GROWING AGE AND STUDENTS’ ACADEMIC ACHIEVEMENTS: A DISCIPLINE - BASED CROSS SECTIONAL COMPARISON AT POST GRADUATE LEVEL

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Abstract
Teaching learning process has always been affected by different components including the physical as well as the chronological the present study was an effort to identify the effects of growing age on the achievement of students in the different subject areas. To conduct this study post graduate level of education was selected as at this level there are students with the different age groups for pursuing the MPhil and PhD degrees. The population of this study comprised of all the empire level students studying at University of Okara in different subject areas during academic sessions 2019-2021 and 2020-2022. Randomly selected 283 students of the two academic sessions who were the sample of this study. These students fall into different age groups ranging from 21 years to 60 years.

As far as the data of the research study is a concern there were two type of data used in the research including the students average cumulative grade point (CGP) and ages in years. The students’ academic performance results were obtained from the controller of examination University of Okara whereas the ages of these students were checked from the registrar office of University of Okara. The analysis of the data is reported in the foregoing chapter i.e. Chapter 4 of this study. The findings of thereof are reported in the upcoming section.

Keywords: Discipline, Academic Achievement

1. INTRODUCTION

The grown up come to the classroom with their previous experience, knowledge and dispositions. These aspects facilitate them in acquiring knowledge efficiently as compare to their young class fellows. On the other hand, these capabilities hinder their learning process (Knowles, 1980). Moreover, (Knowels1984) describe four assumptions about characteristics of adult learners that are different from assumptions about child learner. These are self-concept, grown up learners’ experience, readiness to learn and orientation to learning. Later on he added 5th assumption in 1984 i.e. motivation to learn. Sometimes the reasons most adults enter any learning experience is to create change, although they have a lot of responsibilities and duties as well. This could encompass a change in their skills, behavior, knowledge level or even their attitudes about things Lieb, &Goodlad, (2005)

In other words, courses for grown up students should focus on authentic process of communication to achieve real and meaningful goals. For the grown up student’s goals are often outside the institution, such as how to improve their communication with their teachers. Similarly, Dalton, and Kelly (2010) argues that veterans are used to completing tasks and missions to achieve authentic real-world goals. Rumann and Hamrick, (2010) suggest that veterans often experience transpositions of student and service member approaches and behaviors from one environment into the other. Building off of this experience as an asset, rather than approaching it as a drawback, instructors can create opportunities for authentic, real-world writing for the benefit of adult learners.

Wang, et al. (2011) stated that teaching the grownups is a hard task. They argue over what is being taught to them and why it is taught to them. They can question the teachers about the relevance of content and put forward their own demands. At the same time, they can be reluctant in learning the things which they feel irrelevant.
Therefore, it is important to know how to deal the grown up students’ learners i.e. veteran in the class. Hence the researcher has planned to conduct a study for analysis Growing age and students' academic achievement: A discipline-based cross-sectional comparison at post-graduation level.

2. Statement of the Problem

Rapid growth of higher education in Pakistan has attracted students from different spheres of life to the universities and institutions of higher education. It has also motivated students of mature age towards higher studies. Therefore, it is important to investigate whether the academic achievement of such students is the same with the students of lower age. Hence, the researcher has planned to conduct a research study titled "Growing age and students' academic achievement: A discipline-based cross-sectional comparison at post-graduation level.

3. Objectives of the Study

Following were the objectives of the study

- To determine students’ achievement at post-graduation level
- To compare the students’ achievements at post-graduation level in a different discipline
- To compare the age wise achievements of male and female students at post-graduation level
- To compare the age wise achievements of post-graduation level students studying in different discipline.

4. Research Questions

- What is the level of students’ achievement having different age?
- Is there any difference in the achievement of male and female students?
- Is there any difference in the age of male and female students?
- Is there any difference in the achievement of students having different age?
- Is there any difference in the achievements of students studying different subjects?
- Is there any difference in the achievements of students from different age groups and studying different subjects?

5. RESEARCH METHODOLOGY

This chapter explains research procedure which was adopted to complete the study. Details regarding population, sampling, instrumentation, data collection and data analysis are given in the following section.

This study was quantitative in nature. The variables in this research i.e. postgraduate level students’ age and their achievement were not manipulated and were observed in natural setting. So this study was non-experimental research. Ex-post facto research method was used by the researcher to investigate the variables in natural setting. Ex-post facto research identifies only those researches which investigate possible after effects by examining the present situation (Mills & Gay, 2019; Fraenkel & Wallen, 2012).
Population of a research study comprises of all the individuals to whom the results of this study can be generalized. As the present study focuses upon the MPhil level students, therefore, the population of this study are the post-graduation level viz. MPhil level students of different subject areas. As the present study is delimited to the postgraduate level students of the University of Okara, hence the population comprises of all these students studying at University of Okara at MPhil level during academic years 2018-2020 and 2019-2021. The total population of such students was about 792.

For selecting the adequate and representative sample multi stage sampling technique was used. At the first stage one department from each Faculty was randomly selected by the researcher. Secondly, only the pass-outs of the enrolled students were selected as the sample of the study. Thirdly, the CGP of the most recently passed out students i.e. of the last two years was obtained from the examination department. In this way the examination results of 283 students were gathered. The selected students were from different age groups as shown below.

6. Collection of Data

To accomplish this research two type of data were needed i.e.

   i. Students’ academic achievement or Cumulative Grade Point (CGP)
   ii. Students’ age in years

   To obtain the students’ academic achievements there CGP was obtained by the researcher from the Examination Department, University of Okara. For this purpose a written request was made by the researcher to the Controller of Examination, University of Okara (Appendix-1). Similarly for determining the age of the students, another request was made to the Registrar, University of Okara (Appendix-II). After getting both type of data it was tabulated and analyzed.

7. Analysis of Data

As this is a quantitative research therefore descriptive as well as the inferential statistical methods of data analysis applied. To analyze the categorical/discrete data descriptive statistical measures viz. frequency distribution, percentage and means scores were calculated along with the graphical representation of the delta. To analyze the continuous data t-test and ANOVA (analysis of Varience) was applied. The detailed data analysis is reported in the next chapter i.e. Chapter 4

8. DATA ANALYSIS AND INTERPRETATION

This chapter describes the details of the data analysis, collected on two variables viz. postgraduate level students’ age and their achievement. Data was analyzed by using Statistical Package for Social Sciences version 26 (SPSS-26). All the scores regarding different aspects of the study naires have been presented in the tabular and graphical form. In this chapter, the analyzed data have been reported in descriptive and inferential statistics.

Table 1

<table>
<thead>
<tr>
<th>Comparison of Students Age and their Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students final CGP</td>
</tr>
<tr>
<td>--------------------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The comparison of students’ achievement by their age reflects that the growing age negatively affects the achievement as the students in the age group of 21 to 30 years shows maximum achievement and students of age group 51 years and above shows the minimum achievement whereas the students from 31 to 51 years of age group have similar average achievements.

### Table 2
*Comparison of Male and Female Students’ Age*

<table>
<thead>
<tr>
<th>Age</th>
<th>2.51-2.75</th>
<th>2.76-3.00</th>
<th>3.01-3.25</th>
<th>3.26-3.50</th>
<th>&gt;3.51</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-30</td>
<td>1</td>
<td>5</td>
<td>23</td>
<td>36</td>
<td>23</td>
</tr>
<tr>
<td>31-40</td>
<td>7</td>
<td>10</td>
<td>19</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>41-50</td>
<td>2</td>
<td>15</td>
<td>12</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>51 years and above</td>
<td>3</td>
<td>13</td>
<td>14</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

Analysis of data in above table reflects that there exists significant difference ($p = .000 < .05$) in the age of male and female students. The male students are relatively older as compared to male students by age ($\bar{x} = 2.44 > 1.97$).

### Table 3
*Comparison of Male and Female Students’ Achievement*

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>158</td>
<td>2.44</td>
<td>1.06</td>
<td>3.81</td>
<td>281</td>
</tr>
<tr>
<td>Female</td>
<td>127</td>
<td>1.97</td>
<td>.99</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of data in above table reflects that there exists significant difference ($p = .003 < .05$) in the achievement of male and female students. The female students achievement is relatively higher as compared to male students ($\bar{x} = 3.76 > 3.35$).

### ANOVA

#### Students final CGP

### Table 4
*Comparison of Students’ Achievements and Age (Group Difference)*

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
</table>

46
Analysis of variance in the above Table reflects that there exists significant difference ($p = .000 < .05$) among the students’ achievements when measured on the age group basis.

The graph below depicts the difference among students’ achievement for different age groups.

**Comparison of students’ mean Achievements by Age**

**Table 5.**

**Comparison of Students’ Achievements by Age Studying in the Field of Social Sciences**

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>14.941</td>
<td>3</td>
<td>4.980</td>
<td>3.689</td>
</tr>
<tr>
<td>Within Groups</td>
<td>102.609</td>
<td>76</td>
<td>1.350</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>117.550</td>
<td>79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Variance in the above Table reflects that there exists significant difference ($p = .000 < .015$) among the students’ achievements from the social sciences area of study when measured on the age group basis.

The graph below depicts the difference among students’ achievement for different age groups.

**Table 6**

**Comparison of Students’ Achievements by Age Studying in the Field of arts and Humanities**

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Humanities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>12.985</td>
<td>3</td>
<td>4.328</td>
<td>4.918</td>
</tr>
<tr>
<td>Within Groups</td>
<td>50.163</td>
<td>57</td>
<td>.880</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>63.148</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Variance in the above Table reflects that there exists significant difference ($p = .000 < .005$) among the students’ achievements from the arts and humanities area of study when measured on the age group basis.
The graph below depicts the difference among students’ achievement for different age groups.

Table 7
Comparison of Students’ Achievements by Age Studying in the Field of Natural Sciences

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>1.789</td>
<td>3</td>
<td>.596</td>
<td>.443</td>
<td>.723</td>
</tr>
<tr>
<td>Within Groups</td>
<td>97.000</td>
<td>72</td>
<td>1.347</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>98.789</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Variance in the above Table reflects that there does not exist any significant difference ($p = .000 > .723$) among the students’ achievements from the natural sciences area of study when measured on the age group basis.

The graph below depicts the difference among students’ achievement for different age groups.

Table 8
Comparison of Students’ Achievements by Age Studying in the Field of Management and Computer Sciences

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>8.747</td>
<td>3</td>
<td>2.916</td>
<td>2.869</td>
<td>.044</td>
</tr>
<tr>
<td>Within Groups</td>
<td>63.010</td>
<td>62</td>
<td>1.016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>71.758</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Variance in the above Table reflects that there exists significant difference ($p = .000 < .044$) among the students’ achievements from the management and computer sciences area of study when measured on the age group basis.

The graph below depicts the difference among students’ achievement for different age groups.

9. Findings
i. There existed a significance difference \((p = .000 < .005)\) in the achievements of the students from arts and humanities on the basis of their age. The highest achievement was shown by the students having lower age (21 to 30 years) and the lowest achievement was shown by the students with higher age (51 to 60 years).

ii. A similar trend was observed for the students of management and computer sciences where a significant difference \((p = .000 < .044)\) existed and the achievement of students meaning measured on the basis of their age. But, for the students of natural sciences it was observed that age does not make any difference \((p = .000 > .723)\) in the achievement of students.

10. Conclusion

From the analysis of data and foregoing findings, it is hereby concluded that there exist difference in students’ achievements on the basis of their age. It was also observed that the students of lower age showed the higher achievement and vice versa. It was also found that the students from different areas of study viz. social sciences, arts and humanities, and management and computer sciences showed that there is a significance difference in this students’ achievement when measured on the basis of their age except the students of natural sciences. It was found that the students’ achievement was not affected by the difference of age for the students of natural sciences.

11. Recommendations

1. The study found that growing age has a negative effect on the achievement of the students. Therefore, to compensate this effect teachers have to;
   i. Engage the grown up students in different types of activities so that they can equally learn
   ii. Teachers should assign separate tasks to overcome their learning difficulties
   iii. They might be engaged in co-curricular activities so that their confidence level is boosted to take part in teaching learning activities

2. It is also observed that female students are more eagerly taking part in the higher education at the grown up stage. Measures may be adopted to facilitate such grown up female students so that they can uplift their level of education

3. It is also found that the achievement of female participants is better than the male participants at different stages of their age. It is, therefore, recommended that factors may be found that how the female performance is better than the male, so that their performance may also be enhanced.

4. There is no need to repeat similar researchers at different other levels and in other institutions.

5. The results of this study may be disseminated to make students aware of the effects of growing age underachievement so that they these effects and adopt appropriate measures.

12. References


Hirschi, C. G. (2015). A study of school-wide positive behavior support and behavior intervention support teams and their impact on student behavior in six Missouri middle schools Lindenwood University].


