teacher goes through rigorous training process before he/she lands on a teaching journey. Teachers especially those employed at higher education institutions are among the top performers in their batch of students while they are studying for their undergraduate degrees. Even at second degree level these instructors are selected for hire though a stringent selection process. Thus, it's natural to expect that these instructors are well versed in the subject matter of their field of specialization. Therefore, subject matter competent requires one to be knowledgeable of subject matter, delivering well-prepared lessons, being an expert, having content mastery, ability to teach many subjects. Thus, to see if there is a statistically significant difference between the two groups of instructors, a hypothesis was developed and tested using a one-way ANOVA.

Ho= there is no statistically significant difference between instructors who are trained in the higher diploma program and those who haven't attend the training program in terms of subject matter competence.

To test the hypothesis students' responses on the teacher effectiveness scale on subject matter competence was analyzed. A one-way between subjects ANOVA was conducted to compare the effect of HDP training instructor effectiveness in terms of subject matter competence, for those trained in the higher diploma program and those instructors who were not trained in the higher diploma training. As shown in table 7 the F-statistics failed to show a statistically significant relationship between higher diploma training and subject matter competence. There was no a statistically significant difference between the two groups, namely instructors who have participated in the higher diploma training and those who didn't participate in terms of subject matter competence as demonstrated by one-way ANOVA ($F(1,569) = 258.016, p = .086$). The result of the analysis indicates that there is no difference between trainees and other teachers resulting in a failure to reject the hypothesis of no difference. This means there is no sufficient evidence to reject the null hypothesis. Thus, based students observation instructors who went through the training program showed no statistically significant difference from those who were not trained in the higher diploma professional teaching training program.

Table 9 one-way ANOVA between subject matter competence and HDP training

Multiple R= .56		R ² = 31.2		
ANOVA Table				
	Sum of Squares	Mean Square	F	Sig.
Between groups	236.617	236.617	258.016	.086
Within groups	521.810	0.917		
Total	758.427			

4.4.3. Relational Competence

Students learn better and achieve instructional objectives when they are educated by teachers who can relate to them and understand their problems, weaknesses and strengths. Teachers who relate to students from diverse backgrounds can understand and help their students. Relational expertise or competence is having the ability to establish rapport, maintain harmonious relationships, being sensitive, open-minded, accepting, interacting affectionately with students, initiating teacher-student relationships, helping students, believing in students, recognizing the potentials of students. To identify whether teachers who participated in the higher diploma training have a significant advantage to relate to students, questions were included in the questionnaire to students and their response was analyzed using a one-way ANOVA. A one-way between subjects ANOVA was conducted to compare the effect of HDP training instructor effectiveness in terms of relational competence, for those trained in the higher diploma program and those instructors who were not trained in the higher diploma

training.

Table 10: One way ANOVA between relational competence and HDP training

	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	357.077	1	357.077	364.025	.000
Within groups	558.140	569	0.981		
Total	915.217	570			

In order to determine if there is difference between instructors trained in the higher diploma program and those who haven't taken the training in terms of their relationship competence as perceived by their students a hypothesis was developed and tested using a one way ANOVA. Ho= there is no statistically significant difference between instructors who are trained in the higher diploma program and those who haven't attend the training program in terms of relationship competence.

In order to test this hypothesis a one way ANOVA was conducted to see if the difference between the two groups is statistically significant. A one-way between subjects ANOVA was conducted to compare the effect of HDP training instructor effectiveness in terms of relationship competence, for those trained in the higher diploma program and those instructors who were not trained in the higher diploma training. The analysis as depicted in table 8 above revealed that there is statistically significant difference between the two groups, namely instructors who have participated in the higher diploma training and those who didn't participate in terms of their relationship competence as evidenced by their students. The analysis revealed that there is significant difference between the two groups in terms of their relationship competence as demonstrated by one-way ANOVA ($F(1,569) = 364.025, p = .000$) with means of 4.60 and 3.01 for HDP trained and those who are not HDP trained instructors, respectively. The SD for HDP trained is .38 while for the not-HDP trained ones is 1.39. The one way ANOVA analysis between the two groups conducted to see if there is difference between those who have gone through the training and those who didn't participate in the higher diploma training shows that those who have taken the training are perceived as exhibiting better relationship competence by their students. The F-statistics was significant resulting in rejection of the null hypothesis of no difference between the two groups of teachers. This means that in terms of relationship competence students observed that the training has produced a statistically significant difference for instructors who were trained in the higher diploma program.

4.4.4. Personality

One of the areas of competence for effective teachers is their personality. Teachers personality of being caring, kind, compassionate, bold, aggressive, an extrovert, active, energetic, strong, relaxed, practical, predictable, reasonable, gracious, wise, decisive, stable, rational, challenging, enthusiastic, creative, respectful, friendly, reflective, charismatic, having sense of humor, concern of students' successes, and good prior academic performance are tantamount to teachers effectiveness. This can be effectively judged by their students who are primary beneficiaries or victims of teachers' good or bad personality. To this end, students were surveyed to identify if there is difference between teachers who went through the HDP training and teachers who didn't attend the higher diploma training. A one-way between subjects ANOVA was conducted to compare the effect of HDP training instructor effectiveness in terms of personality, for those trained in the higher diploma program and those instructors who were not trained in the higher diploma training.

Table 11 One-way ANOVA between personality and HDP Training

Multiple R= .49		R ² = .24			
ANOVA Table					
	Sum of Squares	Df	Mean Square	F	Sig.
Between	177.628	1	177.628	183.697	.096
Within groups	550.200	569	0.967		
Total	727.827	570			

In order to determine if there is difference between instructors trained in the higher diploma program and those who haven't taken the training in terms of their personality as perceived by their students a hypothesis was developed and tested using a one way ANOVA.

Ho= there is no statistically significant difference between instructors who are trained in the higher diploma program and those who haven't attend the training program in terms of teaching related behavior.

In order to test this hypothesis a one way ANOVA was conducted to see if the difference between the two groups is statistically significant. The analysis as depicted in table 10 above revealed that there is no statistically significant difference between the two groups, namely instructors who have participated in the higher diploma training and those who didn't participate in terms of their personality as evidenced by their students. The analysis revealed that there is significant difference between the two groups in terms of their personality as demonstrated by one-way ANOVA ($F(1,569) = 183.697, p = .096$). The one way ANOVA analysis between the two groups conducted to see if there is difference between those who

have gone through the training and those who didn't participate in the higher diploma training shows that those who have taken the training are perceived as exhibiting the same personality by their students. The F- statistics was not significant resulting in failing to reject the null hypothesis of no difference between the two groups of teachers. This means that in terms of personality students observed no statistically significant difference between instructors who were trained in the higher diploma program and those who didn't attend the training.

5. Discussion

Initial training of university teachers is now established in every university is becoming increasingly common in many other countries. From being small in scale, low in credibility and poorly supported, substantial training of 120–500 hours duration is now well embedded in many institutions, is often compulsory and is sometimes linked to probation or tenure (Gibbs, 2004). Increased confidence in the value of such training has not, however, been based on solid evidence. Reviews of research into the training of university teachers have concluded that there is little evidence regarding the impact of training on teaching and even less evidence of impact on student learning (Gilbert and Gibbs, 1999; Weimer and Lenze, 1997). Such evidence as exists tends to involve self-reports of change from teachers, either through ad hoc program evaluation questionnaires or through group discussion and interview. Studies tend not to obtain evidence from theoretically or psychometrically based questionnaires, obtain evidence from students or obtain evidence about impact on student learning, which is the ultimate purpose of training. This study combines psychometric data from a number of training programs and includes a control group so as to be able to measure impact.

The results of the analysis of the data collected from students revealed that instructors who participated in the higher diploma training program are better in some teaching effectiveness indicators while they show no difference from other teachers in some of these teacher effectiveness indicators. Furthermore, the analysis revealed that teachers who were trained in the higher diploma training fare better in terms of teaching related behaviors and relational competence on the teacher effectiveness measurement scale while they are rated the same or slightly better in terms of subject matter competence and personality on the same teacher effectiveness measurement scale. The findings of the study are in agreement with studies conducted in different parts of the world on instructors in higher education institutions.

A growing body of literature reveals that where teachers have stated a high level of self-efficacy, improved student outcomes have been reported (Bruce, Esmonde, Ross, Dookie, & Beattie, 2010; Goddard, Hoy, & Hoy, 2004; Ingvarson, Meiers, & Beavis, 2005; Tschannen-Moran & Hoy, 2001). This causal link has been attributed to a range of behaviors linked to classroom practice, including the level of teacher effort invested in planning and organization, goals and aspirations, and risk taking with new pedagogies to meet the needs of students as well as persistence and resilience when things go awry (Tschannen-Moran & Hoy, 2001).

The professional development program of teachers is evaluated in terms of teachers' subject knowledge, teaching skills, self-efficacy, and student attainment of outcomes (Boam and Weindling 2006; DSD, 2007). Similarly, Purdon (2002) said that with the help of continuous professional development, the teacher attains these purposes like improving teaching methods, enhancing teachers' academic abilities, and research skills. Due to continuous professional development teacher organizes effective and comfortable environment for the learning of students.

According to scholars (e.g Kennedy, Christie, Fraser, Reid, McKinney, Welsh, 2008; OECD, 2009; Timperley, Wilson, Barrar, & Fung, 2007; Villegas-Reimers, 2003), the effectiveness of continuous professional development characterized by the following basic elements; teachers' content knowledge and pedagogical content knowledge, teachers' self-efficacy in the teaching of their subject, the classroom environment (teacher behavior, student behavior, teacher-student interaction, teaching and learning activities, and Students' attainment of learning intentions building teachers' sense of efficacy to teach this age-group by providing CPD that supports skill development is critical. Tschannen-Moran & Hoy (2001) argued that a teacher's sense of efficacy is their belief or "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated".

Some other studies have also found out specific improvements such as teacher-student interactions (De Roos, Van de Heijden & Gorter, 2010; Domitrovich et al., 2009; Pianta et al., 2008), classroom management (Akalin & Sucuoglu, 2015), formative assessment (Furtak et al., 2016), science process skills (Cotabish, Dailey, Hughes, & Robinson, 2011), teaching science (Stevenson, Stevenson, & Cooner, 2015). These studies show that training in

particular techniques enables teachers to reproduce those techniques more frequently or more consistently.

It is well documented that quality teaching impacts students' outcomes (Armour and Makopoulou, 2012; Armour et al., 2015; Darling-Hammond, 2000; Desimone, 2009; Hattie, 2008; Hildebrandt and Eom, 2011; Organization for Economic Co-operation and Development [OECD], 2005; Patton, Parker and Pratt, 2013; Rockoff, 2004; Rowe, 2003; Timperley & Alton-Lee, 2008). In the same token, the quality of teaching is a function of the quality of the teacher Weldon, McKenzie, Kleinhenz, & Reid, 2013; Wilson, Dalton, & Baumann, 2015; (Bowles, Hattie, Dinham, Scull, & Clinton, 2014). McNeil (2004), for example, stated that the quality of teachers is the highest determinant factor of realizing quality in education. He further noted that the role of teachers in keeping quality of education is vital particularly in developing countries like Ethiopia where very few resources are available for students. This implies that improving teachers' competence is a key issue in assuring educational quality.

6. Conclusion and Recommendation

This study provides a comprehensive understanding of the contribution of the Higher Diploma Program (HDP) to improving instructor effectiveness and overall institutional performance in Ethiopian universities. The findings clearly demonstrate that the HDP has served as a significant investment in enhancing the professional competence of university instructors. Through this program, instructors have gained pedagogical and relational skills that translate into improved teaching practices and enhanced student learning experiences. The program has thus proven to be a valuable mechanism for advancing both the professional growth of instructors and the quality of higher education.

Despite these achievements, the study also revealed that the HDP's influence remains limited in certain critical areas. While it effectively strengthens instructors' teaching-related and relational competencies, it has not shown a substantial impact on their subject-matter mastery or personality development. Given that effective teaching requires not only pedagogical expertise but also the ability to serve as an ethical and inspirational role model, this gap highlights an important area for program enhancement. The development of instructors as holistic professionals—knowledgeable, reflective, and exemplary in conduct—should therefore be more explicitly emphasized in future iterations of the program.

The study further indicates that instructors who participated in the HDP recognize its importance and relevance for their professional development. However, without systematic follow-up and ongoing support, the skills and insights acquired during the training are likely to diminish over time. Professional growth is a continuous process that requires sustained institutional engagement beyond a single training cycle. Universities and the Ministry of Education should therefore consider mechanisms to reinforce, monitor, and extend the outcomes of HDP training through continuous professional development initiatives.

In light of these findings, several implications emerge for policy and practice. First, the HDP curriculum should be enriched to include components that cultivate personality, ethical awareness, and role-model behavior, ensuring that instructors embody the holistic qualities of effective educators. Second, universities should institutionalize follow-up systems—such as peer mentoring, refresher workshops, and professional learning communities—to help graduates continuously apply and refine the competencies gained during the training. Third, higher education institutions and the Ministry of Education should regard the HDP not as a one-time intervention but as an integral part of a broader, lifelong professional development framework. Finally, systematic monitoring and evaluation mechanisms should be established to assess the long-term impact of HDP training on teaching quality and student learning outcomes.

In conclusion, the HDP has made a meaningful contribution to improving teaching practices and promoting professional competence among university instructors. However, sustaining and expanding its impact requires deliberate policy attention, curricular enrichment, and continuous institutional support. By doing so, universities can ensure that the HDP remains a dynamic and transformative force for advancing the quality and integrity of higher education in Ethiopia.

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Acknowledgment

The author would like to express their sincere gratitude to all individuals who contributed to the completion of this research.

Conflict of Interest

The author declares no conflict of interest.

Funding

The author declares that this study received no external funding.



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