Professional Development of Cooperating Teachers in the Teacher Education Program: An Approach to Human Resources Education of Vocational, Arabic, and English Teachers in Jordan

Abstract: The primary purpose of this study was to determine the professional development of cooperating teachers participating in the teachers participated in the teacher education program in Jordan. A total of 120 cooperating teachers participated in the study by completing the researchers-designed questionnaire named the Professional Development assessment Questionnaire (PDAQ). The results indicated that participants perceived moderate improvements in their professional development on the five dimensions because of their practicing role as mentors. Furthermore, based on Multivariate Analysis of Variance (MANOVA), results indicated that there were no significant differences among the dimensions of professional development and the proposed demographic variables except for the classroom management dimension which differed significantly based on experience level for the favour of 6-10 years of experience compared to 11-15 years of experience. The study ended by offering a number of practical and theoretical recommendations for academics and practitioners.

Key words: Mentoring, Professional Development, Human Resources Education, Jordan, Vocational Teachers, Arabic Teachers, and English teachers.

Introduction

Recently, mentoring has increasingly become a concern in most teacher education programs. Indeed, this concern commenced after the qualitative shift towards schools as a real workplace to practice teaching. Much of the research has concluded that mentoring is a necessary factor in teachers’ career development and advancement (Elliot & Calderhead, 1993; Oberski, 1999). In line with this general trend, mentoring has become a prominent feature of teacher education programs and indeed, in many respects, has come to be seen as a cornerstone to the future of the teaching profession (Clement, 2002; Jones, 2001; Sullivan & Glanz, 2000). This is because, in addition to the value accrued by trainees from working with a mentor, the contribution mentoring may have on the professional development of cooperating teachers has been documented (Snowber, 2005; Wang & Odell, 2002). Consequently, it has been argued that involvement in mentoring by experienced teachers provide them.
with many opportunities to develop their teaching philosophy and practice (Gratch, 1998; Guskey, 2003). Professional development is an important gateway by which teachers can gain access to update information and apply it to their work practices in the classroom. In addition, teaching is challenging and complex and even well-prepared teachers must continually improve their practice (Loucks-Horsley, Love, Stile, Mundry, & Hewson, 2003) to succeed in their profession. According to the authors: “teaching involved a complex cycle of planning, acting, observing, and reflecting. It occurs in a highly dynamic atmosphere characterized by interactions happening second to second. It requires teachers to process information on multiple levels simultaneously and to make meanings and decisions constantly. To do so, they must draw on their ability to apply knowledge about students, content, the curriculum, instruction, assessment, their school, and community” (p. 41). Professional development is one way that teachers can respond to these complexities, improve their practice, and positively influence outcomes for students.

The opportunity of creating good teaching may reflect positively on pupils’ learning in the classroom. Moreover, gaining experience in the school can play an effective role in shaping the beliefs and perceptions that student teachers may hold about teaching in general (Kwan & Lopez-Real, 2005). As a result, it has been argued that mentoring, by improving the quality of education in schools, may contribute to the professional development of teachers and society as a whole (Gay & Stephenson, 1998). Most teacher training programs in the world adopted a system where specified teachers in selected schools act to give specialist support to student teachers. This role is interchangeably referred to in the literature as cooperating teacher and mentor (Maynard, 2000; Pelletier, 2000). In Jordan the mentor is called the cooperating teacher.

Common agreement between many researchers in mentoring is that mentors gain many benefits from their involvement in mentoring partnership. The following quotations, for example, indicate some of these benefits:

- Having student teachers working intensively with us forces us to reflect on our own practice and therefore makes us better teachers. The presence of students helps us to remind us of the important things.

(One mentor in Watson’s study, 1994, p. 11)

- One of the advantages of working with students is that it can help mentors become more aware of their own practice and so contribute to their professional development.

(Gates, 1994, p. 24)

Student teachers can bring with them to the classroom enthusiasm, hard work and Commitment, new ideas and perspectives, extra hands, a breath of fresh air and [11 the main, youth.
It is a two-way thing. The student learns from us and we learn by helping them to learn. It is an enriching experience.

**One mentor in Hoylock’s study, 1994, p. 72**
The use of mentors as teacher trainers in schools, has actually even had a profound developmental effect on the qualified teachers themselves. They become more skilled at using theoretical discourse as part of their daily practice.

**Bezzina, 1999, p. 9**
It is important to have a collaborative relationship between the mentor and the university supervisor. Such collaboration may result in improvements in the professional development of those mentors (cooperating teachers). As Long (1997) concluded, regular meetings need to be held between the mentor and the university supervisor to talk openly through common aims and issues of concern. These meetings, she suggested, could lead to bridge the gap between theories in higher education institutions and practice in schools. In such cases, a strong relationship and trust between the mentor and the university supervisor can be established. Furthermore, their perceptions of each other can move from the hostile and competitive one to that of a cooperative nature. Long (1997) who was discussing the Australian experience, explored this connection between theory and practice in partnership between the mentor and the university supervisor. She argued that “strong links between theory and practice can be established as assignments can be school-based which can develop understandings in areas such as the organisation and management of the whole curriculum. This can lead to a fostering of personal pedagogy of education” (Long, 1997, p. 16). In short, these meetings can reflect positively on the professional development of both mentors and university supervisors.

**Theoretical Framework**
A review of previous research conducted on the national, regional, and international level indicates a lack of research studies in the area of the professional development of cooperating teachers participating in the teacher education programs. It is obvious that most research conducted dealt primarily with four main areas: (a) perceptions of student teachers toward the effectiveness of cooperating teachers, university supervisors, and hosting schools participating in the teacher education programs, (c) perceptions of cooperating teachers and school principals regarding the effectiveness of the teacher education program, (c) the main problems and obstacles faced by student teachers during their training period, and (d) studies related to the status and models of the teacher education programs. However, on international
A qualitative study addressed the professional development of cooperating teachers. On the national level, a study by Zaitoon and Obeidat (1984) investigated the attitudes of 58 student teachers toward the training practices of hosting schools. The results indicated that student teachers benefited during their training period as far as writing objectives, choosing activities, and evaluation techniques. Another study by Abu-Obeid (1996) identified the main obstacles faced by 23 student teachers from Mu’tth University during their training period. The results indicated obstacles in the following areas: lack of feedback from supervisors during their visits and lack of materials and reference books. A more extensive study by Diab (1996) involved 143 student teachers from the University of Jordan (UOJ) aimed at determining their views toward the university supervisors. Results indicated that student teachers demand more visits and attention from their university supervisors. A follow up study by Nasir (1997) investigated the problems faced by 67 student teachers from the UOJ during their training at hosting schools. Some of these problems included lack of involvement in regular teacher meetings, inability to observe other student teachers classroom activities, and dissatisfaction with the attitudes of school principals toward their presence.

On the regional level, fewer studies were located regarding the effectiveness of teacher education programs. For example, Hassan (1992) investigated the status of the teacher education programs in Bahrain, United Arab Emirates, Kuwait, Qatar, and Oman. Results indicated that there are teacher education programs in these countries with theoretical and practical part. Moreover, student teachers are evaluated by university supervisors and ministry supervisors. Finally, the results presented some difficulties facing student teachers such as mental adjustment to the new teaching environment, lack of confidence during the visitations of university supervisors, lack of qualified university supervisors, and lack of applicable materials in the classrooms. Another study by Alfara and Hamran (1994) investigated the obstacles facing 190 student teachers participating in the teacher education program in the University of Yemen. For this purpose, the researchers developed a 40-item questionnaire that included four dimensions: supervision, hosting schools, system of the teacher education program, and system of academic and vocational preparation. Based on the results, the following obstacles were identified: lack of class materials, inability of student teachers to link theory into practice, and few numbers of visitations by the university supervisor.

Another study was undertaken by Abrahim (1999) to evaluate the effectiveness of the teacher education program offered by the University of Musil in Iraq as
perceived by student teachers, university supervisors, and school principals. The results indicated the following: the period of training is enough for student teachers, a cooperation is strong between student teachers and hosting schools, university supervisors provide support and guidance to student teachers, there is a gap between what is learned in the academic environment and how it is applied in the actual training environment, heavy teaching load imposed by school principals on student teachers. The final study was conducted by Almutawa (2000) in the University of Qatar that aimed at investigating the perceptions of university supervisors toward the effectiveness of the teacher education program. The study indicated positive views toward the teacher education program.

On the international level, several studies were located that are related in part to the effectiveness of the teacher education program. For example, Brawdy (1994) developed two models of supervision for the teacher education program (personal evaluations by student teachers and university supervisor evaluation of student teachers). The study showed that both models are effective in enhancing the level and performance of student teachers. A study by Borko and Mayfield (1995) investigated the impact of mutual relationship and understanding between cooperating teachers and university supervisors from the University of Colorado on the effectiveness of the teacher education program. The results indicated that there is a general satisfaction of such relationships which positively impacted students’ teachers’ success. Another study by Kaskela, Ruth, Ganser, and Tom (1998) aimed at investigating the role of cooperating teachers in enhancing student teachers success. The results indicated that cooperating teachers played a vital role in narrowing the gap between what is learned in the academic environment and what is actually being used in the actual work settings. A qualitative study by Keith (2000) was conducted in the University of London to determine the role of the teacher education program in enhancing student teachers knowledge of the teaching process. The study indicated that students were able to link theory to practice and to have a positive learning experience during their training at hosting schools.

Three other studies by Arnold (2002), Koerner (1992), and Landt (2002) investigated the professional development of cooperating teachers as a result of mentoring student teachers. The results indicated that cooperating teachers developed team-work skills, critical thinking skills, planning skills, improved teaching skills, handling work pressure, reflection on teaching modes, and better evaluation of student performance.

It is obvious that the most research studies provided knowledge as to the effectiveness of the teacher education program based on the perceptions of
student teachers. However, limited research studies concerning the professional development of cooperating teachers participating in the teacher education program were located. Three international studies addressed the professional development of cooperating teachers from a narrow perspective. However, no studies addressing this issue were identified nationally and regionally. Moreover, a research instrument that addresses all aspects of professional development of cooperating teachers was developed. This study builds upon previous research by filling in the gap that exists in the literature concerning the effectiveness of the teacher education programs worldwide. Therefore, determining the professional development of cooperating teachers as a result of their participation in the teacher education program was the major concern for this study.

Statement of the Problem

Previous research has focused primarily on the effectiveness of the teacher education program based on the perceptions of student teachers. However, to the researchers’ best knowledge, limited research has shed the light on the benefits cooperating teachers gain as a result of their role as mentors. Therefore, the present study aims at investigating the professional development of cooperating teachers as a result of their mentoring of student teachers throughout the practicum program.

Purpose and Objectives

The purpose of this study was to determine the level of professional development of cooperating teachers in teacher education program in Jordan. Specifically, the objectives were:

1. To describe the demographic characteristics of cooperating Vocational, Arabic, and English teachers including gender, age, level of education, area of specialty, and years of teaching experience.
2. To describe cooperating Vocational, Arabic, and English teachers on their professional development dimensions: planning, teaching, classroom management, evaluation and testing, and personal-social interaction.
3. To determine if significant differences exist among professional development dimensions and the following individual demographics of Vocational, Arabic, and English cooperating teachers: (a) gender; (b) age, (c) level of education, (d) area of specialty; and (c) years of teaching experience.

Significance of the Study

Jordan as a developing country needs well-qualified teachers to improve the quality and the output of its educational system. This improvement demands a well-structured training system and a planned program to achieve the goals of the initial teacher education programs at the universities. Since 1987, the
Jordanian educational system has undergone a complete restructuring plan and one main input of this plan is improving pre-service teacher education programs at the university level. Thus, research into mentoring and training of student teachers in Jordan is a newly developing field. For this reason, little background knowledge has been generated and this necessitates intensive primary investigation to determine the parameters for this research. This present study was designed to explore empirically the professional development of cooperating teachers as a result of their working with student teachers throughout the practicum program. Previous research focused primarily on secondary cooperative teachers. However, studies that focus on primary cooperating teachers are rare (Arnold, 2002; Grisham, Ferguson, & Brink, 2004; Kahn, 2001). The lack of information regarding the experience of cooperating teachers is problematic given the ongoing need for more and better trained teachers. Being the first thorough study on the professional development of the cooperating teachers in Jordan, it is hoped that this study will provide knowledge that could help in the development and improvement of the Jordanian initial teacher education programs. It is hoped that decision-makers, curriculum-planners and other researchers will find in this research a source of insights and a case for comparison with other similar situations. Study results may provide insights that can help school divisions recognize the benefits of serving as a cooperating teacher, acknowledge the opportunity for professional development, and develop programs to support the growth of experienced teachers through supervising student teachers. That is, by highlighting the professional growth opportunity, school divisions can recruit experienced teachers to the role of cooperating teacher, maintain their active involvement, and maximize the professional growth opportunities. The information gained through this research may assist classroom teachers in recognizing the opportunity for learning and maximizing their own professional growth through their work as cooperating teachers.

**Definition of Terms**

Cooperating teachers are experienced school teachers who participate in the teacher education programs and are expected to train student teachers by sharing their classroom, providing opportunities for student teachers to observe, practice, and receive feedback on their performance.

**Student teachers** are prospective teachers who are completing a university-based teacher education program. They have completed the majority of course work and are completing a supervised teaching experience under the direction of a cooperative teacher.

**Research Methods and Procedures**

**Population and Sample**
The target population for this was all cooperating teachers who mentor Vocational, English, and Arabic student teachers in the practicum program at the Hashemite University in the educational directorate of Zarqa. The sample for this study is comprised of 128 Vocational, Arabic, and English, cooperating teachers who voluntarily participated in this study. A total of 120 usable instruments were returned with a response rate of 93%.

**Instrumentation**

The scales and items used in the instrument were developed by the researchers after a thorough review of the literature especially related to professional development of cooperating teachers. A demographics section was included to provide a description of the sample used in the study. These demographic variables included gender, age, level of education, area of specialty and years of teaching experience. The face and content validity of the instrument was evaluated by an expert panel comprised of university faculty members, cooperating teachers, academic supervisors, and student teachers. The instrument was field tested with 27 cooperating teachers representing all disciplines under study. Changes indicated by the validation panel and field test were incorporated in the instrument development. The final instrument was named the Professional Development Assessment Questionnaire (PDAQ) and is comprised of five scales and 50 items distributed as follow: planning (11 items), teaching (13 items), classroom management (9 items), evaluation and testing (10 items), and personal-social interaction (7 items). These items were rated using a 5-point Likert-type scale with the following anchors: 1 strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. Internal consistency coefficients for the scales in the instrument were as follows: planning (ct = .84), teaching (CL = .89), classroom management (α = .91), evaluation and testing (α = .87), and personal-social interaction (α = .80).

**Data collection**

The researchers distributed the instruments for Vocational, Arabic, and English cooperating teachers hand to hand during the first semester of the academic year 2006/2007. The researchers explained to the participants the purpose of the study and encouraged them to read the statements carefully before ticking the appropriate choice. The participants were insured confidentiality and anonymity. Later, completed questionnaires were collected by the researchers from the cooperating schools.

**Data Analysis**

The alpha level was set at .05 a priori. Procedures for statistical analysis are discussed by objective. Objective one was to describe cooperating Vocational, Arabic, and English teachers on their demographic characteristics. Descriptive
statistics including frequencies and percentages were used to achieve this objective. Objective two was to describe cooperating Vocational, Arabic, and English teachers on their professional development dimensions. The dimensions included the following: planning, teaching, classroom management, evaluation and testing, and personal-social interaction. Descriptive statistics including means and standard deviations for each dimension were utilized to answer for the second objective.

Objective three was to determine if significant differences exist among professional development dimensions and the following individual demographics of cooperating Vocational, Arabic, and English teachers: (a) gender; (b) age, (c) level of education, (d) area of specialty; and (e) years of teaching experience. Multivariate analysis of variance (MANOVA) was used to identify the differences in professional development dimensions among the five aforementioned demographics. MANOVA is an extension of analysis of variance (ANOVA) in that it can accommodate more than one dependent variable. As with ANOVA, the independent variables in MANOVA are a categorical variable, and the focal point is on the differences between levels of each categorical variable. Nevertheless, what makes MANOVA a multivariate procedure is that it examines the differences between groups for more than one dependent variable simultaneously (Hair, Anderson, Tatham, & Black, 1998). Moreover, MANOVA was chosen because it accommodates multiple dependent variables while controlling for the Type I error that can be inflated when multiple univariate analyses of variance are employed (Gardner, 2001).

In the third objective, the scale scores for the professional development dimensions were treated as the dependent variables, whereas the different levels of the categorical demographic variables (e.g., gender, age, level of education, area of specialization, and years of teaching experience) were treated as the independent variables. Each independent variable was tested separately.

In the case where significant differences among levels of the independent variables were detected (meaning that the collection of the dependent variables differed among levels of the independent variable), MANOVA analysis was then followed with univariate analysis of variance (ANOVA) and post hoc comparisons utilizing Tukey’s test at an alpha level of .05. Tukey’s test is one of the most conservative post hoc methods because it maintains the experiment-wise error rate at the predetermined alpha level (Hinkle, Wiersma, Jurs, 1998).

The tests of significance used with MANOVA are Hotelling’s Trace, Pillai’s Trace, Wilk’s Lambda, and Roy’s Largest Root when assessing the difference
between group means. Pillai’s Trace was the test of significance used in this study because it is not affected by violations of MANOVA assumptions, and it is widely recommended (Gardner, 2001). However, the other tests of significance along with their effect size and power were reported in this study to provide additional information about their similarities and differences with each other. In the event that the independent variable had two levels (e.g., gender), Hotelling T2 was used; otherwise if the independent variable had more than two levels (e.g., level of education), the ordinary MANOVA was utilized (Hair et al., 1998).

Finally, MANOVA assumptions were considered in this study. The first assumption was the equivalence of the variance/covariance matrices across all groups. Fortunately, if the groups are of roughly equal size (i.e., if the size of the largest group divided by the size of the smallest group is equal or less than 1.5), a violation of this assumption has minimal impact (Hair et al., 1998). The Box’s M test was used to check for this assumption. Usually, values below .05 indicate a violation of this assumption. The second assumption (homogeneity of variance) was tested using Leven’s test of equality of error variance. However, if the groups are roughly of equal size then a violation of this assumption has a minimal impact. The last assumption states that any linear combination of the dependent variables must follow a normal distribution. This assumption was tested by visually inspecting skewness, kurtosis, and the histogram for each dependent variable. Finally, the recommended sample size for MANOVA is 20 observations per cell. At minimum, the number of subjects in each cell should be more than the number of the dependent variables utilized in the study in order to be considered for this analysis. (Hair et al., 1998). The minimum required sample size was satisfied in this study.

**Results**

The data collected from all participants were coded, entered to the SPSS spreadsheets, and analyzed using software package SPSS version 11.5. Descriptive statistics for all variables in this study were examined using SPSS frequencies. The minimum and maximum values of each variable were examined for the accuracy of data entry by inspecting out of range values. An examination of these values did not detect any out of range values. Missing subjects were not detected either. Results of the study are addressed by each objective.

**Results Pertaining to Objective 1**

Objective one was to describe the demographic characteristics of cooperating Vocational, Arabic, and English teachers. Demographics of the sample show that the majority of the respondents (69.2%) were female, 30 or more years old, 57 respondents possessed a degree higher than a bachelor’s degree, and 77
respondents had years of teaching experience ranging from 1-10. With regard to area of specialization, teachers were almost evenly distributed among vocational, Arabic, and English education. The remaining demographic data for cooperating teachers who participated in this study are presented in Table 1.

**Table (1)
Demographics of the Sample**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number and Percentage of Total (120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>37 males (30.8%), 83 females (69.2%)</td>
</tr>
<tr>
<td>Age</td>
<td>28 below 30 (23.3%), 29 between 30-39 (24.2%), 39 between 40-49 (32.5%), 21 between 50-59 (17.5%), 3 above or equal to 60 (2.5%).</td>
</tr>
<tr>
<td>Educational Level</td>
<td>63 with bachelor’s (32.5%), 32 with high diploma (26.7%), 21 with masters (17.5%), 4 with Ph. D.</td>
</tr>
<tr>
<td>Area of Specialization</td>
<td>36 vocational teachers (30%), 50 Arabic teachers, 34 English teachers.</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>42 with 1-5 years (35%), 35 with 6-10 years (29.2%), 25 with 11-15 years (20.8%), 18 with 16-20 years (15%).</td>
</tr>
</tbody>
</table>

**Results Pertaining to Objective 2**

Objective 2 was to describe cooperating Vocational, Arabic, and English teachers on their professional development dimensions including planning, teaching, classroom management, evaluation and testing, and personal-social interaction. Descriptive statistics including means and standard deviations were used to achieve this objective. As shown in Table 2, the mean values of professional development dimensions were almost equal ranging from 3.11 to 3.15 which indicate a moderate agreement. Further, the validity of scores as represented by their standard deviations is almost equal for all dimensions.

**Table (2)
Means and Standard Deviations of the Five Dimensions of Professional Development.**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Means</th>
<th>Standard Deviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Management</td>
<td>3.15</td>
<td>.69</td>
</tr>
<tr>
<td>Planning</td>
<td>3.14</td>
<td>.59</td>
</tr>
<tr>
<td>Evaluation and Testing</td>
<td>3.14</td>
<td>.61</td>
</tr>
<tr>
<td>Teaching</td>
<td>3.12</td>
<td>.63</td>
</tr>
</tbody>
</table>
Results Pertaining to Objective 3
Objective 3 concerns the significant differences among professional development dimensions and the following individual demographics of cooperating teachers in Jordan: gender, age, level of education, area of specialization, and years of teaching experience. Multivariate analysis of variance (MANOVA) statistical procedures were used because this research question involved multiple dependent and independent variables. The five dimensions of professional development were treated as the dependent variables, whereas categorical level variables (e.g., years of teaching experience) were used as the independent variables. The results for each independent variable were reported separately. MANOVA analysis yielding significant differences was followed with ANOVA analysis and post hoc comparisons, respectively. All post hoc comparisons utilized Tukey’s test at an alpha level of .05.

Gender
Gender was used as an independent variable to determine whether perceptions of professional development dimensions differed for males (p = 37) versus females (n = 83). The results of the box test showed no significant differences in the variances among the two groups (Box’s M = 19.42, F = 1.22, p = .24). With respect to the equality of error variance, all factors met this assumption. Pillai’s Trace was selected as the test statistic to evaluate the presence of differences across gender, with regard to the set of dependent variables. MANOVA analysis revealed no significant differences across levels of gender. As shown in Table 3, the calculated value of Pillai’s Trace was .04 F 1.01, df = 5, p = .41) indicating that differences did not exist for male and female respondents across the dependent variables.

Table 3
Multivariate Tests of Significance, Effect Size, and Power for Gender.

<table>
<thead>
<tr>
<th>MANOVA Test Power</th>
<th>Value</th>
<th>F</th>
<th>df</th>
<th>Sig.</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillai’s Trace</td>
<td>.04</td>
<td>1.01</td>
<td>5</td>
<td>.41</td>
<td>.04</td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.95</td>
<td>1.01</td>
<td>5</td>
<td>.41</td>
<td>.04</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>.05</td>
<td>1.01</td>
<td>5</td>
<td>.41</td>
<td>.04</td>
</tr>
</tbody>
</table>
Age categories were used as an independent variable to determine if they yielded significant differences in the perception of the professional development dimensions. The box test did not show significant differences (Box’s M = 58.87, F = 1.19, p .17) indicating equality of the covariance matrix among the age groups. With respect to the equality of error variance, all factors met this assumption. MANOVA analysis revealed no significant differences across the age categories examined. The calculated value of Pillai’s Trace was .15 F .92, df= 20, p .55), indicating that differences did not exist for levels of age across the professional development dimensions (see Table 4).

<table>
<thead>
<tr>
<th>MANOVA Test</th>
<th>Value</th>
<th>F</th>
<th>df</th>
<th>Sig.</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillai’s Trace</td>
<td>.15</td>
<td>.92</td>
<td>20</td>
<td>.55</td>
<td>.04</td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.82</td>
<td>.93</td>
<td>20</td>
<td>.54</td>
<td>.04</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>.17</td>
<td>.93</td>
<td>20</td>
<td>.53</td>
<td>.04</td>
</tr>
<tr>
<td>Roy’s Largest Root</td>
<td>.13</td>
<td>2.87</td>
<td>5</td>
<td>.01</td>
<td>.11</td>
</tr>
</tbody>
</table>

Level of Education
Education levels were used as the independent variables to determine if significant differences existed in the perceptions of the professional development dimensions across levels of education. There were 63 respondents with a bachelor’s degree, 32 respondents with a high diploma degree, 21 respondents with a masters’ degree, and four respondents with a Ph. D. degree. The Box test revealed no significant differences (Box’s M = 41.35, F = 1.26, p = .15), indicating that the covariance matrixes were equal across the groups.
MANOVA analysis showed no statistically significant differences across educational levels. The calculated value of Pillai’s Trace was .07 (F = .51, df = 15, P = .93) (see Table 5), indicating that differences did not exist across levels of the independent variable for the dependent variables. With respect to the equality of error variance, all factors met this assumption except for the management dimension.

### Table 5
Multivariate Tests of Significance, Effect Size, and Power for Levels of Education.

<table>
<thead>
<tr>
<th>MANOVA Test Power</th>
<th>Value</th>
<th>F</th>
<th>df</th>
<th>Sig.</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillai’s Trace</td>
<td>.07</td>
<td>.51</td>
<td>15</td>
<td>.93</td>
<td>.02</td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.93</td>
<td>.51</td>
<td>15</td>
<td>.93</td>
<td>.02</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>.07</td>
<td>.51</td>
<td>15</td>
<td>.93</td>
<td>.02</td>
</tr>
<tr>
<td>Roy’s Largest</td>
<td>.05</td>
<td>1.07</td>
<td>5</td>
<td>.37</td>
<td>.04</td>
</tr>
</tbody>
</table>

The respondent’s total years of teaching experience was treated as an independent variable to determine if significant differences in perceptions of professional development dimensions emerged across these categories. The years of experience was grouped into four categories as follow: 1-5 years (n = 42), 6-10 years (n = 35), 11-15 years (n = 25), and 16-20 years (n = 18). The ratio of the largest group to the smallest group was 2.3:1. The Box test did not show any statistically significant differences (Box’s M = 42.14, F = .85, P = .74). With respect to the equality of error variance, all factors met this assumption. MANOVA analysis showed statistically significant differences across categories of work experience. The calculated value of Pillai’s Trace was .26 (F = 2.17, df = 15, P < .01) (see Table 6).

### Table 6
Multivariate Tests of Significance, Effect Size, and Power for Years of Experience.

<table>
<thead>
<tr>
<th>MANOVA Test Power</th>
<th>Value</th>
<th>F</th>
<th>df</th>
<th>Sig.</th>
<th>Effect Size</th>
</tr>
</thead>
</table>
A between subjects ANOVA analysis revealed that one of the five dimensions was significantly different across categories of years of teaching experience. Post hoc comparisons showed significant differences in one dimension (classroom management). Respondents who have worked 11-15 years (mean = 2.89) rated classroom management lower than respondents who have worked 6-10 years (mean = 3.26).

**Area of Specialization**
Area of specialty was used as the independent variable whereas professional development dimensions were used as the dependent variable. Area of specialty was: vocational (i = 36); Arabic (n = 50); and English (n = 34). The ratio of the largest group to the smallest group was indicating that violation of the unequal matrices across groups may not be serious. The Box test revealed statistically significant differences (Box’s M = 60.49, F = 1.89, p < .01). MANOVA was run and results were interpreted because the Box test is not a robust test (Harris, 1985). With respect to the equality of error variance, all factors met this assumption. MANOVA analysis did not show any statistically significant differences across area of specialty. The calculated value of Pillai’s Trace was .04 F= .51, df= 1O,p = .87) across area of specialty (see Table 7).

**Table 7**

<table>
<thead>
<tr>
<th>MANOVA Test Power</th>
<th>Value</th>
<th>F</th>
<th>df</th>
<th>Sig.</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillai’s Trace</td>
<td>.04</td>
<td>.51</td>
<td>10</td>
<td>.87</td>
<td>.02</td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.95</td>
<td>.51</td>
<td>10</td>
<td>.87</td>
<td>.02</td>
</tr>
</tbody>
</table>
**Discussion**

One of the primary needs in education today is ongoing professional development for experienced teachers. Professional development has always been important for cooperative teachers and a critical component of school improvement (Choy & Chen, 1998; Cibultea & Nakayama, 2000). One primary area of professional development of cooperating teachers is that of mentoring of student teachers (Guskey, 2003). Limited research has been done on the benefits that cooperating teachers accrue as a result of their practicing role as mentors (Kahn, 2001). Moreover, no research addressing this issue was located in Jordan. The goal of this study was to determine whether cooperating teachers developed professionally as a result of their role as mentors. One hundred twenty-eight cooperating teachers were given researchers’-designed instrument in which they were asked to provide demographic information and respond to 50 statements classified into five dimensions using a 5-point Likert-type scale. One hundred twenty teachers responded to the instrument representing a 93% response rate.

The results of this research indicate that cooperating teachers developed professionally at a moderate level on each dimension as represented by their overall mean values as follow: classroom management (3.15), planning (3.14), evaluation and testing (3.14), teaching (3.12), and personal-social interaction (3.11). Surprisingly, cooperating teachers professional development was equally distributed among the five dimensions. With regard to the classroom management dimension, it appears that the presence of student teachers in their schools have moderately impacted cooperating teachers practice toward the best strategies of dealing with pupils. Cooperating teachers perceived that they have paid more attention to the best learning environment that is free of bias and chaos suitable to achieve better performance. They were more inclined to learn the most recent trends in classroom management such as helping pupils to control their behaviors during class sessions, creating positive attitudes toward pupils, and utilizing a better system of reward and punishment. These results are consistent with what Arnold (2002) mentioned that changes were identified in teachers’ practice related to classroom management as a result of the mentoring experience.
With regard to the planning dimension, cooperating teachers perceived that mentoring student teachers has resulted in an increased attention on their part to the development of the daily instructional plans to include formulating objectives on the cognitive, affective, and psychomotor domains and in implementing better strategies to achieve those objectives. Cooperating teachers were also more inclined to be updated with the latest versions and strategies of classroom instructional planning to meet the levels of their student teachers. Cooperating teachers recognize that their student teachers may have a more updated theoretical classroom teaching strategies as they have learned at the university level. Therefore, cooperating teachers need to set a better example of themselves. According to Tatel (1993), “having a student teacher in their classroom means that they must dissect their teaching practice, articulate their goals and objectives, justify their choices of materials and methods, and analyze their students’ reactions” (p. 149). These results are consistent with the study of Koerner (1992) who found that cooperating teachers changes their routine teaching and reflected on their teaching modes as a result of their role as mentors.

Similarly, dimension of evaluation and testing received the same mean values. This result suggests that cooperating teachers perceived moderate rate of professional development as a result of mentoring of student teachers. Cooperating teachers have better awareness of evaluation and testing utilized by the ministry of education; employ various testing techniques; precise in providing pupil’s grades; improve testing techniques; and recognize pupil’s point of views about testing and measurement. These results are consistent with the views of Patton (2002) where students should be involved in testing and evaluation process as a whole.

With respect to the last two dimensions (teaching and social-personal interaction), cooperative teachers believed that there teaching strategies have improved where they present the content of a particular class in different styles, employing a sequential mamler, challenging pupil’s thinking, and use various references regarding the particular class content. These results are consistent with the views of Landt (2002) where cooperating teachers changed their planning aspect as a result of working with student teachers. By the same token, cooperating teachers have improved their personal relationships with their cblleagues inside and outside the school; modified their student guiding methods; paid more attention to their personal appearance; were more obedient to being to school in general and classes in particular on time; and recognized students’ needs with a critical eye. These results are consistent with the results
obtained by Arnold (2002) and Landt (2002) who found that mentoring student teachers have significantly impacted cooperating teachers professional development of becoming a better teachers regarding the aspects of testing and evaluation and the personal-social interaction aspects of their lives. Another strand of results regarding demographic variables distinguished between cooperating teachers years of experience on one dimension (classroom management). Cooperating teachers who have worked 6-10 years observed more professional development more than those who have worked 11-15 years. This result might be justified that teachers with less experience are more prone to apply change to their practices in the classroom regarding classroom management than teachers with long experience who are trying to maintain the status quo (Del Val & Fuentes, 2003). The rest of the demographic variables did not have any significant effects on the dimensions of cooperating teachers’ professional development. This result opens the door for more demographic variables to be included in further research.

**Implications and Recommendations**

Several implications can be drawn from this research. First, the results of this study suggest that mentoring of student teachers is a positive experience for cooperating teachers. However, this positive professional development experience is at the moderate level. Second, cooperating teacher have an equal positive experience on all dimensions of professional development. Cooperating teachers are working to provide an outstanding model to student teachers articulated by their professional decisions regarding the five dimensions on a daily basis. The study results and implications suggest the following recommendations for practice and theory.

From a practical standpoint, the following recommendations are suggested: (a) school principals and ministry administrators should alter their perceptions of student teachers from only being treated as guests in their schools to potential change agents with regard to instructional practices and the overall school culture, (b) school principals should introduce student teachers to all school members including teachers, parents, and board members. In turn, students and parents should be given opportunity to reflect and provide input to administrators, cooperating teachers, and university supervisors regarding their expectations and satisfaction with student teachers, (c) school principals and ministry administrators should demand cooperating teachers to document their professional development and growth and to share their reflections, practices, and experiences with other teachers in the school, and (d) workshops should be developed to guide cooperating teachers to the best approaches of maximizing their professional growth while mentoring student teachers. Cooperating
teachers can be taught on the best ways of responding to the expectations of colleges and universities (Graham, 1997) and how to view mentoring as a professional growth opportunity where teachers who view it as such do experience such growth (Landt, 2002).

From a theoretical standpoint, the population of the future research should be expanded to include all cooperating teachers whom their schools are part of a university-based mentoring or teacher education program. The study should also compare between private and public schools geographic regions, educational levels of respondents, and so on. Other studies should not only study the professional development of current cooperating teachers but also former teachers, students, and school principals. Another recommendation for future studies would be that factor analysis of the research instrument be performed. Factor analysis is a useful technique that can determine the clusters of items as seen by respondents which ultimately can improve the psychometric qualities of the instrument. Finally, it is hoped that this research will be seen as a starting point for research in professional development for all schools participating in the teacher education program in Jordan which can provide valuable insights for both academics and practitioners.

References


