Investigating the application of andragogy principles by university teachers based on students’ view

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ABSTRACT: The present study aims to investigate the application of andragogy principles by university teachers based on students’ view. ShahidRajaei University was selected as the case for the study and 276 students of the university in 90-91 school year were selected randomly to participate in the study. The subjects answered to andragogy principles questionnaire, which was first developed and applied in 1978 by Conti. This is descriptive applied study and data analysis was carried out using one-sample t-test. Data analysis of the study indicated that the application of andragogy principles by university teachers is undesirable and below the average.

Keywords: Andragogy, Principles of adult education, Higher education.

INTRODUCTION

In different societies, higher education provides the appropriate circumstances for scientific, technological and economical developments and it will naturally result in prosperity and development in all aspects of personal and social life of the community. Regarding the crucial role of universities in different economical, cultural, political aspects of the society, attending the quality of their performance in order to avoid loss of human and financial resources is an undeniable necessity. The faculty members play the most important role in improving the quality of education and providing social services in universities (Haqqani, Fariba et.al, 1389). Obviously, teachers' specialized knowledge could be efficient when utilized in an appropriate way by the audience. Higher education is comprised of students with differences in gender, race, class and age, but most teachers may neglect such differences in class (Miller, translated by Miri, 1385). Given the differences among learners, the first and simplest step is to provide a multi-cultural learning environment. It is extremely important for teachers to consider such differences in teaching style and classroom behavior. An experienced teacher should not only be aware of effective methods of teaching-learning process, but he/she should also notice the impact of differences in students’ learning style (Miller/ quoted from Miri 1380).

Attending features like personal and social traits of higher education students as well as the purpose of higher education to be research-centered indicate that there is a great homogeneity between higher education and defined principles of andragogy. Many researchers believe that promotion and excellence of higher education depends on applying the principles of adult education in academic teachings. As examples we can refer to studies done by Katherine Salvador (2010), Pennstate (2007), M.zafarigbal et.al (2010), Ketiiyoshimoto et.al (2007), Frank ashworth et.al (2004) and Hiemstra(1990), where all of them emphasized the use of andragogy principles in educational settings. They also indicated that applying these principles conforms to academic education and plays an important role in teachers' efficiency.

Andragogy by definition is the art and science that facilitates adult learning and in fact, it could be any kind of learning that adds something to adults’ science reservoir, changes their views and thinking style and behavior and extends their horizon.

Knowls (1984) defines andragogy as the art and science of helping adults’ learning.

Among the studies conducted on teaching styles, we can refer to studies done by Razaghinejad (1389), Haghani (1389), Eskandari&Salehi (1388), Mirakzadeh (1385), Kano (1990). Some other researchers such as Fang (2007), Baker (2011), Carinda (2007), Caren Moor (2003), Branda (1993), Rutamer (2004) and Yeganeh (1384) conducted their studies on the application of andragogy principles in universities. Regarding the relationship between higher education and andragogy (adult education) we can refer to studies conducted by...

Scale of applying andragogy principles was first developed by Conti (1978) to measure the awareness of teachers from principles of adult education. Pals is the scale to evaluate teaching styles of university teachers in using andragogy principles. These principles include learner-centered activities, personalizing instruction, relating to experience, assessing student needs, Attending learning condition and positive climate building, participating in the learning process, and flexibility for personal development.

Chickring and Gamson (1987) express seven principles for effective teaching of university students, which are based on 50 years of study in higher education (Chickring, Raiser 1993).

The comparison of Chickring and Conti proposed factors for teachers’ teaching assessment showed that these principles share matching factors in both views. Proposed principles of Conti and Chickring have been used in many studies on the evaluation of higher education teachers. As an example, Graham et.al (2001) evaluated the teaching methods of teachers in four teaching period of Indiana University by using Chickring proposed principles. Russell (2005) used Conti proposed principles to evaluate the degree of applying these principles by teachers of Business University of Florida. In the present paper Pals questionnaire (first developed and applied by Conti) has been used to investigate the application of andragogy principles by university teachers and the students’ view regarding the use of andragogy principles are examined.

Due to importance of applying these principles, the following question is raised:

To what extents university teachers apply andragogy principles?

This concern is due to the fact that faculty members in universities of Iran do not generally need to pass courses like teaching methodology, planning and design and introduction to andragogy principles before being recruited, and in this case faculty members may lack sufficient training in teaching. Therefore, realizing the level of applying andragogy principles in academic teaching could be a great help in provide appropriate strategies to train teachers, contributing to studies done on pathology of teaching quality in higher education, teacher-training assessment, increasing awareness of teachers in using principles of adult education and finally adding to existing knowledge in the field.

**RESEARCH METHODOLOGY**

**Type of Research**

The present study is descriptive in terms of conduct and applied in terms of purpose.

**Statistical population and sample:**

The statistical population of the present study includes all undergraduate students of 90-91 school year (n=3750) and 2760 students were selected as statistical sample using random sampling.

To analyze the research data descriptive and referential statistics was used and one-sample student t-test was used to analyze research hypotheses.

**Research findings**

**Question 1:** To what extent teachers apply each of seven andragogy principles in their teaching?

<table>
<thead>
<tr>
<th>Learner-centered activities</th>
<th>276</th>
<th>2.6284</th>
<th>.45714</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personalizing instruction</td>
<td>276</td>
<td>2.6325</td>
<td>.57513</td>
</tr>
<tr>
<td>Relating to learners’ experience</td>
<td>276</td>
<td>2.6288</td>
<td>.66082</td>
</tr>
<tr>
<td>Assessing student needs</td>
<td>276</td>
<td>2.7089</td>
<td>.70210</td>
</tr>
<tr>
<td>Attending learning condition and positive climate building</td>
<td>276</td>
<td>2.7189</td>
<td>.59187</td>
</tr>
<tr>
<td>Flexibility for personal development</td>
<td>118</td>
<td>3.7873</td>
<td>.52555</td>
</tr>
<tr>
<td>Participation in the learning process</td>
<td>276</td>
<td>2.5124</td>
<td>.68514</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Andragogy</td>
<td>276</td>
<td>2.6957</td>
<td>.46670</td>
</tr>
</tbody>
</table>

To analyze the application rate of each principle, one-sample t-test was used and theoretical mean considered to be 3.
According to the results of the above test, as the significance value for learner-centered activities factor in students’ view is less than threshold of 0.05 and because lower limit and upper limit are both negative, we can conclude that application of learner-centered principle in faculty members teaching is undesirable and below the average.

Table 4. The Obtained Results of One-sample t-test for Personalizing Instruction Factor

<table>
<thead>
<tr>
<th>t Statistics</th>
<th>Degrees of Freedom</th>
<th>Significance Value</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10.617</td>
<td>275</td>
<td>.000</td>
<td>-.4357</td>
<td>-.2994</td>
<td>Below the Average</td>
</tr>
</tbody>
</table>

According to the results of the above test, as the significance value for personalizing instruction factor in students’ view is less than threshold of 0.05 and because lower limit and upper limit are both negative, we can conclude that application of personalizing instruction principle in faculty members teaching is undesirable and below the average.

Table 5. The Obtained Results of One-sample t-test for Relating to Learners’ Experience Factor

<table>
<thead>
<tr>
<th>t Statistics</th>
<th>Degrees of Freedom</th>
<th>Significance Value</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>-9.332</td>
<td>275</td>
<td>.000</td>
<td>-.4495</td>
<td>-.2929</td>
<td>Below the Average</td>
</tr>
</tbody>
</table>

According to the results of the above test, as the significance value for relating to learners’ experience factor in students’ view is less than threshold of 0.05 and because lower limit and upper limit are both negative, we can conclude that application of relating to learners’ experience principle in faculty members teaching is undesirable.

Table 6. The Obtained Results of One-sample t-test for Assessing Student Needs Factor

<table>
<thead>
<tr>
<th>t Statistics</th>
<th>Degrees of Freedom</th>
<th>Significance Value</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Hypothesis Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>-6.887</td>
<td>275</td>
<td>.000</td>
<td>-.3742</td>
<td>-.2079</td>
<td>Below the Average</td>
</tr>
</tbody>
</table>

According to the results of the above test, as the significance value for assessing student needs factor in students’ view is less than threshold of 0.05 and because lower limit and upper limit are both negative, we can conclude that application of assessing student needs principle in faculty members teaching is undesirable and below the average.

Table 7. The Obtained Results of One-sample t-test for Attending learning conditions and Positive Climate Building Factor

<table>
<thead>
<tr>
<th>t Statistics</th>
<th>Degrees of Freedom</th>
<th>Significance Value</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Hypothesis Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>-6.413</td>
<td>275</td>
<td>.000</td>
<td>-.1948</td>
<td>-.1948</td>
<td>Below the Average</td>
</tr>
</tbody>
</table>

According to the results of the above test, as the significance value for attending to learning conditions and positive climate building factor in students’ view is less than threshold of 0.05 and because lower limit and upper limit are both negative, we can conclude that application of attending to learning conditions and positive climate building principle in faculty members teaching is undesirable and below the average.

Table 8. The Obtained Results of One-sample t-test for Participating in the Learning Process Factor

<table>
<thead>
<tr>
<th>t Statistics</th>
<th>Degrees of Freedom</th>
<th>Significance Value</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Hypothesis Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>-11.824</td>
<td>275</td>
<td>.000</td>
<td>-.5688</td>
<td>-.4065</td>
<td>Below the Average</td>
</tr>
</tbody>
</table>

According to the results of the above test, as the significance value for participating in learning process factor in students’ view is less than threshold of 0.05 and because lower limit and upper limit are both negative, we can conclude that application of participating in learning process principle in faculty members teaching is undesirable and below the average.

Table 9. The Obtained Results of One-sample t-test for Flexibility Factor

<table>
<thead>
<tr>
<th>t Statistics</th>
<th>Degrees of Freedom</th>
<th>Significance Value</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Hypothesis Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.516</td>
<td>275</td>
<td>.000</td>
<td>.0940</td>
<td>.2393</td>
<td>Above the Average</td>
</tr>
</tbody>
</table>

According to the results of the above test, as the significance value for flexibility factor in students’ view is less than threshold of 0.05 and because lower limit and upper limit are both positive, we can conclude that application of flexibility principle in faculty members teaching is desirable and above the average.
Table 10. The Obtained Results of One-sample t-test for Principles of Andragogy

<table>
<thead>
<tr>
<th>T Statistics</th>
<th>Degrees of Freedom</th>
<th>Significance Value</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Hypothesis Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10.833</td>
<td>275</td>
<td>.000</td>
<td>-3.596</td>
<td>-2.490</td>
<td>Below the Average</td>
</tr>
</tbody>
</table>

According to the results of the above test, as the significance value for principles of adults learning in faculty members teaching in students’ view is less than threshold of 0.05 and because lower limit and upper limit are both negative, we can conclude that application of andragogy principles in faculty members teaching is undesirable and below the average.

DISCUSSION & CONCLUSION

The obtained results from research questions indicated that university teachers resort to traditional methods most of the times and do not apply principles of andragogy properly. Traditional methods of teaching originate from European church schools that train obedient, loyal and competent students. In such traditional approaches, teachers take the full responsibility of decision making and goal setting. It seems that a new and unbiased look at certain teaching methods in higher education and students as the audience, will result in a revolution in higher education teaching methods and perhaps an integration of proposed teaching approaches could be an effective way to promote the quality of teaching in universities. According to the results of the present study and based on previous studies on higher education and principles of andragogy, we can conclude that using andragogy approach could be an effective way to promote the quality of higher education, although andragogy science arose as an alternative model for facilitating adults learning and gradually developed (by Knowls) in US and then all around the world as a source of ideas, concepts and learning methods.

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