

*Full Length Research Paper*

# **The relation between candidate teachers' moral maturity levels and their individual innovativeness characteristics: A case study of Harran University Education Faculty**

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**The purpose of the present study is to determine the relation between the moral maturity levels of candidate teachers and their individual innovativeness characteristics. The population of the study consisted of undergraduate students who were registered at Harran University Faculty of Education in the 2011 to 2012 academic year. Data were collected through the individual innovativeness scale and the moral maturity scale in the study. The validity and reliability tests of both scales were conducted by the researcher. According to the results obtained, it was determined that students were at the questioning level of individual innovativeness. The moral maturity level of students was found to be high. A positive and low level relation was determined between the students' level of individual innovativeness and their level of moral maturity.**

**Key words:** Innovativeness, morality, moral maturity, individual innovativeness, candidate teachers.

## **INTRODUCTION**

The increase in the amount of information available and its speed of delivery, which is characteristic of the information age, allows information to reach us in various and impressive forms (Erdem and Akkoyunlu, 2002). On the other hand, though people adapt to the changes and developments in the fields of economy and technology easily, they adapt less easily to the changes and developments in the socio-cultural field. This shows that changes, developments and innovations in the social field do not have the same impact on all individuals in every sphere of their lives. However, the term "innovativeness" is closely associated with the term "innovation" as it is related to individual preferences and adaptation processes.

Bursalioglu (2010) emphasizes the relation of innovation with change; and defines innovation as a certain change from what has been previously designed. Rogers (1995) defines innovation as an idea, application or object which is perceived as new by an individual, a group or a society and, at the same time, the key to future developments. It is argued that innovation is based on information; and that information production is shaped

by innovation. In this context, it is thought that information production is a precondition for innovation (Demirel and Seçkin, 2008). The relation between the term "innovativeness", which is defined as the adoption of new ideas, opinions and approaches and the reflection of them in emotions, opinions, attitudes and behaviors; and the term "innovation" is explained by Rogers as follows: Innovativeness is the degree to which innovation is adopted early by institutions or individuals who are in a social system (Rogers, 1995). On the other hand, Goldsmith and Foxall (2003) describe innovativeness as the reactions to innovation by individuals; Break (2001) defines it as the willingness for change; Hurt et al. (1977) define it as the willingness for change or the trying of new things.

Demirel and Seçkin (2008) argue that innovativeness is based on information; and they define innovativeness as risk taking and openness to change, most importantly, taking the risk of stepping outside of what is known. Turhan (2009) argues that there are many different definitions of innovativeness in the literature; however, they all share the common idea that "people are different

in their reactions to new things". It means that individuals are at the center of innovativeness (Tabak et al., 2010). This is because individuals are considered as active elements in the process of change rather than passive observers resistant to innovation (Gardner, 1990).

It is emphasized that individuals may show a resistance to and they react against innovation out of their uncertainties since innovativeness changes the current situation; it necessitates being far from what is already known; it envisages giving up habitual things and the change it proposes is perceived as troubling (Çetin, 2009). However, according to Yeloğlu (2007), the development of the characteristics of individuals, such as their educational status, willingness to learn and creativity are the main advantages which can be obtained from innovation.

The broadening of innovations in society is possible through the adoption of them by individuals. Innovations cannot be broadened unless they are adopted by different individuals and groups (Yeloğlu, 2007). According to Rogers (1995), broadening is the process of making an innovation available to individuals - who are part of the social system and doing this via communication channels over time and assisting in its adoption. An innovation is adopted by very few people at the beginning and the number of people who accept it increases as time passes (Weinstein, 2004 cited by Kiliçer and Odabaşı, 2010).

As may be understood, the process of adopting an innovation differs from person to person. As a result, the innovativeness of individuals, namely the "Individual Innovativeness" characteristics appear. On the other hand, innovativeness is not a term to be considered on its own. It is closely associated with the idea of "moral maturity" which is defined as an important factor determining how individuals are accepted by society. In this context, innovativeness is defined as adopting new methods and approaches in social, cultural and administrative terms; however it is indeed related to all the behaviors of individuals that are part of the society. An innovative individual can be freer, more responsible in moral terms and more mature when he searches for more autonomy.

Moral maturity is the level of competence displayed by an individual in terms of emotions, opinions, judgments, attitudes and behaviors in relation to knowledge and technological advances. An individual who has moral maturity is expected to be a good person who displays self-control and a capacity for empathy, who is trustable, responsible, respectful, fair and innovative (Şengün and Kaya, 2007). According to Lickona (1991), moral maturity has 3 dimensions: moral sentiment, moral consideration and moral behavior. Maturity in these dimensions indicates the moral maturity status and levels of individuals. Moral maturity requires the internalization of moral values, the holding of those moral values and its roots in the conscience (Uysal, 2004). This means that

the behaviors which individuals, who are part of society, display in the process of following and adopting innovations comply with social value judgments. In other words, it expresses the balance between individual innovativeness and moral maturity. It is important for individuals who follow innovations, who are selective while adopting innovations and who are open to development, to be trustworthy, responsible, respectful, and fair and for them to display self-control and high moral maturity at the same time.

The purpose of the present research is to determine the relation between the moral maturity level of candidate teachers at Harran University Faculty of Education and their individual innovativeness characteristics.

## METHOD

Survey method was used in the present research. The study group consisted of 640 undergraduate students who were registered at Harran University Faculty of Education in the 2011 to 2012 academic year. Eight hundred and fifty assessment instruments were used and 437 of them were used. Of the students selected, 61.3% are female and 38.7% are male. It was determined that 29.5% of the students were first year; 26.1% were second year; 23.8% were third year and 20.6% were fourth year students.

### Data collecting instruments

Two scales were used in the present research in order to collect data: the "individual innovativeness scale" and the "moral maturity scale". The individual innovativeness scale is a 5-graded Likert type scale which was developed by H. Thomas Hurt, Katherine Joseph and Chester. D. Cook in 1977 under the name of the "innovativeness scale"; and it was translated into Turkish by Kiliçer and Odabaşı in 2010. Validity and reliability studies were conducted while adapting the scale into Turkish and the reliability coefficient was found to be 0.87. The highest score which can be obtained in this scale is 94; and the lowest is 14. According to the scale, the individual innovativeness score is calculated with the following formula:  $42 + (1, 2, 3, 5, 8, 9, 11, 12, 14, 16, 18, 19; \text{total of item scores}) - (4, 6, 7, 10, 13, 15, 17, 20; \text{total of item scores})$ .

According to this formula and Table 1, participants who obtained 80 and above were classified as "Innovator"; those who obtained 69 to 80 were classified as "early adopter"; those who obtained 57 to 68 were classified as "early majority"; those who obtained 46 to 56 were classified as "late majority" and those who obtained less than 46 were classified as "Laggard".

The second scale used in the study is the moral maturity scale. The reliability and validity study of this 5-graded Likert type scale was conducted by Şengün and Kaya (2007). The reliability coefficient of the scale was found to be 0.93. The highest score which can be obtained in this scale is 150 and the lowest is 30. According to the reliability study, the reliability coefficient of the individual innovativeness scale was found to be 0.82; and the reliability coefficient of the moral maturity scale was found to be 0.85.

### Data analysis

The consistency of the data which were collected via both of these scales with normal distribution among the groups was examined. Accordingly, the Kolmogorov-Smirnov value of the data obtained via the individual innovativeness scale was calculated as 1.800; and value of the data obtained via the moral maturity scale was

**Table 1.** Individual innovativeness classification and scores.

Number	Individual Innovativeness	Score
1	Innovator	80+
2	Early adopter	69-80
3	Early majority	57-68
4	Late majority	46-56
5	Laggard	- 46

**Table 2.** Rates of candidate teachers into categories of individual innovativeness.

S/N	Categories of individual innovativeness	f	Percentage (%)
1	Innovator	46	10.52
2	Early Adopter	68	15.56
3	Early Majority	242	55.37
4	Late Majority	49	11.22
5	Laggard	32	3.33
	Total	437	100.00

**Table 3.** The results of one-way variance analysis of views of candidate teachers, according to glass level.

Grade number	Grade level	N	M	SD	Variance source	Sum of squares	Df	Mean square	F	p	Scheffe
1	Grade	129	3.23	0.556	Between groups	2.057	3	0.686	2.615	0.049	1-4
2	Grade	114	3.37	0.441	Within groups	113.540	433	0.262			
3	Grade	104	3.39	0.572	Total	115.597	436				
4	Grade	90	3.39	0.454							
Total		437	3.34	0.515							

calculated as 1.905. The obtained Kolmogorov-Smirnov value has shown normal distribution because it is greater than Kolmogorov-Smirnov table value. At the result of this test, parametric tests have been used in data analysis. For the statistical analyses which are made in the research, the level of significance has been taken as 0.05. At the analysis of the obtained data, it has been made use of arithmetic mean, standard deviation, t-test, one-way analysis of variance and scheffe tests.

## FINDINGS

This part of the study involves the findings obtained as a result of statistical analyses of the data concerning the determination of the level of relation between the moral maturity and the individual innovativeness characteristics of candidate teachers; with commentaries concerning these findings. Findings regarding the rates of candidate teachers into categories of individual innovativeness are shown in Table 2.

As shown in Table 2, it was found that 55.37% of students are in the early majority categories, 15.56% of students are in early adopter categories, 11.22% of students are in late majority categories, 10.52% of students are in innovator categories and 3.33% of

students are in Laggard categories. Findings regarding whether the grade level that the candidate teachers is a significant factor for their opinions are shown in Table 3. Table 3 indicates whether the grade level that the views of candidate teachers is a significant factor. As the f (2.615) value obtained through the variance analysis was higher than the f table value, a significant difference, significance level being 0.05, was observed [ $f(686) = 2.615, P < 0.05$ ]. According to the Scheffe test conducted to determine the source of this difference, the difference was found between first-grade with fourth-grade.

The items in the individual innovativeness scale and average scores of each item based on the opinions of students were calculated. Accordingly, the individual innovativeness score of students was found to be  $(42 + (3.34 + 3.47 + 3.88 + 3.70 + 3.64 + 3.63 + 3.58 + 3.33 + 3.81 + 3.42 + 3.96 + 3.49) - (3.82 + 2.82 + 2.72 + 2.58 + 2.90 + 2.69 + 3.09 + 2.98)) = 42 + 43.25 - 24.60 = 60.65$ . According to the individual innovativeness scale, people who obtain 80 and above are classified as "Innovative"; those who obtain 69-80 are classified as "Early Adopter"; those who obtain 57-68 are classified as "early majority"; those who obtain 46 to 56 are classified as "late majority" and those who obtain less than 46 are

**Table 4.** The results of one-way variance analysis of views of candidate teachers, according to grade level.

Grade number	Grade level	n	M	SD	Variance source	Sum of squares	Df	Mean square	F	p	Scheffe
1	Grade	129	4.34	0.376	Between groups	7.470	3	2.490	8.547	0.000	1-3
2	Grade	114	4.21	0.533	Within groups	126.149	433	0.291			1-4
3	Grade	103	4.00	0.704	Total	133.619	436				2-3
4	Grade	91	4.14	0.530							
Total		437	4.19	0.554							

**Table 5.** Level of relation between candidate teachers' moral maturity and individual innovativeness characteristics.

Variable	Individual innovativeness level	Moral maturity level
Individual innovativeness level	1	
Moral maturity level	0.245	1

classified as "Laggard". Based on the calculation in this formula, the students of Harran University Faculty of Education were determined to be "early majority" (60.65), which is the third level of individual innovativeness. This result shows that students of Harran University Faculty of Education need time to adopt an innovation; they are slow in the process of adopting an innovation; they behave cautiously in relation to innovations and they prefer to communicate mostly with the individuals in the "early adopter" group, which is the second level of individual innovativeness.

The digital data which were obtained from students' opinions about their moral maturity levels were statistically analyzed. Findings regarding whether the grade level that the candidate teachers is a significant factor for their opinions are shown in Table 4.

Table 4 indicates whether the grade level that the views of candidate teachers is a significant factor. As the  $f$  (8.547) value obtained through the variance analysis was higher than the  $f$  table value, a significant difference, significance level being 0.05, was observed [ $f(433) = 8.547, P < .05$ ]. According to the scheffe test conducted to determine the source of this difference, the difference was found between the first grade with third grade and first grade with fourth-grade and second grade with third grade.

The digital data which were obtained from students' opinions about their moral maturity levels were statistically analyzed. It was determined that the arithmetical means of scores obtained from students' opinions about moral maturity levels varied between ( $\bar{x} = 3.34$ ) and ( $\bar{x} = 4.55$ ). Students showed a high level of agreement in 29 of 30 items which were related to students' moral maturity levels. Students showed an average level of agreement to only one item: "I try to understand others by putting myself in their shoes". Students showed the highest level of agreement in the

item "I attach importance to the favors that others do for me". The general arithmetical mean of student opinions about moral maturity was determined to be  $\bar{x} = 4.19$ . This result shows that students agree with the items related to moral maturity at the "mostly" level. Accordingly, it can be said that students at Harran University Faculty of Education have a high level of moral maturity.

A variance analysis was made in order to determine whether or not there is a significant relation between students' individual innovative levels and moral maturity levels. Accordingly, the relation was found to be significant at a level of 0.05.  $f(436) = 2.423, P < 0.05$ . The findings obtained as a result of correlation operation made in order to determine the direction and level of this significant relation are presented in Table 5.

As shown in Table 5, correlation analysis was made in order to determine the direction and level of the relation between the students' moral maturity and individual innovativeness characteristics. A positive correlation at low level ( $r = 0.245$ ) was determined between the total scores that the students obtained in the individual innovativeness scale and the total scores they obtained from the moral maturity scale. It can be said that there is a low-level relation between the candidate teachers' moral maturity and individual innovativeness characteristics.

## DISCUSSION AND CONCLUSION

The purpose of the present study is to determine the relation between the moral maturity level of Harran University Faculty of Education students and their individual innovativeness characteristics. Based on the findings obtained, the following results were reached: It was determined that the individual innovativeness level of students at Harran University Faculty of Education was at

the “questioning” level which is the third level of individual innovativeness. According to this result, students of Harran University Faculty of Education need time to adopt an innovation and they are slow in the process of adopting an innovation. Students agreed with the items related to moral maturity at the “mostly” level. This shows that most of the students at Harran University Faculty of Education have a high level of moral maturity.

According to the correlation between students' individual innovativeness levels and moral maturity levels, there is a low-level positive correlation between the total scores they obtained in the individual innovativeness scale and the total scores they obtained in the moral maturity scale. This result shows that students' moral maturity levels increase as their individual innovativeness levels are higher.

The results of the present research support the findings of similar studies. İncik and ve Yelken (2011) concluded in their study that candidate teachers were at an average level in innovativeness and they were at the “questioning” level. Işık (2010) concluded that teachers participated more in showing corrective reactions rather than explaining the dishonest behaviors. Cankoy (2010) determined that there was no a significant relation between university students' moral judgment levels and their empathic skill levels. In their research, Akar et al. (2011) indicated that teachers attached importance to moral education being given in schools and their roles in this field; however they found the education those teachers had received in this field, both before and during their teaching service, to be insufficient.

## PROPOSALS

The following proposals were developed based on the results obtained from the research:

1. The study revealed that the individual innovativeness levels of candidate teachers were much lower than their moral maturity levels. When it is considered that the term “innovativeness” is closely associated with the term, “creative”, “critical” and “reflective” thinking, it is necessary to provide candidate teachers with individual innovativeness characteristics and awareness.
2. The study shows that despite being low, there is a relation between the terms “individual innovativeness” and “moral maturity”. The knowledge and skills related to these two characteristics should be conveyed to candidate teachers in a way that they can positively affect and complement each other.

## REFERENCES

- Akar H, Temli Y, Şen D (2011). A Study on Primary Classroom and Social Studies Teachers' Perceptions of Moral Education and Their Development and Learning. *Educ. Sci. Theory Pract.* 11(4):23-33.
- Arıdağ, Ç.N. and Yüksel, A. (2010). Analysis of the Relationship between Moral Judgment Competences and Empathic Skills of Univ. Students *Educ. Sci. Theory Pract.* 10(2):82-95.
- Bursalioglu Z (2010). New Structure and Behavior in the School Administration. Pegem Akademi, Ankara pp. 120-143.
- Break J (2001). Individual Characteristics Influencing Teachers' Class Use of Computers. *J. Educ. Comput. Res.* 25(2):141-157.
- Çetin T (2009). Full Free-Aware Approach to Leadership Innovation Trends Impact on the Middle Level Managers: An application in the Aegean Region Furniture Companies. Unpublished Master's Thesis, Dumlupınar Univ. Institute of Social Sci. Depart. Bus. Kütahya pp. 21-29.
- Demirel Y, Seçkin Z (2008). The Impact of Knowledge and Knowledge Sharing on Innovation. *Ç.Ü.J. Institute Soc. Sci.* 17(1):189-202.
- Erdem M, Akkoyunlu B (2002). Information literacy skills and characteristics of learning environments on equipping students with these skills. *J. Qafqaz Univ. Sayı* 9:25-42.
- Gardner JW (1990). *Innovative Individual, Fit Society*. İstanbul: İlgı Yayınları.
- Goldsmith RE, Foxall GR (2003). The Measurement of Innovativeness. In L.V. Shavinina (Eds.), *The International Handbook of Innovation*. Elsevier Sci. Ltd. pp. 321-329.
- Hurt HT, Joseph K, Cook CD (1977). Scales For The Measurement of Innovativeness. *Hum. Commun. Res.* 4:58-65.
- İncik EY, ve Yelken TY (2011). Elementary Teacher Candidates' Levels of Innovation. Example of Mersin Univ. The First International Congress on Curriculum and Instruction (05-08 Ekim). Paper presented, Eskişehir, Türkiye.
- Işık H (2010). Unfair to Predict Behavior of Student Teachers' Opinions About Qualitative Res. *J. Values Educ.* 8(20):81-97.
- Kiliçer K, ve Odabaşı HF (2010). Individual Innovativeness Scale (Is): The study of adaptation to Turkish, validity and reliability. *H.U.J. Educ.* 38:150-164.
- Lickona TE (1991). *Educating for Character: How Our Schools Can Teach Respect and Responsibility*. New York: Bantam Books pp. 234-253.
- Uysal E (2004). *Islamic Moral Philosophy*. Ötüken Publications.
- Rogers ME (1995). *Diffusion of Innovations (Fifth Edition)*. New York: Free Press pp. 75-93.
- Şengün M, Kaya M (2007). The Scale of Moral Maturity: The study of Its Validity and Reliability. *Ondokuz Mayıs Univ. Fac. Theol. J.* 24(25):51-64.
- Tabak A, Erkuş A, Meydan CH (2010). The Relationship Between Locus of Control And Innovative Individual Behaviors: Mediating Effect of Tolerance For Ambiguity And Risk Taking on Innovativeness. *Anadolu Univ. J. Soc. Sci.* 10(1):159-176.
- Turhan A (2009). Impact of culture on consumer innovativeness an Application. Unpublished Master's Thesis, Hacettepe Univ. Institute Soc. Sci. Dept. Bus. Ankara pp. 123-153.
- Weinstein L (2004). *Diffusion of Innovation*. [http://home.uchicago.edu/~lizaw/downloads/LW\\_InnovationDiffusion.pdf](http://home.uchicago.edu/~lizaw/downloads/LW_InnovationDiffusion.pdf). Access Date, 16.01.2012.
- Yeloğlu HO (2007). Innovation and Creativity Discussions in Organization, Individual and Group Context. *Ege Acad. Rev.* 7(1):133-152.