

Leadership Adaptability and Learning Styles of the Hashemite University Students in Jordan

Dr. Aieman A. AL-Omari
Faculty of Educational Sciences
The Hashemite University

Leadership Adaptability and Learning Styles of the Hashemite University Students in Jordan

Dr. Aieman A. AL-Omari
Faculty of Educational Sciences
The Hashemite University

Abstract

The purpose of this investigation was to describe the learning styles, leadership styles and adaptability, and selected demographics of students in the Hashemite University in Jordan, and to assess the relationship between learning style and leadership adaptability. A sample of (470) students (342 females and 128 males) was chosen.

The results of the study indicated that 40.6% of males were Convergers, whereas 50.9% of females were Assimilators. Male respondents were distributed between low 44.5% (n=57), moderate 53.1% (n = 68) and high 2.3% (n = 3) adaptability scores. Whereas 41.5% (n=142) of the females possessed low adaptability scores, an additional, 54.7% (n=187) of the female respondents possessed moderate adaptability scores, and 3.8% (n=13) scored high on adaptability. A negligible positive correlation was found ($r=.028$) between learning style and leadership style adaptability.

العلاقة بين التكيف القيادي ونمط التعلم لدى طلبة الجامعة الهاشمية

د. أيمن أحمد العمري

كلية العلوم التربوية

الجامعة الهاشمية

الملخص

تهدف هذه الدراسة إلى وصف نمط التعلم والتكيف القيادي والتعرف على طبيعة العلاقة بين التكيف القيادي ونمط التعلم لدى طلبة الجامعة الهاشمية مقاسة باستبيان وصف الفاعلية والتكيف القيادي (LEAD Self Instrument) وقائمة كولب (Learning Style Inventory) لقياس نمط التعلم. تكونت عينة الدراسة من (٤٧٠) طالباً وطالبةً (منهم ٦١ من الإناث، و ١٤ من الذكور) من مختلف كليات الجامعة الهاشمية.

وقد أشارت نتائج الدراسة إلى أن الطلبة الذكور كانوا في أغلبهم (٦٠,٦٪) من ذوي نمط Convergers، وال طالبات (٥٠,٩٪) من ذوي نمط Assimilators وتراوحت استجابات الطلبة الذكور بالنسبة للتكيف القيادي ما بين منخفضة (٤٤,٥٪)، ومتوسطة (٥٣,١٪) ومرتفعة (٢,٣٪)، بينما تراوحت استجابات الطلبة الإناث ما بين منخفضة (٤١,٥٪)، ومتوسطة (٥٤,٧٪) ومرتفعة (٣,٨٪). كما أشارت النتائج إلى وجدت علاقة ارتباطية إيجابية ضعيفة ($r = 0,028$) بين التكيف القيادي ونمط التعلم لدى الطلبة.

Leadership Adaptability and Learning Styles of the Hashemite University Students in Jordan

Dr. Aieman A. AL-Omari

Faculty of Educational Sciences
The Hashemite University

Introduction

The leadership paradigm in use today is based upon the assumption that leadership can be taught and learned. However, a problem exists in that there is a void in the literature base that identifies the relationship between learning style and leadership adaptability. This may mean that instructors do not possess all of the information they need to foster the development of leadership skills in all of their students. Several questions must be asked in regard to the impact of learning styles on the ability of leadership development students to learn leadership. Is there a relationship between learning styles and the ability of individuals to adapt their leadership style to a given situation? Are students likely to be more or less adaptable based upon their learning style? What are the implications of this possible relationship (or lack thereof) between adaptability and learning style for teaching leadership development? Answering such questions may provide instructors in higher education institutions with valuable information needed to effectively teach leadership to students within each learning style.

It is no secret that the characteristics that business and industry employers seek in future employees are the attributes that characterize an effective leader (Welch, 2000). This notion is congruent with the findings of studies conducted by Litzenberg and Schneider and by Bosshamer (as cited in Fritz & Brown, 1998) that found leadership to be one of the important skills needed by higher education institutions graduates.

In an effort to meet this need, universities and colleges can teach and learn leadership skills to students through the programs and courses that offered. At the same time, individual learning styles should be considered when creating leadership development programs. This notion is supported by the works of leadership theorists such as Towler (2003), Wyrick (2003), Bass (1998), Kouzes and Posner (1987), and Hersey, Blanchard

and Johnson (2001).

Students enrolled in higher education institutions, can be expected to vary in their preferred styles of learning. The relationship between student learning styles and various measures of achievement has been reported extensively (Cano, 1999; Dyer & Osborne, 1996; Garton, Spain, Lamberson, & Spiers, 1999; Khasawneh, Abu-Tineh, & Obeidat, 2006). Studies have also been conducted that describe student learning styles and teaching styles (Cano, Garton, & Raven, 1992; Whittington & Raven, 1995). However, little empirical evidence exists that describes the learning styles, self-perceived leadership styles, and leadership adaptability of students enrolled in higher education institutions in Jordan. Because these students are often preparing to assume leadership roles in industry, it is important that we understand both their preferred style of learning and characteristics about them as leaders.

There are many definitions of learning styles. Garger and Guild (1984) define learning styles as “stable and pervasive characteristics of an individual, expressed through the interaction of one’s behaviors and personality as one approaches a learning task” (p. 11). Gregorc (1979) defines learning styles as consisting of distinctive behaviors which serve as indicators of how a person learns from and adapts to the environment. Also, Kolb defined learning style (as cited in Evans et al., 1998) as a habitual way of responding to a learning environment. Essentially, learning styles are based upon how a person perceives and processes information to facilitate learning.

Colleges and universities have recently recognized that there are different learning styles among students (Malinen, 2000). There are a number of methods of assessing student learning styles (Gregorc, 1982; Kolb, 1985). A learning style is the general tendency toward a particular approach of perceiving and processing information displayed by an individual (Robotham, 1999). Each student’s learning style is unique and may not be identical to any other learning style (Fritz, 2002). Kolb’s (1985) model of learning styles is recognized as one of the prominent and widely used tools for assessing students’ learning preferences. The model assumes four learning styles among people in a given learning situation. These styles are labeled as Divergers, Assimilators, Convergents, and Accommodators.

There are perhaps as many definitions of leadership as there are of learning styles. According to Yukl (2002), leadership theories include three

key variables: characteristics of the leader, characteristics of the follower, and characteristics of the situation. Yukl further notes that these can be categorized into five approaches: the trait approach, the behavior approach, the power-influence approach, the situational approach, and the integrative approach.

The situational approach is based on the concept that there is no one best style of leadership and emphasizes the interplay among leader, follower, and situational variables (Hersey et al., 2001). According to the theory, an individual's leadership style is defined as the behavior pattern, as perceived by others, that an individual exhibits as he/she influences the activities of others, and is determined based on the combination of two types of behaviors: task behavior and relationship behavior (Hersey et al., 2001).

Potential gender differences in relation to leadership styles and learning styles have been an area of much research. Some studies report no differences whereas others report significant differences in the leadership behaviors and learning styles of males and females in various situations. In terms of the Leadership Effectiveness and Adaptability Description (LEAD) Self instrument, studies have shown that respondents most often report selling/coaching as their primary leadership style, with participating/supporting being the second most frequently reported primary leadership style, regardless of gender (Davis, 1996; Penny, 1996). In terms of learning styles Honigsfeld & Dunn (2006) study indicated that males and females had significantly different learning styles from each other. For example, females were more auditory, motivated, persistent and responsible than their male counterparts. Despite societal misconceptions concerning males' propensity for variety, women require statistically more instructionally diverse approaches while learning.

On the basis of the above argument, the following remarks were observed: Research on the learning styles and leadership styles and adaptability levels remains highly contradictory. Research on the relationship between learning styles and leadership styles and adaptability levels among students and other variables still has values.

In examining previous research, the researchers found no study related to Jordanian students, specifically among students' at the Hashemite University. Therefore, there is a need for additional research on the learning styles and leadership styles and adaptability levels among students at the Hashemite University.

Purpose of the study

A survey of the related literature in Jordan indicated paucity in a research that addresses the learning styles and leadership styles and adaptability levels academic dishonest practices among undergraduate students in Jordan, and specifically at the Hashemite University, the research site of this study. Therefore, this study came to address this paucity for the sake of understanding the nature of relationship between learning styles and leadership styles and adaptability levels among Hashemite University students. The primary purpose of this study was to assess the relationship between learning style and leadership adaptability among undergraduate students enrolled in the Hashemite University in Jordan.

Questions of the study

This study addressed the following specific questions:

1. Are there significant differences in learning styles, leadership styles, and style adaptability for students of different gender at the Hashemite University?
2. What is the relationship between learning style and leadership adaptability of students enrolled in the Hashemite University in Jordan?

Importance of the study

Prior to this study, no studies could be found in higher education institutions in Jordan to describe the relationship between learning style and leadership adaptability. Results of this study have important implications for students and faculty members. By understanding their students learning preferences and leadership adaptability, faculty members can use such information to design effective teaching strategies. With faculties knowing their students' learning styles, they will be better prepared to help students achieve success. Therefore, this study may help in seeking feasible approaches to help faculties and students find the most effective ways of teaching and learning. The result of this study will also help fill in the gap in the literature related to the lack of research in higher education and the contradictory results regarding the relationship between learning styles and leadership adaptability.

Limitations and Delimitations of the Study

The following are limitations and resulting delimitations of the current study:

1.The study is limited to undergraduate students at the Hashemite University during the first semester 2005/2006 in Jordan.

2.This inquiry into learning styles, leadership styles and style adaptability of undergraduate students at public institution of higher education in Jordan. Therefore, the study findings cannot be generalized to other areas of institutions of higher education within or outside of the university studied.

3.The data collection and intent of the study were limited to the Hashemite University. Therefore, the findings of this study should not be interpreted representative of the views of other students at other academic institutions.

Methodology

Population and Sample

The target population for the study was all undergraduate students enrolled in the educational culture course in the Hashemite University during the first semester of 2005/2006. The faculty of educational sciences offers the educational culture course, which is a university elective for undergraduate students as part of their degree program. There were 14 sections of the class with a total number of 1503 registered students representing a variety of academic majors. A random sample of 650 students was chosen and a total of 470 students completed the survey with response rate of 72.3%. The resulting sample included 128 males (27.23%) and 342 females (72.77%).

Instrumentation

The LEAD Self instrument developed at the Center for Leadership Studies ("Leadership Effectiveness and Adaptability Description - Self Version," 2002) was used to identify the leadership styles and adaptability scores of participants. Validity of the LEAD Self instrument was established through content and face validity, and the instrument was standardized on the responses of 264 managers from North America (Greene, 1980).

For this study, the researcher used the Arabic version of LEAD Self that was translated by (Almgadi and Alnaji, 1994). Validity and reliability of the instrument was tested, the reliability was (0.791) and it seemed to be valid and reliable measure for use with a Jordanian population.

The LEAD Self instrument consists of 12 situations, each with four

alternative answers. Of the four alternative answers to each situation, there was one answer for each of the four leadership styles: telling/directing style (high task/low relationship), selling/coaching (high task/high relationship), participating/supporting (low task/high relationship), and delegating (low task/low relationship).

Primary leadership styles were calculated by creating a composite score for each of the four leadership styles by adding the number of responses in each category. The style with the most responses was considered to be the participant's primary leadership style. From the responses to each situation, a composite style adaptability score can also be calculated. According to the LEAD Self instrument, the style adaptability scores range from 0-36. Participants with an adaptability score between 0-23 are considered to possess low adaptability, 24-29 represents moderate adaptability, and 30-36 represents a high degree of adaptability.

The Kolb's Learning Style Inventory (LSI) (Kolb, 1985) was used to assess students' learning preferences. The researcher in this study used the Arabic version of the LSI that was translated by Khasawneh, et al., (2006). Cronbach's alpha for the four learning modes was calculated to be as follows: concrete experience (.78), reflective observation (.85), abstract conceptualization (.81), and active experimentation (.79). Based on the translation process and the reliability estimates, the Arabic-translated version of the LSI seemed to be valid and reliable instrument for research purpose.

The LSI is a self-report measure containing 12 items in which respondents describe their learning style preferences. Each item asked participants to rank order four sentence endings that correspond to a four learning modes: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). Respondents were asked to rank these sentences on the following scale: 1 (least like you), 2 (third most like you), 3(second most like you), 4 (most like you). The LSI is scored by adding up the scores in each of the four columns to produce the scores for each of the learning modes (CE, RO, AC, and AE). Therefore, raw scores for each mode range from 12 to 48. The four raw scores are then combined to form the two learning dimensions: perception (AC-CE) and processing (AE-RO). These two dimensional scores are then placed on a learning style grid. Depending on the magnitude of the scores, the individual is categorized within one of the four quadrants that represent an individual's preferred learning style as

Diverger, Assimilator, Converger or Accommodator. In the present study, the researchers manually categorized and classified each respondent learning style based on their scores and the Grid chart. An SPSS coding of 1 was given to the Diverger learning style, a code of 2 was given to the Assimilator learning style, a coding of 3 was given to the Converger learning style, and a code of 4 was given to the Accommodator learning style.

Data Collection and Analysis

The LEAD Self and The Kolb's Learning Style Inventory (LSI) instruments were administered by the researcher and hand scored following the administration and scoring guidelines set forth by each instrument. Data were analyzed using SPSS for Windows, version 10. Descriptive statistics frequencies and percentages were used to summarize the data for question one, also, Multivariate Analysis of Variance MANOVA and an analysis of the variance ANOVA comparing leadership styles, learning styles, and leadership adaptability mean scores for gender variable was used. Pearson correlations were used to assess the relationship between learning styles and leadership style adaptability in question two.

Results

Question One: Are there significant differences in learning styles, leadership styles, and style adaptability for students of different gender at the Hashemite University?

Table 1
Distribution of Learning Styles of Students by Gender

Learning Styles	Male		Female		Total	
	n	%	n	%	n	%
Assimilators	40	31.3	174	50.9	214	45.5
Convergers	52	40.6	82	24	134	28.5
Divergers	21	16.4	54	15.8	75	16
Accommodators	15	9.4	32	9.4	47	10
Total	128	100.0	342	100.0	470	100.0

The first question was to describe the learning styles, leadership styles, leadership adaptability, and gender of students enrolled in the Hashemite University. Of the 470 participants, the majority were female (73%, n=342). Almost half of the participants were Assimilators learners (45.5%, n=214). The majority of the male respondents were Convergers learners (40.6%, n=52), whereas a slight majority of the female respondents were considered Assimilators learners (50.9%, n=174) (see Table 1).

A One-Way MANOVA was used to compare if there were differences in learning styles among students at the Hashemite University based in their gender.

Table 2
One-Way Multivariate Tests for Learning Styles (Assimilators, Convergers, Divergers, and Accommodators) for Students gender

Effect	Wilks' Lambda Value	F	Hypothesis df	Error df	Sig.
Gender	.963	5.999	3	466	.001*

* < .05

Univariate analysis test was conducted as follow-up test to assess the effects of gender on learning styles of students.

Table 3
ANOVA Summary for the Students' Learning Styles regarding their Gender

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Assimilators	62.822	1	62.822	260.244	.000*
	Convergers	155.484	1	155.484	195.159	.000*
	Divergers	86.891	1	86.891	71.688	.000*
	Accommodators	66.193	1	66.193	45.828	.000*
Gender	Assimilators	3.588	1	3.588	14.864	.000*
	Convergers	10.326	1	10.326	12.961	.000*
	Divergers	.00318	1	.00318	.026	.871
	Accommodators	.831	1	.831	.576	.448
Error	Assimilators	214.000	468	.241		
	Convergers	372.852	468	.797		
	Divergers	567.255	468	1.212		
	Accommodators	675.969	468	1.444		
Total	Assimilators	214.000	470			
	Convergers	536.000	470			
	Divergers	675.000	470			
	Accommodators	752.000	470			

* <.05

Table 3 presents ANOVA results. ANOVA results indicate that learning style (Assimilators) ($F(1, 468) = 14.864, p=.000$), and (Convergers) ($F(1, 468) = 12.961, p=.000$) significantly differs for gender.

Table 4
Means and Standard Deviation for the Students' Learning Styles (Assimilators and Convergers) regarding their gender

Gender	Assimilators		Convergers	
	Mean	SD	Mean	SD
Male	.313	.043	.813	.079
Female	.509	.027	.480	.048

Table 4 shows the significant difference for gender among students with Assimilators and Convergers learning styles, that female students ($M=.509$) are more Assimilators learning style than male ($M=.313$), while male students ($M=.813$) are more Convergers learning style than female ($M=.480$).

Table 5
Self-perceived Primary Leadership Styles of Students by Gender Leadership Styles

Leadership Styles	Male	Female	Totals	
	<i>n</i>	<i>n</i>	<i>n</i>	%
Telling/Directing	9	14	23	4.9
Selling/Coaching	96	197	293	62.3
Participating/Supporting	9	123	132	28.1
Delegating	14	8	22	4.7
Totals	128	342	470	100.0

Leadership styles of study participants were determined as outlined in the LEAD Self instrument (see Table 5). Of the 470 participants, 23 (4.9%) perceived their primary style to be telling/directing, 293 (62.3%) perceived selling/coaching to be their primary style, 132 (28.1%) perceived their primary style to be participating/supporting, and 22 (4.7%) perceived delegating to be their primary style. In comparing leadership styles by gender, the majority of both males and females perceived themselves to possess selling/coaching leadership styles. Ninety-Six of the 128 male students were categorized as this style. By contrast, females were

predominantly categorized into selling/coaching and participating/supporting leadership styles.

A One-Way MANOVA was conducted to determine the effect of gender on the four styles of students' leadership.

Table 6
One-Way Multivariate Tests for Leadership Styles (Telling, Selling, Participating, and Delegating) for Students' gender

Effect	Wilks' Lambda Value	F	Hypothesis df	Error df	Sig.
Gender	.993	1.058	3	466	.367

Table 6 presents the One-Way MANOVA results. MANOVA results indicate that gender (Wilks' Lambda = .993, $F(3, 466) = 1.058$, $p = .367$) no significantly affect the combined dependent variable of leadership styles (Telling, Selling, Participating, and Delegating).

Table 7
Leadership Style Adaptability of Students by Gender (n=470)

	Male	Female	Totals	
	<i>n</i>	<i>n</i>	<i>n</i>	%
Low	57	142	199	42.3
Moderate	68	187	255	54.3
High	3	13	16	4.4
Totals	128	342	470	100.0

Leadership adaptability scores placed study participants into the three categories as outlined in the LEAD Self instrument (see Table 7). Of the 470 participants, 199 (42.3%) were classified as having low leadership style adaptability, 255 (54.3%) were classified as having moderate adaptability, and 16 (4.4%) were classified as having a high degree of leadership adaptability. The overall mean adaptability score of study participants was 26.5. When comparing leadership adaptability scores by gender, males had a mean adaptability score of 23.1, and of 128 male participants, 44.5% ($n = 57$) were classified as having low adaptability, 53.1% ($n = 68$) had moderate adaptability, and 2.3% ($n = 3$) had high leadership adaptability scores. Females had a mean adaptability score of 24.2. Of the

342 female participants, 41.5% (n=142) were classified as having low adaptability, 54.7% (n=187) had moderate adaptability, and 3.8% (n=13) had high leadership adaptability scores.

Means and standard deviations, and a one-way ANOVA were used to compare if there were differences in leadership adaptability among students based in their gender.

Table 8
One-Way ANOVA of Students' Leadership Adaptability
regarding their gender

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	37.596	1	37.595	3.846	.050*
Within Groups	4575.137	468	9.776		
Total	4612.732	469			

*.<.05

The results in Table 8, revealed that a significant differences exists between students leadership adaptability and their gender (F (1, 469) =3.846), p=.05). The results indicated that male students differ significantly from female regarding to their leadership adaptability.

Question Two: What is the relationship between learning style and leadership adaptability of students enrolled in the Hashemite University in Jordan?

Table 9
Leadership Style Adaptability and Learning Styles by Gender

	Male				Female				Total			
	Assimilators	Convergers	Divergers	Accommodators	Assimilators	Convergers	Divergers	Accommodators	Assimilators	Convergers	Divergers	Accommodators
Adaptability	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>
Low	5	10	1	0	32	13	8	7	37	23	9	7
Moderate	25	36	17	10	119	56	36	23	144	92	53	33
High	10	6	3	5	23	13	10	2	33	19	13	7
Totals	40	52	21	15	174	82	54	32	213	134	75	47

The second question was to assess the relationship between the learning style and leadership adaptability of students enrolled in the Hashemite University. The majority of males with low adaptability scores (62.5%, n=10) and moderate adaptability scores (40.9%, n=36) were Convergents, while males with high adaptability scores (41.7%, n = 10) were Assimilators (see Table 9). By contrast, the majority of females with low adaptability scores (53.3%, n=32), moderate adaptability scores (50.9%, n=119), and high adaptability scores (47.9%, n=23) were Assimilators (see Table 9). A low positive correlation ($r = .028$) was found between Learning Style score and leadership adaptability.

Discussion

Males in this study tended to prefer Convergents learning styles whereas females tended to prefer Assimilators learning styles. These findings are consistent with the work of Khasawneh et al. (2006).

Overall, the majority of respondents perceived their primary leadership style to be selling/coaching. Female students also had a strong presence in the participating/supporting leadership style. Whereas females reported participating/supporting as second reported style, males reported delegating as the second reported style.

These findings are consistent with some literature in the knowledge base (Davis, 1996; Penny, 1996; Khasawneh, et al., 2006), but conflict with other literature. According to Eagly and Karau (1991), "men are expected to possess high levels of agent qualities, including being independent, masterful, assertive, and competent. Women are expected to possess high levels of communal attributes, including being friendly, unselfish, concerned with others, and emotionally expressive" (p. 686). Similarly, Eagly and Johnson (1990) found that women tend to use a more participative and inclusive style whereas men tend to use a more directive and controlling style. If this were true, women would have been expected to be predominantly in the selling/coaching and participating/supporting styles whereas males would be predominantly in the telling/directing and delegating style categories. While findings of this study supported the assumption that females would be predominantly selling/coaching and participating/supporting in their leadership style, findings indicated that males were also predominantly selling/coaching and delegating rather than telling/directing and participating/supporting.

Overall, study participants possessed a leadership adaptability score of

26.5 indicating adaptability on the moderately adaptable category. Males and females were represented in each of the low, moderate, and highly adaptable categories.

There was only a low positive correlation between learning styles and leadership style adaptability. Findings of this study showed that most of female participants were Assimilators learning style, and male participants were Convergents with moderate level of leadership style adaptability.

Recommendations

1-Include an assessment component in leadership skills development programs. An assessment may take the form of a leadership style inventory or measures, but portfolios offer another avenue for assessment. The assessment could determine which skills individuals currently possess. A more efficient instructional delivery system would result from a leadership skills assessment of individuals seeking enhancement or development of leadership skills.

2-Incorporate a variety of learning strategies, methods, techniques, and experiences for individuals in leadership skills development programs. To teach to all learning styles, thereby encouraging students to view information in different learning scenarios, rather than relying strictly on their preferred style.

3-Conduct an experimental study including a larger and more diverse population, using the applications suggested in this study.

4-As with most research studies, this study highlights unresolved questions that require future research. The moderate support for a possible relationship between learning styles and leadership styles found in this study begs further examination. Replication of the current study may provide clarification of the learning/ leadership style relationship by allowing the participants to exhibit the leadership behaviors that they prefer, rather than behaviors that may be driven by the student role. Since the learning measure tapped into how the participants would prefer to learn and the leadership measure examined actual behavior, it is possible that participants in the current study exhibit behavior required for college and not their preferred leadership behaviors. To test further this limitation, a study could be designed that measured learning preferences and leadership preferences, rather than actual behavior.

Conclusion

Previous research has demonstrated that students vary in learning style and suggest the importance of structuring learning activities to such that all learners, regardless of learning style, can learn through the course and material. This study confirms the existing knowledge base in that overall, students varied in learning style. However, findings of this study also indicate that all learners, regardless of learning style, possessed low to moderate adaptability. Leadership styles were not tied enough to learning styles, thus suggesting that all students, regardless of learning style can learn leadership. Based on these findings, it is recommended that all students be made aware of their leadership adaptability and that university instructors provide opportunities not only for students to assess their adaptability, but also for self-development activities to enable them to increase their leadership adaptability.

Learning styles have been shown in the literature to be important pedagogical considerations, and studies such as this one can show the importance of them in relation to domain specific content. Prior to this study, no studies could be found in higher education institutions in Jordan to describe the relationship between learning style and leadership adaptability. Therefore, it is recommended that this study be replicated to increase the generalizability of these findings.

References

- Almgadi, A.M., & Alnaji, M.A. (1994). Leadership style of deans in King Faisal University in eastern area. **Journal of Arab Universities League**, **29**, 208-221.
- Bass, B. M. (1998). **Transformational leadership: Industrial, military, and educational impact**. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Cano, J. (1999). The relationship between learning style, academic major, and academic performance of college students. **Journal of Agricultural Education**, **40**(1), 30-37.
- Cano, J., Garton, B. L., & Raven, M. R. (1992). Learning styles, teaching styles, and personality styles of preservice teachers of agriculture. **Journal of Agricultural Education**, **33**(1), 46-52.

-
- Center for Leadership Studies, Inc. (2002). **LEAD Directions: Directions for self-scoring and analysis**. Escondido, CA: Center for Leadership Studies.
- Davis, K. V. (1996). A study of the personality types and leadership styles of women administrators in the South Carolina Technical College System. **Dissertation Abstracts International**, *57*(03A), 0940.
- Dyer, J. E., & Osborne, E. W. (1996). Effects of teaching approach on achievement of agricultural education students with varying learning styles. **Journal of Agricultural Education**, *37*(3), 43-51.
- Eagly, A. H., & Johnson, B. (1990). Gender and leadership style: A meta-analysis. **Psychological Bulletin**, *108*, 233-256.
- Eagly, A. H., & Karau, S. J. (1991). Gender and the emergence of leaders: A meta-analysis. **Journal of Personality and Social Psychology**, *60*(5), 685-710.
- Evans, N., Forney, D., & Guido-DiBrito, F. (1998). **Student development in college: Theory, research, and practice**. San Francisco: Jossey-Bass Publishers.
- Fritz, M. (2002). Using learning style inventories to promote active learning. **Journal of college reading and learning**, *32*(2), 183-186.
- Fritz, S. M., & Brown, F. W. (1998). Leadership education courses and programs in departments of agricultural education. **Journal of Agricultural Education**, *39*(3), 57-62.
- Garger, S., & Guild, P. (1984). Learning styles: The crucial differences. **Curriculum Review**, *23*(1), 9-12.
- Garton, B. L., Spain, J. M., Lamberson, W. R., & Spiers, D. E. (1999). Learning styles, teaching performance and student achievement: A relational study. **Journal of Agricultural Education**, *40*(3), 11-20.
- Greene, J. F. (1980). **Executive summary for the LEAD Self manual**. Escondido: CA: Center for Leadership Studies.
- Gregorc, A. F. (1979, May). Learning/teaching styles: Potent forces behind them. **Educational Leadership**, *36*, 234-236.
- Gregorc, A. F. (1982). **Gregorc style delineator**. Columbia, CT: Gregorc Associates, Inc.

- Hersey, P., Blanchard, K. H., & Johnson, D. E. (2001). **Management of organizational behavior: Leading human resources** (8th ed.). Upper Saddle River, NJ: Prentice Hall.
- Honigsfeld, A., & Dunn, R. (2006, Winter). Learning style: Characteristics of adult learners. **Delta Kappa Gamma Bulletin**, *72*(2), 14-31.
- Khasawneh, S., Abu-Tineh, A., & Obeidat, O. (2006). The Relationship between Learning Style Preferences and Academic Achievement of the Hashemite University Students. **Journal of Educational and Psychological Sciences**, Bahrain University, *7*(3), 7-27.
- Kolb, D. A. (1985). **Learning style inventory**. Boston, MA: McBer & Company.
- Kouzes, J. M., & Posner, B. Z. (1987). **The leadership challenge: How to get extraordinary things done in organizations**. San Francisco: Jossey-Bass Publishers.
- Malinen, E. (2000). **Towards the essence of adult experiential learning**. Jyväskylä, Finland: SoPhi Academic Press.
- Penny, A. J. (1996). The relationships between leadership styles and personality types of Texas elementary administrators. **Dissertation Abstracts International**, *57*(04A), 1425.
- Robotham, D. (1999). **The application of learning style theory in higher education teaching**. Lecture presented at Wolverhampton Business School, University of Wolverhampton, United Kingdom.
- Towler, A.J. (2003). Effects of charismatic influence on attitudes, behavior, and performance. **Personnel Psychology**, *56*, 130-157.
- Welch, R. L. (2000). Training a new generation of leaders. **The Journal of Leadership Studies**, *7*(1), 70-81.
- Whittington, M. S., & Raven, M. R. (1995). Learning and teaching styles of student teachers in the Northwest. **Journal of Agricultural Education**, *36*(4), 10-17.
- Wyrick, D.A. (2003, March). Understanding learning strategies to be a more effective team leader and engineering manager. **Engineering Management Journal**, *15*, 27-34.
- Yukl, G. (2002). **Leadership in organizations** (5th ed.). Upper Saddle River, NJ: Prentice Hall.
