ANALYSIS OF AN EPISTEMOLOGY-BASED CURRICULUM IN THE VIEW OF PROFESSORS AND STUDENTS (CASE STUDY: SCIENCES OF EDUCATION MAJOR, UNIVERSITY OF KURDESTAN)

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ABSTRACT

The aim of the research was to evaluate and compare epistemological beliefs of the professors and students at the Sciences of education department, University of Kurdistan in relation with the nature of knowledge and curriculum of this major. In terms of objectives, the research was applied and in terms of method of data collection, it was survey-type and descriptive. The statistical population included professors and students both B.As. and M.As, majoring in Sciences of education at the University of Kurdistan. A sample of 88 people was selected and discussed by way of in access sampling method. Tools for data collection was a researcher made questionnaire based on the Schumer's epistemology beliefs questionnaire that would measure epistemology beliefs in five categories of fixed ability, simple learning, simple knowledge, absolute knowledge and source of knowledge. The validity of the questionnaire, with reference to the experts' views was approved while its reliability was reported 0/73 according to the Cronbach's alpha coefficient. To analyze data, the mono sample t test, t test for two independent groups, one way variance analysis tests and Tukey post hoc test were applied. Findings revealed that the epistemological beliefs of the students and professors at the Sciences of education department were at a favorable and developed level. Findings also suggested that the epistemological beliefs of the M.A. students were found to be more developmentally significant than those of the B.A. students.

KEYWORDS: Epistemological beliefs, Professors, Students, Curriculum

In a varying world where uncertainty is ever on the rise, it is imperative all higher education institutions seek to respond favorably to the social needs. Experience has shown that if universities pay closer attention to a continued improvement of their own quality, they could offer the best services to the society (Yarmohamadian, 2011:2917). Today, anyone has come to an understanding that the most efficient production factor is the human factor that possesses knowledge, merit, innovation and, moral capacities and such a human is highly likely grown in an educational setting and to attain this purpose, the whole educational system must offer a higher level of quality (Rezeanu, 2011:1050). Such an important goal will not be achieved unless curricula involve the interaction of teacher and student and rises out of action and reaction between the two in such a way it constitutes a planning known as “teacher-learner” (Hashemiardakani, 2009).

That which seems reasonable is an appropriate interaction of professors and students at the university, that prior to anything is contingent upon a rational and proper understanding of principles and basics governing a body of knowledge; Professors and students who cannot explain or recognize concepts, elements, material, principles and special basics regarding the science under their study, are thought to be a crisis for the educational system (Rezaee, 2009). Hence, it looks one of the means for improving learning-teaching activities is to enjoy rational and developed epistemological beliefs.

Epistemology constitutes one of the most important branches of philosophy (Shakibania, 2008), and refers to a type of philosophical and wisdom based knowledge that investigates the nature and reality of knowledge and its categories, investigates its basics and scopes, assesses its basics and scopes and also examines the trustworthiness of epistemology beliefs (Husseinzade, 2001). Concerning epistemology, Dr. Legen Howzen states it is part of philosophy in which science, understanding, and their conditions are addressed (Legen, Howzen, 2000). According to another definition, epistemology is a branch of philosophy that deals with reality, sources and credit of knowledge (Danshvar, 2002).

Epistemology deals with the fact how people think of knowledge and wisdom. (Hoffer, Pentric, 2002). For Schumer (1960), Theses views and opinions are multiple. A primary model Schumer recommends for identifying epistemological beliefs had four aspects of simple knowledge (believing knowledge includes distinct and disrupted realities), absolute knowledge (believing that

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all areas of knowledge are interrelated and knowledge is
dynamic and changeable), fast learning (believing that
either learning occurs fast or doesn't occur at all), and
inherent learning (believing ability to learn is intrinsic and
anyone is bestowed with that as he is born) (Bandix and
Hartly, 2003). Later, other components, i.e. having an
inherent power of some people to acquire knowledge were
added to it in later advanced plans (Zarghani, 2014).
Inherent power indicates that learning with personal
learning belief is related with some forms of learning
power and there are powers that can access knowledge
inaccessible for others (Gwe-jen, 2009).

Recently, several qualitative and quantitative
research were performed in the area of epistemological
beliefs and most of these researches were meant to
develop and promote epistemological beliefs (Deryakola,
2004). Findings of these researches indicated that opinions
of learners regarding knowing, learning and intelligence
are affected by their educational progress, overcome of
problems and attaining the predetermined goals (Duke and
Hegvet, 1998; Allorman, 2000).

On the other hand, results of different
researches indicated that developed epistemological
beliefs could result in better teaching of the teachers
(Branino and Pardo, 2001), promotion of internal
motivation for learning (Seyf, 2005; Hi and Van, 2008)
high level objectives within the education process (Schuts
and Pentric, 1993), promotion of self -efficiency and goal
setting of objectives (2002), self confidence in problem
solving (Eton and Sibel, 2012), increase of true answers to
open and close questions (Peishan, Ching-Chung, 2011)
and finally, educational achievement (Mahmoodiasl,
2002).

In accordance with the role and significance of
the developed epistemological beliefs that could have in
improving variables related with teaching and learning,
the issue that arises is to what extent are the students' epistemological beliefs towards curricula. In this regard,
recent researches have placed emphasis on the beliefs
devoted to special realms like mathematics, foreign
language training and …… . Belief in the significance of
epistemological beliefs being assigned to special
knowledge realms, has made researchers determine specialized models for special realms (Marzoogi and
Seyf, 2009). With this approach on mind and in
accordance with the position of the Sciences of education
major as a body of knowledge that could prepare teachers
and professors for the future, thus, the current research
deals with epistemological beliefs of the professors and
students at the Sciences of education department. Another
issue is that previous researches had exposed relatively
different findings in the area of comparison of the
students' epistemological beliefs based on demographic
variables. For example, Schumer and Kruse (1992), found
out that the epistemological beliefs of the high school
women were slightly lower than men whereas Kano in
2005 concluded that women have generally more realistic
and higher level views than men.

In another research performed in 2011 in
Malaysia by the University of Malaya among the high
school students, it was determined that there was no
significant difference between the epistemological beliefs
of girls and boys (Will, Nable and Zahra, 2011). While
results by Mahmoudi Asl(2002) revealed that there was
significant difference between the epistemological beliefs
of girls and boys . However, given the relatively
contradictory results that exist in the area of comparing
epistemological beliefs based on demographic variables ,
another goal of the research is to compare peoples' epistemological beliefs under study based on demographic
variables so that clearer views are obtained towards peoples' views in relation with the curriculum . Thus, the
general two questions of the research are as follow:

1. To what extent are the epistemological beliefs of the
students and professors of the University of Kurdistan?

2. Is there any significant difference among the
epistemological beliefs of the students and professors of
the University of Kurdistan based on demographic
variables (position and gender)?

METHODOLOGY

The aim of the research was to evaluate and
compare epistemological beliefs of the professors and
students at the Sciences of education department,
University of Kurdistan in relation with the nature of
knowledge and curriculum of this major. In terms of
objectives, the research was applied and in terms of
method of data collection, it was survey-type and
descriptive. The statistical population included professors
and students both B.As. and M.As, majoring in Sciences
of education at the University of Kurdistan . A sample of
88 people was selected and discussed by way of in access
sampling method. Tools for data collection was a
researcher made questionnaire based on the Schmer's
epistemology beliefs questionnaire that would measure
epistemology beliefs in the form of 33 questions and five
categories of fixed ability, simple learning, simple
knowledge, absolute knowledge and source of knowledge.
Items for answering to the questionnaire were based on
the five degree Lickert scale (totally disagree, disagree,
abstain, agree and totally agree) and scoring them was (1-
2-3-4-5) respectively; Of course, the direction of some of
the questions was inverse, hence scoring them was too inverse. The validity of the questionnaire, with reference to the experts' views was approved while its reliability was reported 0/73 according to the Cronbach's alpha coefficient. To analyze data, the mono sample t test, t test for two independent groups, one way variance analysis tests and Tukey post hoc test were applied.

**RESEARCH FINDINGS**

In this part of the research, the results of the examination of the research were presented by using the inferential statistics tests. It was necessary, before starting to select the appropriate statistical test to analyze data. In this area, one of the precondition fundamental for selecting parametric statistical tests is the normality of data distribution based on the variable under investigation. With this approach, first, to examine the normality of data distribution, the mono sample Kolmogorov-Smirnov test was applied. In this test, the null hypothesis indicates the normality of data distribution and the opposite hypothesis indicates its abnormality. Based on results of table 1, statistic z was 0/905 and the resulting significance level was reported 0/386. (P>.05). According to the fact value z has not been significant at the error level of less than 0/05, thus, the null hypothesis meaning the normality of data distribution is confirmed and the opposite hypothesis meaning the abnormality of data distribution is rejected. Thus, given the normality of data distribution, parametric tests were used in later analyses.

<table>
<thead>
<tr>
<th>Epistemology beliefs</th>
<th>Number</th>
<th>104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal parameters</td>
<td>Average</td>
<td>2/58</td>
</tr>
<tr>
<td></td>
<td>Standard deviation</td>
<td>0/682</td>
</tr>
<tr>
<td>Statistic z</td>
<td>0/905</td>
<td></td>
</tr>
<tr>
<td>Sig.(two sides)</td>
<td>0/386</td>
<td></td>
</tr>
</tbody>
</table>

**To what extent are the epistemological beliefs of the students and professors of the University of Kurdistan?**

To assess epistemological beliefs of the students and professors of the sciences of education department at the University of Kurdistan, the mono sample t test was used. Results suggested that the average epistemology beliefs was 3/50 and the anticipated average (theoretical) was 3. The t value was 22/613 while the significance level was reported 0/100. (P>.05). Given the fact that the t value was significant at the error level less than 0/05, hence it can be said that null hypothesis is rejected while the opposite hypothesis is supported. Also, since the experimental average was greater than the theoretical average, so the conclusion will be that peoples' beliefs towards the curricula has been favorably at a significant level. Examining the peoples' epistemological beliefs based on dimensions indicated that t values were positive and significant at the error level less than 0/05 in the four components of simple learning, absolute knowledge, simple knowledge and source of knowledge. Thus it can be said that the epistemological beliefs of the sample people based on the four components of simple learning, simple knowledge, absolute knowledge and source of knowledge were significantly higher. However, t value was negative and significant in the component of fixed ability. It can be concluded that peoples' epistemological beliefs were at a lower level with regards to the fixed ability. These results are provided in table 2.
Table 2: Results of mono sample t test about an assessment of peoples' epistemological beliefs level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Average</th>
<th>Standard Deviation</th>
<th>t value</th>
<th>Freedom Degree</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epistemological beliefs</td>
<td>88</td>
<td>3.50</td>
<td>0.209</td>
<td>22.613</td>
<td>87</td>
<td>0.000</td>
</tr>
<tr>
<td>Fixed ability</td>
<td>88</td>
<td>2.67</td>
<td>0.625</td>
<td>-4.888</td>
<td>87</td>
<td>0.000</td>
</tr>
<tr>
<td>Fast learning</td>
<td>88</td>
<td>4.03</td>
<td>0.567</td>
<td>17.126</td>
<td>87</td>
<td>0.000</td>
</tr>
<tr>
<td>Simple knowledge</td>
<td>88</td>
<td>3.40</td>
<td>0.567</td>
<td>9.006</td>
<td>87</td>
<td>0.000</td>
</tr>
<tr>
<td>Absolute knowledge</td>
<td>88</td>
<td>3.63</td>
<td>0.421</td>
<td>14.378</td>
<td>87</td>
<td>0.000</td>
</tr>
<tr>
<td>Source of knowledge</td>
<td>88</td>
<td>3.77</td>
<td>0.371</td>
<td>19.456</td>
<td>87</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Is there any significant difference among the epistemological beliefs of the students and professors of the University of Kurdistan based on demographic variables (position and gender)?

Another question that was posed in this research was whether there was any significant difference among the epistemological beliefs of the students and professors of the University of Kurdistan based on demographic variables (position and gender)? Next, people's epistemological beliefs were investigated distinctly based on each of the two variables.

Table 3: Results of t test for two independent groups about the comparison of epistemological beliefs based on gender

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Level</th>
<th>Number</th>
<th>Average</th>
<th>Standard Deviation</th>
<th>t value</th>
<th>Freedom Degree</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Men</td>
<td>44</td>
<td>3.501</td>
<td>0.228</td>
<td>-0.141</td>
<td>86</td>
<td>0.888</td>
</tr>
<tr>
<td>Woman</td>
<td>44</td>
<td>3.507</td>
<td></td>
<td>0.190</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comparison of peoples' epistemological beliefs based on academic position

People under investigation in the current research are B.A. and M.A. students and members of the faculty of the university. To investigate whether there was a significant difference among the three groups of people concerning epistemological beliefs or not the one way variance analysis test was applied. Prior to presenting the results of the one way variance analysis test, descriptive information related with the epistemological beliefs of the B.A.s and M.A.s as well as members of the faculty are provided (table, 4). It was determined on this basis, the average epistemological beliefs of the members of the faculty (3.58) and of M.A. students (3.59) were higher than those of the B.A.s (3.44).
Table 4: Indices of descriptive statistics of epistemological beliefs based on academic position

<table>
<thead>
<tr>
<th>Group</th>
<th>Number</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.A. level students</td>
<td>51</td>
<td>3/44</td>
<td>0/208</td>
</tr>
<tr>
<td>M.A. level students</td>
<td>25</td>
<td>3/59</td>
<td>0/177</td>
</tr>
<tr>
<td>Faculty members</td>
<td>12</td>
<td>3/58</td>
<td>0/194</td>
</tr>
</tbody>
</table>

In table 5, results of the one way variance analysis test about the epistemological beliefs of the B.A.s and M.A.s and the members of the faculty are provided. Results indicated the F value was 5/860 and the significance level was 0/004(P<0/05). Due to the fact that the F value was significant at the error level of; less than 0/05, hence the null hypothesis is rejected and ten opposite hypothesis is confirmed. Thus, one can say that there is a significant difference among the academic positions with respect to epistemological beliefs.

Table 5: Results of one way variance analysis test about comparing people epistemological beliefs based on position

<table>
<thead>
<tr>
<th>Independent group</th>
<th>Source of changes</th>
<th>Squared sum</th>
<th>Freedom degree</th>
<th>Average square</th>
<th>F value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Inter group variance</td>
<td>0/461</td>
<td>2</td>
<td>0/231</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intra group variance</td>
<td>3/347</td>
<td>85</td>
<td>0/039</td>
<td>5/860</td>
<td>0/004</td>
</tr>
<tr>
<td></td>
<td>Total variance</td>
<td>3/809</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Due to the fact that the results of the one way variance analysis suggested a significant difference of the sample peoples' epistemological beliefs based on their academic positions, hence in order to perform couple comparisons, the Tukey post hoc test was used to examine the fact significance of the F value resulted from what groups .Table 6.shows the results of the Tukey post hoc test to compare two by two process of the B.A and M.A students and the members of the faculty. Findings suggested that the average difference of epistemological beliefs among the B.A and M.A. students was significant at the error level less than 0/05. With reference to table 4, it was determined that average score of epistemological beliefs of the M.A. students was higher than that of the B.A.s. Thus, it is concluded that the epistemological beliefs of the M.A.s were more developed than those of the B.A.s. Also, it was determined that there was no significant difference as with the epistemological beliefs of the other groups.

<table>
<thead>
<tr>
<th>Position(J)</th>
<th>Average difference</th>
<th>Error standard deviation</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.A.</td>
<td>M.A.</td>
<td>-0/15084</td>
<td>0/04845</td>
</tr>
<tr>
<td>B.A.</td>
<td>Faculty member</td>
<td>-0/13735</td>
<td>0/06367</td>
</tr>
<tr>
<td>M.A.</td>
<td>Faculty member</td>
<td>0/01349</td>
<td>0/06969</td>
</tr>
</tbody>
</table>
CONCLUSION

Today, the quality of educational activities has been the concern of most thinkers and researchers in different areas of educational sciences, psychology and management, because it is believed that improved educational activities and learning could result in appropriate situations for the citizens and as a result it will pave the way for an economic, social, cultural and political development. That which is possible is that peoples' beliefs towards curricula and the way they look at the existing material in one body of knowledge could be an important factor in determining the quality of teaching-learning activities.

With this approach, the current research was to evaluate and compare epistemological beliefs of the professors and students at the Sciences of education department, University of Kurdistan in relation with the nature of knowledge and curriculum of this major. For this purpose, in part of the research, epistemological beliefs of the students and those of the professors were analyzed. Results indicated that the beliefs of the two groups of people towards the nature of the sciences of education as a major were significantly higher and that was a signification of developed peoples' beliefs. Results also indicated that peoples' beliefs in relation with the nature of knowledge and curriculum of sciences of education with regards to components of fast learning, simple knowledge, absolute knowledge and source of knowledge were at a developed and higher level. While their beliefs with respect to fixed learning were significantly lower.

To explain the results of the research based on the development of epistemological beliefs of the student and professors, we can say that unlike the adolescent and childhood years that the students' talents were regarded as mono dimensional, superficial and resilient, it looks that improved process of thinking and the students and professors' judgments being rational have rendered them to treat scientific issues more developmentally. With this approach it is expected that the results of the research suggest a favorable level of peoples' epistemological beliefs.

In another part of the research, the epistemological beliefs of the sample people were compared based on two variables of gender and academic position, Results revealed that there is no significant difference in terms of the developed people's epistemological beliefs based on gender. These results were in concert with those of Wail et al, (2011). While they were not in line with those of Mahmoodiasl (2002), Schumer and Kruse (1992), and Kano (2005) who demonstrated that there is a significant difference with respect to developed people's epistemological beliefs between men and women. To explain these data, we can say that unlike the past when the variable of gender was acting as a distinguishing factor in the area of psychology and in relation with most mental variables was acting as a modifying issue, but today, new scientific accomplishments have shown that gender and being man or woman will not necessarily a cause for difference, rather it is the womanhood or manhood characteristics that are of high importance. This means that the person who's man could have womanhood characteristics or vice versa, i.e. a woman could act like a man .We can infer that though the results of the previous research suggested a difference between man and woman in terms of epistemological beliefs, it is noteworthy that the research results are signs of lack of difference between man and woman students and professors with respect to epistemological beliefs.

Later, while examining the second question of the research, it was determined that the epistemological beliefs of the M.A.s were much higher than those of the B.A.s. These findings were in line with those of Schumer et al, (1994), who demonstrated students of higher levels have regarded learning as a complex, relative and gradual process and have little faith in learning as being inherent, absolute and fast .To explain these data we can say post graduate students in comparison with the bachelors were likely familiar with more theories and scientific realities within the area of science of education. They have likely understood that M.As' beliefs based on knowledge being relative, gradual and complex are more rational than those of the B.A.s.

However, in accordance with the research findings base on the fact that students' epistemological beliefs were unfavorable in terms of fixed ability and also, in accordance with the research findings based on the fact that the B.A.s' epistemological beliefs were lower than those of the M.A.s, it is recommended that root cause of this are going to be investigated in future researches. Also, the academic professors are recommended that to have discussions regarding the access to the latest scientific findings and challenge theories and issues so that their epistemological views are transcended.

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