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Aspects to Bolster Faculty Members Professional Competencies in Ethiopian HEIs: Haramaya and Adama Science and Technology Universities in Focus

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Abstract

The present article analyzes faculty members' professional development practices in the universities and the factors attributed to their professional competencies. The researcher teaching and visiting experience pave way to have close proximity to study two higher education institutions, Haramaya and Adama Science and Technology Universities in Ethiopia. 242 faculty members were selected as the sample of the study. Tools for data gathering were questionnaires and document study. The findings of the study uncover the realty that two major factors were identified that influences the development of teachers' professional competencies: organizational and personal factors. Organizational factors include leadership support, time and resource provision. Personal factors were allied to teachers' professional experiences, sex, age, academic rank, motivation and attitudes. Among the personal factors that affect faculty members' teaching competencies, sex, academic rank, teaching experience, attendance of professional development trainings, perceptions, teaching loads and performance evaluation were closely examined. The regression analysis shows that performance evaluation was significantly affected by variables such as sex, teaching experience, and attendance of professional development training.

Key terms: Faculty Members, Professional Development, Teaching Competencies

I. Introduction

Practitioners trained to execute in a particular profession may not become skilled manpower the moment they finish their training (Tecli, 2006). Rather, they acquire reliable experience and enhance their knowledge and understanding through ongoing professional development over the years and, in certain cases, achieve the expected level of expertise. Komba & Nkumbi (2008) enunciated that professionalism is a dynamic and continuous learning process.

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Given the complexity of the situations and the continually-changing professional context, it is a process that is never completed as each moment of professional practice calls for new or fresh understanding (Guskey, 2002). It is therefore strongly suggested that the systems of education and training for faculty members should provide them with the necessary place and opportunities for continuous and lifelong learning as well as for augmenting teaching competencies (Bahr, *et al*, 2007).

Professional development is needed to assist faculty members better understand how learners learn, engage in critical analysis of their teaching, and make their teaching more interactive and consequential so that they can assist students to become active participants, critical thinkers and life-long learners (Day, 1999). To facilitate collegiality and professional dialogue, to help academics develop a common educational goal, and to foster collaborative planning, experimentation, and critique of teaching practice, PD is a prerequisite (Eccles & Gootman, 2002; Tolman, *et al*, 2002). Overall, PD can sustain educators to identify and critically examine aspects of institutional culture that are consistent with the empowerments of students as life-long learners, and can lead to both cultural change and change in curriculum, instruction, and student assessment. By and large, PD can help transform educational institutions into what Gordon describes as 'community of learners, a culture of adaptability, and a place of continuous experimentation and invention' (Gordon, 2004).

In many situations researchers claimed academics' confidence and morale can only be improved through Continuous Professional Development (CPD) that enhances their knowledge and skills. Faculty members may need CPD for professional improvement or to keep them abreast of academic program developments and new approaches to teaching (Muijs *et al.,* 2004).It is well known fact that the Government of Ethiopia has placed great importance on education and recognized it as an indispensable tool for development of the society. However, education cannot play this role unless it is of high quality, relevant and appropriate to the need of the society.

The government situate the year 2015 as the country goal for achieving high-quality Education. Meanwhile, the Ministry of Education Sector Development Program II had given priority for PD believing that it is the right of academics as well as significant value for national development.

Along the ministry effort at the system level, some of the relatively experienced higher education institutions in which Adama and Haramaya universities part of them have shown continuous endeavor in materializing various PD programs to faculty members in order to support them professionally and realize the required change. Recognizing the importance of professional development, Aytaged (2012) suggested that higher level managers, veteran and novice faculty members, administrative and support staffs, part timers, expatriate and virtual staffs should be developed continuously in order to bolster their competencies.

Reviewing previous studies in the field of academic development revealed that very few researches have been involved in studying academic development which finds out the relationship between professional development and faculty members teaching competencies (Yilfashewa, 2012). Moreover a critical review of higher education publication like *The Ethiopian Journal of Higher Education*, IER, Flambeau, and Journal of Development Studies indicates that brief exercise is made to these areas in terms of research. Similarly, *the publication database on Ethiopian higher education compiled by the Center for International Higher Education by Boston College and the quarterly publication of this center that dates from 1995-2008,* revealed the availability of limited research based documents concerning staff development issues in the Ethiopian context(Aytaged, 2012). This study is, therefore, designed to begin to fill this gap. The study was targeted to assess the factors affecting the initiatives of PD to realize academic competencies specific to the university teaching learning environment. Consequently, it was entitled as "Aspects to Bolster Faculty Members' Competencies in Ethiopian Higher Education Institutions: Haramaya and Adama Science and Technology Universities in Focus" and expected to find the factors that affect the initiatives of PD and determinant to academics professional competencies in this context. Overall, the present study was attempted to seek answers to the following basic questions:

- What is the relationship among the various respondents' attributes and teaching competencies?
- What are the factors affecting teaching competencies of faculty members in universities?
- What factors significantly determine the professional competencies of faculty members in universities?

To this end, this study was targeted to analyze the various factors affecting PD programs and teaching competencies of faculty members in Adama Science and Technology and Haramaya University. Specifically, it was intended to:

- Identify the factors contributing to academics professional competencies
- Verify the relative contribution of these factors to the academics professional competencies
- Determine the contribution of the present PD practices to augment academic professional competencies of faculty members

The researcher focused on Adama Science and Technology (ASTU) and Haramaya University (HU) in order to understand the research problem holistically, considering that these are special cases. Haramaya University is one of the oldest universities in the country with relatively more experience in teaching, research and outreach programs. On the other hand, Adama Science and Technology University is one of the youngest universities with less than 10 years of experience and relatively limited experience in teaching, research and community services. Moreover, in terms of logistical advantage, although ASTU is young in many ways, it is near to the capital (only 100km away from Addis Ababa) which could be a big opportunity for the institution to attract more experienced and highly trained faculty members. On the other hand, Haramaya University is situated 500 km away from the capital which in many ways negatively affect the university in terms of retaining and accessing well educated and highly experienced professors. Moreover, ASTU is unique, because it has been governed by Expatriate Presidents (German and Korean nationalities), whereas HU is headed by local scholars. Hence, the researcher was inclined to these universities for better understanding and inferences of how the professional development policies are executed. The other reason why these study sites were taken into account could further be linked with the special proximity that the inquirer has to these institutions. The research initiator has worked as a teacher educator and academic development program coordinator at HU for more than a decade. In ASTU, he has also conducted many personal contact programs (to run tutorial programs for distance learners). These proximity opportunities created a suitable ground to closely explore the institutions as the most important spotlight of the investigation under consideration.

Scope and limitations of the study

The purpose of this study was to investigate the factors attributed to academic competencies and the role of various PD programs to foster instructors' competencies. In due course of time, although there are many situations where university instructors could be involved in PD training (national and international workshops, seminars and conferences, sabbaticals and fellowship), this study specifically focuses on the training offered through the visible centers and programs. As a result, the study was confined to Higher Diploma Programs (HDP), Academic Development and Resource Center (ADRC), Pedagogical Skills Improvement and Support Center (PSISC), and Post Graduate Diploma in Higher Education Teaching (PGDHET) that were or have been in operation in the delivery of various professional trainings.

On the other hand, although long-term training (e.g. training for advanced degrees, second and terminal degrees) have been part of long-standing PD strategies and assumed as evenly distributed to all staff members to contribute to their competencies, in this research due attention were not given to consider them as part of the PD modality. This means that the study exclusively focused on instructors' activities that are deliberated through the above centers or programs.

II. Review of Related Literature / Theoretical Framework

Factors Affecting How Faculty Members Change

Educators in the field of professional development asserted that there could be many factors that foster or debilitate professional development programs. For example, Guskey and Sparks (1996) discussed three categories of factors: content characteristic, process variables and context characteristics. Ottoson (1997) on his own part identified five factors: educational factors, innovation, predisposing factors, enabling factors and reinforcing factors. Other authors (e.g. Bennett, et al., 2010, Grossman, Wineburg, & Woolworth, 2000, Livneh & Livneh, 1999, Smith & Hofer, 2003, & Stout, 1996) identified two classes of factors: a) Individual and b) Organizational.

a) Individual / Personal Factors

A significant body of research exists on the social and psychological perspectives of faculty members, some of which is relevant to the question of whether experience, dispositions, and motivations support or prevent them from learning and changing.

Stout (1996) determined that faculty members have four motivating bases for participating in professional development programs: salary enhancement, certificate maintenance, career mobility and gaining new skills or knowledge. In their research, Smith and Hofer (2003) found that stronger motivation to participate in professional development was related to faculty members' change. For example, those with a strong need to learn, either on their area of expertise or about good teaching and student success, demonstrated more change in knowledge and action after taking part in professional development.

Researchers proposed that faculty members have three types of concerns: (a) self-survival (b) task and (c) impact. They argued that these kinds of concerns change over time; new faculty members are more concerned about classroom tasks and experienced veteran are more concerned about the outcome (Ghaith and Shaaban, 1999). Rhodes and Houghton-Hill (2000) supported the idea that new faculty members are more concerned about self-survival. Hord (2004) expanded on this theory to explain that as faculty change by adopting new attitudes and practices, they have different types of concerns: personal concerns about how change will affect them, task concerns about how to manage new practices, and impact concerns about how new practices will affect students.

Meanwhile, a study undertaken by Leiven on faculty members' participation in PDPs found that experienced faculty members are less likely to participate in professional development on topics of classroom management and new teaching methods; novices are more likely to participate in mentoring than experienced faculty members (Leiven, 2003). Other researchers challenge the notion that new faculty members are only interested in classroom management and techniques, claiming that novices are concerned with content and teaching ethics (Grossman *et al*., 2000).

Stronger self-efficacy among faculty is related to student achievement (Leiven, 2003). Professional development researchers have tested hypotheses about whether faculty's level of self-efficacy was related to how much they changed (Bennett *et al*., 2010, Guskey, 1995a, Rhodes & Houghton, 2000, Roberts, 2004, & Smylie, 1988). Overall, they found that: a) Self-efficacy is related to individual factors b) Stronger self-efficacy going into professional development affected faculty members change c) professional development in turn affected self-efficacy.

In the academic development and training literature, there is a strong concern for faculty's reflectiveness. Purdon (2003) discussed how to help faculty members develop a "stance" of looking at their own practice by analyzing, adapting, and always challenging their assumptions, in a self-sustaining cycle of reflecting on their own theory and practice, learning from one problem to inform the next problem. O-saki, *et al* (2000) found that a reflective stance was not automatically related to years of teaching experience. Some new faculty members had already adopted a reflective stance and demonstrated a cyclical approach to problem solving, whereas some veteran used a sequential (non-cyclical) approach to problem solving.

Studies in the practices of professional development uncover the reality that the effect of faculty level of formal education is enormous for participation in professional development and in change. For example, Livneh and Livneh (1999) found that those with lower levels of formal education participated more in professional development. The researchers argued that this finding lends support to the notion that people with comparatively lower educational levels often recognize the need to upgrade their professional skills and abilities. They may also be beginning their professional career, a time when they recognize the need for additional information and skill building.

Researchers have shown that the amount of formal education and teaching experience may also be related to faculty members' alteration. In their study of 100 staff members and the change they demonstrated after participating in different types of PDPs, Smith and Gillespie (2007) identified the following individual characteristics as influencing how much, and in what ways, faculty members changed after participating in professional development: years of experience, venue of teaching experience and level of education.

b) Institution, Program, and System Factors

A critical review of the most well-known system factors that influence faculty members' change and their relevance to professional development are leadership, coherence between professional development topics and institutional reform and faculty's working conditions. Research indicates that the management team plays a role in readying faculty for change by creating a positive culture that lets faculty's attitudes change naturally when they see how and whether a new practice helps students' learning (Purdon, 2003). Leaders that were too controlling and leadership turnover negatively affected faculty members education programs (Van der Steen, 2004).

Such findings are relevant to coordinators because PDPs are structured like colleges, with program administrators that influence the program's culture. Research indicates that those academics with greater access to decision making demonstrated more knowledge and action after participating in professional development (Anderson *et al*., 2002, & Smith & Hofer, 2003).

A research by Garet *et al.,* (2001) indicates that faculty members gained more knowledge and changed practices more often when there was a match between the institution standards and goals. When change is voluntary (i.e., there is no concurrent reform effort at the institutional level), then leadership or supportive institutional factors (e.g., faculty's access to decision making) were not as important in promoting change as the faculty members own beliefs (Smylie, 1988). Such findings is relevant to the continuous practices of adult education as the endeavour to institute content standards gains momentum, and professional development systems will respond with training for faculty in how to implement these standards (Rogan, 2004 & Anderson *et al*. 2002).

Studies that investigate faculty members working conditions (full time vs. part time, salary and benefit level, etc.) on the effectiveness of professional development, indicated that working conditions have an effect on turnover (Mosha, 2006). Dissatisfied faculty who had low salaries, lack of support from administration, problems with student discipline, and lack of input in decision making were more likely to migrate to other institutions, or to leave the teaching profession entirely (Rogan, 2004).

Overall, the literature suggests that professional development should be carefully considered to bring about change on faculty members professional expertise and students learning. Effective professional development has a wide ranging positive impact on teaching competencies as well as in building learning community in educational institutions. However, attention has to be paid that the implementation of PDP is also affected by numerous factors. Therefore, bearing in mind the necessary conditions, designing PDPs can demonstrate difference of improving the competencies of faculty members and student learning.

II. Methods

This investigation was an embedded multiple case study design. After two study sites were carefully identified due to their intrinsic values (researcher close proximity and logistical advantage), 242 staff members were selected as the sample using simple and stratified random sampling. The use of multiple cases resulted from the assumption that examining a number of cases overcomes the problem of external validity. Yin (2009) clearly put it that this problem can be minimized by using replication logic in multiple case studies.

Data from the university's teachers were collected using self-reported questionnaires. These instruments have two major parts: background information and outcome measures. In the background part, items were included that provide information about the respondents' gender, qualifications, academic rank, college/school, teaching experience, and teaching load. In the second part of the questionnaires, measures of different outcomes were considered. The tools can also be categorized to obtain data pertaining to teachers' factual presentation, attitudes, perceptions and satisfaction on the professional development programs or trainings. Pilot testing of the instruments were conducted. Overall, two Associate Professors (one of them was the coordinator of ADRC) from the institute of psychology, Addis Ababa university, Two Assistant Professors from Adama University(these are coordinator and facilitators of teachers PDP), one Associate Professor and one Assistant Professor from Haramaya University (language and content experts respectively), one Assistant Professor from department of statistics& informatics, HU were involved. Cronbach's alpha was also determined. Overall, the instruments has a reliability index of $\alpha = .90$. The investigator accepted the obtained coefficients of reliability as a satisfactory level of internal and overall consistency. Questionnaires were distributed and collected personally & through department heads. The information procured through the questionnaires was analyzed using statistical tests: Z-test, multiple regression and Product Moment Correlation with the help of popular social science statistical analysis tool, SPSS.

IV. Results and Discussion

A. Analysis of Respondents Background Variables

To have more explicit understanding about the profile and nature of the respondents, the sources of information for the study, certain biographic/ecological variables of respective faculty members were described and analyzed.

In so doing, respondents' variables as age, teaching experience, gender, academic rank, work load, performance evaluation as well as the nature and mode of professional development training were taken into account and discussed for comprehensive understanding.

a) Composition of Respondents by Age

Table 1: Composition of faculty by age

University	Age				Mean	SD	Total
	Below 25	[25 to35]	[35 to50]	Above 50			
ASTU	12(10%)	59(49.2%)	42(35%)	7(5.8%)	35.19	8.772	120
HU	26(21.3%)	63(51.6%)	27(22.1%)	6(5%)	31.74	9.010	122
Overall	38(15.7%)	122(50.4%)	69(28.5%)	13(5.4%)	33.45	9.04	242

Table 1 clearly demonstrates that the majority of faculty members were between 25 to 50 years (84 percent for ASTU and about 74 percent for HU) which was an appropriate age for motivation and the capacity building effort of a given human resource development endeavor. It can, therefore, be said that the staff members in both study sites were able to carry on their responsibilities without problem with respect to chronological age. Obviously, these faculty members are young enough to advance their professional expertise by any means of professional development initiatives. Meanwhile, when a comparison was made between the average age of respondents in the two study sites, it was quite obvious that the average age of ASTU staff members was significantly higher than the average age of HU. The reason for this could be that although Adama Science and Technology University is much younger than Haramaya University, its suitable location might have attracted faculty members who were relatively matured and experienced than Haramaya University.

b) Composition of Respondents by Gender

Table 2: Composition of Respondents by Gender

University	Sex		Total
	Female	Male	
ASTU	21(17.5%)	99(82.5)	120
HU	20(16.4%)	102(83.6%)	122
Overall	41(16.9%)	201(83.1%)	242

Table 2 portrayed that overall the number of male faculty members as compared to female was enormous. In ASTU, about 18 percent were female faculty members. Similarly, in HU nearly 17 percent were women. This can designate, so far equity as one criterion for measurement of staff quality, has not been a settled issue. Several researchers boldly expressed that one way to secure staff quality in the higher education institutions is to create balance in the number of male and female faculty members (Saint, 2004).

C. Composition of Respondents by Academic Rank

Table 3: Faculty members' academic rank

University	Professor	Associate Professor	Assistant Professor	Lecturer	GA2	GA1	Total
ASTU	0(0%)	2(2%)	15(12.5%)	78(65%)	15(12.5%)	10(8%)	120
HU	1(1%)	4(3.2%)	16(13%)	57(46.7%)	33(27%)	11(9%)	122
Overall	1(.4%)	6(2.4%)	31(12.8%)	135(55.8%)	48(19.8%)	21(8.7%)	142

It is clear from Table 3 that the number of professors in the universities was either negligible or totally non-existent. As a whole, faculty members who have a rank of assistant professor and above were about14 percent in ASTU and 17 percent in HU. This did not meet the minimum criteria delineated by Ministry of Education which awfully below the requirement for measuring staff quality. This is because as a rule, the proportion of PhD: Masters: Bachelor degree in university should be at least in the order of 30: 50: 20. The majority of faculty members were lecturers (65 percent in ASTU and about 47 percent in HU). This clearly shows that the universities should work hard to improve staff quality in terms of academic qualifications. HERQA asserts that one criterion for ensuring staff quality has to be academic qualifications (Ashcroft, 2004 & HERQA, 2007).

D. Composition of Respondents by Teaching Experience

Table 4: Faculty members teaching experience

University	Teaching Experience			Mean	SD	Total
	Below 5 yrs	5 to 10 yrs	Above 10 yrs			
ASTU	38(33.9%)	43(38.4%)	31(27.7%)	9.89	8.16	112
HU	56(46.7%)	34(28.3%)	30(25%)	7.66	7.632	120
Overall	94(40.5%)	77(33.2%)	61(26.3%)	8.76	7.96	232

From Table 4, it is easy to realize that only one third of the faculty members had more than ten years of experience (31percent in ASTU and 30 percent in HU). Almost half of the cases had less than 5 years teaching experience in HU. Experience in teaching is one of the important variables either to influence or to foster the professional development initiatives as well as to put into effect one's professional expertise (Payne, 2010). Meanwhile, if one compares the average teaching experience of respondents in the two study sites, the mean teaching experience of respondents in ASTU was significantly higher than that of HU. Possibly, location advantage and age of the faculty members might be the reason to accommodate more experienced faculty members in ASTU. In their study of 100 respondents and the change they demonstrated after participating in different types of professional development, Smith & Gillespie (2007) identified years of teaching experience as individual characteristics for influencing how much, and in what ways, academics changed after participating in professional development. The study coined that those faculty members with less years of experience changed more.

Similarly, using the quality descriptors, the following characteristics are used to judge the quality of the staffing in the university: Sufficient number of specialist staff, good balance of different specialist disciplines, use of external specialists, and academically well qualified (Rayner & Ashcroft, 2011). Education policy and various education sector development plan emphasizes on the development of teaching skills, good and up-to-date industrial or commercial experience; variety of teaching experience; having appropriate specialist expertise; well graded age profiles; appropriate ratio of males and females across schools/colleges; appropriate numbers of support staff; well qualified and experienced technician staff; good use of administrators and secretarial support (Cooper, 2004 & MoE, 2008).

E. Composition of Respondents by Teaching Load

Table 5: Faculty members' workload

University	Teaching Load		Mean	SD	Total
	12 & below	Above 12			
ASTU	93(77.5%)	27(22.5%)	9.27	4.49	120
HU	107(87.7%)	15(12.3%)	8.45	4.70	122
Overall	200(82.6)	42(17.4%)	8.85	4.61	242

In terms of teaching load, more than three fourth of the respondents in both universities were either at a normal condition or below the normal teaching load. As a rule, faculty members should not be forced to handle more than 12 hours in a week. However, in some cases as of the demand, one may bear more than twelve credit hours. The implications for professional development could be faculty members may not secure enough time to actively engage in PDPs; if they are overstretched with teaching tasks or additional university duties. Again from the figure, it can also be traced that teaching load was relatively higher in ASTU than HU. Nevertheless, the difference was not consistent, this slight difference demonstrated could be by chance or it could happen due to unforeseen events.

F) Composition of Respondents by Position

Table 6: Current position of the respondents

University	Current Position			Total
	Instructor	Dept. Head	Dean	
ASTU	106(88%)	11(9%)	3(3%)	120
HU	99(81%)	20(16%)	3(3%)	122
Overall	205(85%)	31(13%)	6(2%)	242

Although these questionnaires mainly targeted university faculty members, it is expected that some part of them may have additional responsibilities comparable with department head or college/school dean. From Table 6, it is clear that only 12 percent in ASTU and 19 percent in HU were responsible for additional administrative duties other than the responsibility of teaching. When faculty members are occupied by additional responsibilities, it is customary that either the university considers as additional workloads or some parts of the normal workloads are reduced for them.

On the other hand, when faculty members are responsible for additional tasks, it is also probable that they may not have enough time for professional development practices.

In this regard, researcher suggested that the consideration of adequate time for effective implementation of PDPs should be into the focus of attention (Guskey, 2002).

G. Performance Evaluation Result of the Respondents

Table 7: Faculty members' teaching performance evaluation result

University	Performance Evaluation			Mean	SD	Total
	Good[3.5-4.0]	V. Good(4.0-4.5]	Excellent(above4.5)			
ASTU	9(7.5%)	63(52.5%)	48(40%)	4.50	0.26	120
HU	21(17.2)	62(50.8)	39(32%)	4.51	0.35	122
Overall	30(12.3%)	125(51.7%)	87(36%)	4.51	0.31	242

Table 7 illustrates faculty members' performance evaluation results in ASTU and HU were either very good or excellent as given by the respondents themselves. It means that faculty members have good professional expertise. However, studies in the area of professional development uncover the fact that faculty members need to improve their pedagogical skills to be able to achieve more and demonstrate satisfying teaching competencies in Ethiopian university instructional milieu (Abyot, 2001 & Daniel, 2004). Meanwhile, careful examination of the performance evaluation results in both universities ascertained that faculty members have almost similar types of teaching competencies irrespective of their locality and field of specialization. The standard deviation of the score also demonstrated the same conclusion. This is because the variance within this was almost negligible. Meaning, the difference among faculty members in terms of performance evaluation result was almost annulled. In general, although the respondents were drawn from two different institutions, this was not an important factor for influencing the teaching performance

H. Types of Professional Development Trainings

Table 8: Mode of the professional development training

University	Kind of Training		Total
	Generic	Specific	
ASTU	89(89.9%)	10(10.1%)	99
HU	87(95.6%)	4(4.4%)	91
Overall	176(92.6%)	14(7.4%)	190

When respondents were asked to explain the kind of training they took part, the majority (about 90 percent in ASTU and nearly 96 percent in HU) enunciated that they had participated in general type of training. This indicates that the type of training was not field specific. Discussion meetings with program coordinators, informal discussion with colleagues, and the researcher's own experience in the professional development practices also assured that most faculty members were not involved in field specific types of training. Researchers argue that both pedagogical (general) and content knowledge (specific) are central to classroom teaching learning**.** Pedagogical content knowledge covers the core business of teaching, learning, curriculum, and assessment, such as the conditions that promote learning and the links among curriculum, assessment, and pedagogy. An awareness of common misconceptions and the flexibility that comes from exploring alternative ways of looking at the same idea are all essential for effective teaching (Koehler & Mishra, 2009).

B. Responses organized around specific to items designed in the questionnaire

The factors that affect the professional development initiative and teachers professional competencies were identified through related literature and interviews conducted with some staff members. Generally, Stout, Livneh and Livneh, Smith and Colleagues, as well as Grossman, Wineburg, & Woolworth (2000) classified the causes as *personal* and *organizational* factors. The personal factors as age, academic rank, teaching experiences, attitude and motivation were examined closely in this study. First, an attempt was made to see how much these factors were related to instructors' professional competencies and then the factor which strongly contributed to teacher professional competencies was determined.

a) Factors Contributing to Faculty Members Professional Competencies in ASTU

To seek answer to the first question, respondents' attributes as sex, academic rank, teaching experience, attendance of professional development training, perception, teaching load and performance evaluation result were taken as variables. In so doing, teaching performance result was regarded as dependent variable and all the remaining were independent variables. Some of the independent variables were measured through items organized in self-reported questionnaires.

For example, respondents' perceptions on the existing professional development training were specifically measured by rating scale. The others were recorded from the general information offered by the respondents themselves.

The Interrelationship of Dependent and Independent Variables

Inter-correlation among faculty members attributes (Teaching load, Attendance of PD Trainings, Sex, Perception, Teaching Experience, Academic Rank and Performance Evaluation Result) was determined in order to discern the relationship between independent variables (Teaching load, Attendance of PD Trainings, Sex, Perception, Teaching Experience, and Academic Rank) with dependent variable (Performance Evaluation). Determination of relationship between dependent variable and independent variables was found important in order to deal with further regression analysis. Let us see the calculation of correlation among the respondents' variables in Table 9.

Table 9: Correlation matrix of respondents' variables

	1			4	5	6	
Sex	1						
Academic Rank	.199*	1					
Teaching Experience	.312**	.515**	1				
Performance evaluation	.279**	.301**	.447**	1			
PD Trainings	.134	.447**	.339**	.459**	1		
Perception	.098	-.075	-.101	.234**	.027	1	
Teaching load	-.094	.284**	.236**	.147*	-.038	.114	1

**significant at 0.05 level, ** significant at 0.01 level*

As indicated in Table 9 the interrelationships of most variables considered were significant. Specifically, the relationship of performance evaluation to teaching experience(r= .45, P<0.01), to attendance of professional development trainings(r=. 46, P<0.01) were positive and significant. Overall, all the independent variables (Teaching load, Attendance of PD Trainings, Sex, Perception, Teaching Experience, and Academic Rank) were significantly correlated to the dependent variable(Performance Evaluation). Hence, it was found important to extend the regression analysis to examine the effect of independent variables on the dependent variable.

Regression analysis

Ordinary Least Square (OLS) regression was employed to provide us with information about the model as a whole, and the relative contribution of each of the variables that make up the model. OLS regression is much more appropriate when the dependent variable is measured in interval and continuous scale. To this effect, in order to identify the variable(s) most contributing to faculty members' teaching performance result, the regression model with variables sex, academic rank, teaching experience, teaching load, attendance of professional development training, perception, and performance evaluation was constructed (See below Table 10 &11).

Table 10: The regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.52	.27	.25	.27	14.70	.000

In Table 10, the significant F-value of the ANOVA analysis portrayed that the model (Y= 3.9+.29x +.26x +.11x+.08x+.03x +.01x) fits the data very well. It means the overall explanatory state of the model was powerful. Hence, the result obtained on the basis of this regression model could steadily be regarded as dependable.

Table 11: The regression coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.907	.118		33.066	.000
	Sex	.091	.048	.107	1.873	.042
	Academic Rank	.012	.026	.033	.455	.649
	Teaching Experience	.011	.003	.263	3.628	.000
	PD Trainings	.222	.047	.291	4.724	.000
	Perception	.007	.005	.080	1.430	.154
	Teaching load	.001	.004	.016	.280	.779

**Dependent Variable: Performance evaluation*

Following the establishment of the regression model, the results discovered that performance evaluation was affected significantly by variables such as sex, teaching experience and attendance of professional development training. For example, being male increases performance evaluation by a factor of 0.09. And, a one year teaching experience can increase performance evaluation by a factor of 0.01. This might have resulted from, if a respondent gets matured and he/she is expected to have some experience in teaching. The teaching experience could be a condition for faculty members to get chance to involve in several types of formal and informal activities that can be accounted as a professional development incidents. Sooner or later such experience would lead faculty members to attain higher performance evaluation result in teaching.

Moreover, the result specified that faculty members professional competency was highly affected by his/her involvement in professional development training. This result can be justified by the study conducted Visscher and Coe (2002) that professional development activities through professional training and interaction improve faculty members professional competencies and the quality of student learning. In reality, it is based on the empowerment and enthusiasm of faculty members to take ownership of improving their unremitting practices, seeking for innovation, more accomplishments and something unique for them. Daniel (2004) on his own part added that improving the work of staff members would mean enabling them to acquire new experiences in something different manner.

Accordingly, taking appropriate measures such as humanizing teaching, team spirit, collegiality and research excellence through continuous training in methods of teaching, curriculum development, assessment of the outcome of teaching and learning a few of the many important academic development dealings to consider.

b) Factors Contributing to Faculty Members' Professional Competencies in HU

Inter-correlation of Dependent and Independent Variables

In order to determine the interrelationship among the respondents' variables: sex, academic rank, teaching experience, attendance of professional development training, perception, teaching load, and performance evaluation, were taken into account. Table 12 indicates the correlation analysis of the variables identified.

Table 12: Correlation matrix of respondents' variables

	1	2	3	4	5	6	7
Sex	1						
Academic Rank	.079	1					
Teaching Experience	.137*	.701**	1				
Performance evaluation	.124*	.338**	.386**	1			
PD Trainings	.029	.336**	.371**	.380**	1		
Perception	.087	.237**	.184*	.187*	.177	1	
Teaching load	-.076	-.088	.031	.165*	.021	-.037	1

**significant at 0.05 level, ** significant at 0.01 level*

As shown in Table 12, the correlation among the variables considered was high and significant. For example, the relationship among variables as performance evaluation and teaching experience($r=.39$, $P<0.01$), performance evaluation and attendance PD training($r=.38$, $P<0.01$) and performance evaluation and academic rank($r=.34$, $P<0.01$) were the most considerable. From this calculation of the correlation result, it was found important to deal with further regression analysis in order to determine the effect of independent variables on performance evaluation result (dependent variable).

Multiple Regression Analysis

In order to identify the variable(s) that most contributing to performance evaluation result, the OLS regression model with variables sex, academic rank, teaching experience, attendance of professional development training, perception, teaching load and performance evaluation result was constructed.

Table 13: The regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.49	.24	.19	.31	5.97	.000

From Table 13, it can be noted that F-value is significant at 0.01 level of significance. This indicates that the model (Y= 3.8+.26x +.19x +.097x+.096x+.093x +.073x) fits the data very well.

It means the overall explanatory power of the model can be significantly endorsed. Hence, it can be concluded that the result obtained on the basis of this regression model is trustworthy.

Table 14: The regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.787	.186		20.371	.000
	Sex	.091	.078	.097	1.167	.245
	Academic Rank	.034	.043	.093	.789	.432
	Teaching Experience	.009	.005	.193	1.627	.107
	PD Trainings	.200	.069	.256	2.887	.005
	Perception	.009	.008	.096	1.127	.262
	Teaching load	.005	.006	.073	.880	.381

**Dependent Variable: Performance evaluation*

As Table 14 demonstrates there were some differences in the regression results between ASTU and HU. In the case of ASTU, the regression result uncovers the fact that performance evaluation was affected significantly by variables as sex, teaching experience and attendance of professional development trainings. On the other hand, in HU only opportunities for involvement of faculty in various professional development trainings contributed to teaching competencies.

This in a plain language refers to involvement in various professional development programs was a sole condition to enhance academic professional knowledge and skills in teaching. Conversely, the effect of teaching experience, and sex and academic rank were not found as important factors to contribute to faculty members' professional competencies. Perhaps this would happen, because highly ranked professors and experienced faculty members are exceedingly concerned in basic and applied research than classroom teaching, and there is no mechanism to reinforce effective teaching in the university per se. In this connection, Reda conducted a study in the area of professional development and suggested that institutions should support faculty members with appropriate motivational mechanisms for their teaching in order to increase their performance.

Institutions should analyze faculty's personal and teaching efficacy to determine the needs of various faculty and design appropriate intervention programs based on effectiveness and teaching competencies (Reda, 2005).

The regression result in Table 14 also indicated that faculty's interpretation of their previous acquaintance (perceptions) with professional development practice was not a condition to affect faculty members' performance evaluation result. Nevertheless, studies indicated that professional development does not only require the formal and standardize types of learning from one another (Day, 1999) but also relies on the prior knowledge (Bredeson, 2003), wealth of potential and experience of each participant, which can be built upon and incorporated into further initiatives (Day & Sachs, 2004). Obtaining knowledge and skills, and sharing with others to join forces (Riding, 2001) are valuable conditions for change and improvement. These parallel studies pointed out that participants experience in teaching and professional development could have enormous effect on professional competencies.

c) Cross-Case Analysis-Factors Contributing to Faculty's Members Professional Competencies in ASTU and HU

The factors that affect the professional development efforts and faculty members' professional competencies were identified through reading related literature and informal discourses conducted with respondents. Generally, Livneh and Livneh (1999); Smith and Hofer (2003); Stout (1996), and Grossman, Wineburg, and Woolworth (2000) classified the causes as personal and organizational factors. In this study, the respondents' personal attributes as sex, academic rank, teaching experience, attendance of professional development training, perception, teaching load and performance evaluation were examined closely. To put it briefly, first, an attempt was made to examine how much these factors were related to faculty members' performance evaluation result and, then the factor which strongly contributes to performance evaluation result was determined.

The Correlation among Dependent and Independent Variables

Interrelationship of most of the variables was positive and also highly significant. The data depicted below in Table 15 demonstrates clearly:

Table 15: Correlation matrix of respondents' variables

	1	2	3	4	5	6	7
Sex	1						
Academic Rank	.132*	1					
Teaching Experience	.224**	.610**	1				
PD Trainings	.075	.385**	.364**	1			
Perception	.000	.109	.057	.122	1		
Teaching load	-.085	.169**	-.093	.000	.033	1	
Performance evaluation	.191**	.326**	.416**	.417**	.135*	.121	1

**significant at 0.05 level, ** significant at 0.01 level*

Table 15 evidently demonstrated that the relationship among variables: performance evaluation and academic rank, performance evaluation and teaching experience, performance evaluation and attendance of professional development trainings, and teaching experience with academic rank were .33($p<.01$), .42($p<.01$), .42($p<.01$) and .61($p<.01$) respectively. These results were positive and significant with 99 percent level of confidence.

As a result, it is possible to deal with further regression analysis to examine the effect of independent variables (sex, academic rank, teaching experience, attendance of professional development training, perception, and teaching load) on the dependent variable(performance evaluation result). Let us observe the outcome of regression analysis under the following sub-headings.

Overall Multiple Regression Analysis

Table 16: The regression model

Model	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.27	.25	.27	14.70	.000
52					

The significant F-value of the ANOVA analysis assured that the model (Y= 3.9+.29x +.26x +.11x+.08x+.03x +.016x) fits the data significantly. It means the overall explanatory power of the model was considerably enormous.

Hence, the inference made on the basis of this regression model could be taken as reliable on the subsequent detection of the variable(s) that affect performance appraisal result.

Table17: The regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.907	.118		33.066	.000
Sex	.091	.048	.107	1.873	.032
Academic Rank	.012	.026	.033	.455	.649
Teaching Experience	.011	.003	.263	3.628	.000
PD Trainings	.222	.047	.291	4.724	.000
Perception	.007	.005	.080	1.430	.154
Teaching load	.001	.004	.016	.280	.779

**Dependent Variable: Performance evaluation*

From Table 17, the regression result shows that performance evaluation was significantly affected by variables such as sex, teaching experience, and attendance of professional development training. In this case, being male increases the professional competencies by a factor of .09; and a one year teaching experience can increase the performance evaluation result by a factor of 0.01. These findings also ascertained that among other things to influence the professional competencies of faculty members, the contribution of teaching experience stands in second place.

Moreover, whether one has previous acquaintance with professional training would matter to demonstrate differences in his/her performance evaluation result. Table 17 demonstrates that being involved in certain professional development training can increase by a factor of .22 in the teaching competencies of faculty members. In a similar study undertaken by Smith& Gillespie (2007) individual attributes as years of experience, venue of first teaching experience and level of education influencing how much, and in what ways, faculty members changed after participating in professional development were determined.

It means those faculty members with fewer years of experience changed more; those who began their teaching career changed more; and faculty members with a bachelor's degree or less changed more. Overall, the regression analysis indicated that attendance of professional development training makes the strongest unique contribution (Beta=.29) to explaining the dependent variable/performance evaluation. This result is consistent with findings obtained in the two study sites.

The significant relationship between respondent teaching experience and performance evaluation result entails the importance of continuous and job-embedded professional development for augmentation of ones professional competencies. It means staff members with teaching experience could have an opportunity to improve their approach to teaching; as a result, they would have better performance result. Conversely, although it is believed that positive perceptions facilitate knowing and individual involvement in an activity, in this finding, it was not an important factor to contribute to performance evaluation result. Peter(1982) in his study has shown that if an environment for knowing something is created, and individual involvement is encouraged, then the development of favorable perceptions is obvious and remarkable performance is certain.

When one separately examined the universities, this aggregate result was consistent with Adama Science and Technology University. It means, in both cases sex and teaching experience contributed to performance evaluation results. However, in Haramaya University, only attendance of professional development trainings contributed more to faculty's performance evaluation when the variance explained by all other variables in the model is controlled for. A Centre on Educational Statistics Survey on faculty members participation in professional development found that veteran are less likely to participate in professional development on topics of classroom management and new teaching methods, and newer faculty members are more likely to participate in mentoring (Leiven, 2003). Other researchers challenge the notion that new faculty members were only interested in classroom management techniques, arguing that new faculty members were concerned with content, professional ethics and classroom management (Grossman *et al.*, 2000). This refers to how experience has effect on an individual preferences and corresponding professional competencies in addition to being involved in the professional development trainings.

In general, in the cases of ASTU and cross-case analysis, the impact of sex distinction on performance evaluation was momentous. This could result from general problem of the prevailing public opinion which follows the education of males over females that considerably impact on motivation of women faculty members to achieve more like their male counterparts. Broadly speaking, this could result from the multiple responsibilities assumed by women faculty members in the home, academia and in the community at large as well as from the prevalent public opinion in the developing world that follows the education of males rather than females. In the university context, for women faculty member, being in a male dominated system is challenging. This is because, women faculty members face isolation from male colleagues, experience unethical acts from male students, that results unhealthy work relationships and create hostility (Crosby & Clayton, 2001). This painful circumstance makes women convinced to perceive the difficulty of becoming academic women which erode their motivation, confidence, effort for career development and ultimately lead them to low performance in teaching. To sum up, the overall findings uncover the realities that the contribution of the present professional development efforts to advance teachers professional competencies has been found to be encouraging, and in the future more attention need to be exerted so as to strengthen the existing professional development programs.

V. Conclusions

This study was aimed at analyzing the factors that affect university teachers' professional competencies. In an effort to find out these factors, the following research objectives were considered.

- Identify the factors contributing to academics professional competencies
- Verify the relative contributions of these factors to the academics professional competencies
- Determine the contributions of the present PD practices to augment academic professional competencies of faculty members

The result from this study indicates the following:

a) Respondents' Background variables

The majority of age group found between 25 to 50 years old (84 percent for ASTU and about 74 percent for HU) was an appropriate age for motivation and the capacity building effort of a given human resource development effort. It was found that the number of male faculty members as compared to female was enormous. For example, in Adama Science and Technology University, nearly 18 percent were female faculty members. Similarly, in Haramaya University they were less than 17 percent. This would designate, so far, equity as one criterion for measurement of staff quality has not been a settled issue. Moreover, staff members who have a rank of assistant professor and above were less in number (about14 percent in ASTU and 17 percent in HU) which did not satisfy the minimum criteria delineated by Ministry of education (30 percent and above PhD holders) for measuring staff quality in a university state of affairs. A good number of staff members were lecturers (65 percent in ASTU and about 47 percent in HU).

In addition, only one third of the faculty members were more than 10 years teaching experience (31 percent in ASTU and 30 percent in HU). It was found that almost half of the cases of Haramaya University were below 5 years teaching experience. Regarding teaching load, nearly half of the universities' faculty members were bearing below 12 credit hours and this means teaching load was in a normal standard. As a result, faculty members were not overstretched with additional working loads. Only 12 percent in ASTU and below 19 percent in HU were appointed to different administrative positions other than the responsibility of teaching. As a whole, it can be inferred that faculty members were capable in terms of professional expertise as it can easily be traced from their teaching performance evaluation result.

By one or other means, more than three-fourth of faculty members were involved in the professional development trainings. The majority (about 90 percent in ASTU and nearly 96 percent in HU) participated in a generic type of training. In general, professional development training through HDP plays a leading role.

In terms of gender distribution, female students' participation rate in both universities was below 40 percent (39 percent in ASTU and about 15 percent in HU). In the current universities academic atmosphere, the rate of female students' and women faculty members' participation has been very low as compared to their male counter parts.

2. The factors determining effective professional development

The relationship among variables: performance evaluation and academic rank, performance evaluation and teaching experience, performance evaluation and attendance of professional development trainings, and teaching experience with academic rank were .33, .42, .42 and .61 respectively.

These results were positive and significant with 99 percent confidence level. Overall, the regression result shows that performance evaluation result was significantly affected by variables as sex, teaching experience, and attendance of professional development training. This means, being male increases the professional competencies by a factor of .09; and a one year teaching experience can increase the performance evaluation by a factor of 0.01. These findings were also assured that among other things to influence the professional development practices, the contribution of teaching experience was splendid and stand next from the attendance of professional development trainings.

Moreover, whether an academic staff has previous acquaintance with professional training would matter to demonstrate differences in his/her performance evaluation result. The regression result indicates that being involved in certain professional development program can increase by a factor of .22 in the teaching competencies of faculty members. On the whole, the regression analysis revealed that attendance of professional development training makes the strongest unique contribution (Beta=.29) to explaining the dependent variable/performance evaluation when the variance explained by all other variables in the model is controlled for.

In a nutshell, although the implementation of professional development programs in the universities has serious drawbacks that could be attributable to policy, structural/organizational, contextual, trained human power, psycho-social, facilities and financial issues, its contribution for bolstering teachers competencies is paramount. And in order to strengthen it more, the following measures are worth considering in assisting the role of universities to contribute to the on-going national effort to human resource development and alleviate overall education and training quality problems in Ethiopian universities.

1. *Developing context specific institutional policy*. The major obstacle in professional development has been absence of clear vision and policies at a system level which could be translated into institutional policies and regulations to initiate and guide actual practices in higher education institutions. To effectively implement the professional development programs, the need to have common understanding, vision and commitment among stakeholders is a requirement and indeed indispensable step to cope up with the challenges of the present condition.

2. *Considering an appropriate format/framework for professional development deliberation*: Due to limited experience as well as institutional and system level policy gaps, professional development programs have not been abundantly and exhaustively implemented. Except for some training initiatives through HDP, ADRC, PSISC, and PGDHET that were viewed as the most important and solitary options to professional development, no alternative framework and structure was in place to implement satisfactorily and up to the expected level. This has led universities failure to adjust the best and appropriate strategy for professional development as well as the structure and organization of academic development in a manner that responds to the learning needs of students and faculty members. Thus, program and organizational reforms need to be conducted in these institutions and should be viewed from the benefits of the beneficiaries; and the prevalence of continuous learning in increasingly dynamic worldwide university education settings.

3. *Exploring different options*: To increase the opportunity, some degree of flexibility in the existing mode of professional development needs to be strategically endorsed. In this regard, there has to be alternative pathways such as online education that would have immense contributions other than the existing programs to address the wider need of access and quality of professional development programs. Online PDPs combined with face-to-face trainings provide two of the most essential elements of effective professional development.

It gives participating faculty opportunities to practice what they learn over relatively extended periods of time, and it provides an ideal environment for interaction among participants (Smart & Cappel, 2006). In addition, being asynchronous and accessible from any web-connected computer, online professional development provides a level of convenience that conventional professional development does not (Harwell, 2003).

4. *Formulating minimum standards*: Ensuring the desired level of academic excellence is the other key challenge. The study revealed that the critical problem behind the current weak and fragmented professional development practice in Ethiopia have been lack of common vision, inadequate management and administrative structure, scarce human resource and training opportunities, and lack of adequate time and lack of constant budgetary provisions. Thus, it can be suggested that establishing relevant and viable programs and setting research priorities which goes along with it, and financing and equipping the higher education institutions with the necessary manpower and resources in a sustainable manner are crucial measures to set at least minimum conditions for implementation of professional development programs(MoE 2009c).

5. *Conducting advocacy*: It can be concluded that some kind of orientation program to promote the principles and the values underlying the professional development initiatives among the academic community and the leadership of higher education institutions should be arranged. In this way, stakeholders might have sufficient knowledge on the necessity of involving oneself in the professional development programs, for students and for university community as a whole. This initiative could serve the academic community to opt for and adapt an appropriate format of professional development suitable to their context.

Overall, in this study, gender is found to be one of the factors for teachers' professional competencies. Researches indicate that women academics are full of challenges with variety of institutional, societal and personal dimensions and should be assisted to grow professionally and fulfill career requirements. In this regard, experts and researchers suggest appropriate support as affirmative measures to increase the proportion of women in the academia. As a consequence, spiraling of the already existing PD can have a great value to complement the affirmative policies and measures, to enable women instructors effortlessly surmount obstacles and defy.

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