

The Impact of Tertiary Level Education on Intellectual Development

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Abstract

This study focused on analyzing the impact of the tertiary level of education, i.e., graduation and postgraduate education on the intellectual development of adults at universities in Karachi in a scenario where most of the students are studying higher education with economical aim of seeking a job or getting promotion in the existing role in the workplace, there are very few who aim higher education with the perspective of intellectual development. The study method is quantitative and descriptive; graduate and postgraduate level of education, and adult intellectual development, measured by Perry's scheme of intellectual development designed by Dianne Bateman and Janet G Donald to measure Perry's strategy of intellectual development. The data was collected from 274 individuals with 47.1% males and 52.9% of females from 25 different universities situated in Karachi, on the questionnaire comprised of 17 items on the Likert scale, based on Perry's Scheme of Intellectual development to measure the adult development of college students, measuring them on four broad levels of Dualism, multiplicity, relativity, and commitment. Data were analyzed using the statistical technique of independent sample T-test to compare the mean score of the intellectual development of 47.1% of males and 52.9% of females of graduates and post-graduate on graduate and post-graduate levels of education. The findings from the study samples showed that there is a significant difference in gender i.e, male and female, in the intellectual development of graduated and postgraduate individuals. Moreover, intellectual development is also found to be significantly different among graduate and post-graduate levels of education.

Key Words: Adult Development, Adult Education, Intellectual Development, Tertiary Level Education

Introduction

As being part of Pakistan a traditional society, intellectual development is not the aim of every university going student; instead, their aim is more economically influenced where more than 600,000 students annually are increasing unemployment; universities emphasize developing the intellectual competencies in adults to develop a whole-thinking person (Hussain & Malik, 2014) Acquiring education is essential in achieving intellectual development, which can be measured by participating in daily life's social, cultural, economic, and creative activities. (Radhika, 2019). Education systems in every country vary from the other, and the length of education also varies accordingly. (Marinič & Pecina, 2021)

Intellectual development is a broader term than cognitive development. Intellectual development is associated with acquiring knowledge through experience and formal instruction (Dai, 2010). Tertiary level education is significant for higher-order thinking and intellectual development at the highest. The intellectual development of graduate and post graduate Students of the different universities in Karachi will be measured on the scale designed by Bateman and Janet G Donald, and the inference will be made accordingly. In country like Pakistan tertiary level education tertiary level of education as in terms of getting job and economic benefits. Although the tertiary education is more likely to develop an individual intellectually, there is a need to influence students to approach tertiary level of education for their intellectual development as well.

Literature Review

Higher Education

Tertiary education refers to all formal post-secondary education, including public and private universities, colleges, technical training institutes, and vocational schools. (Worldbank.org, *Tertiary education*)

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The prime aim of higher education is to train graduate and post-graduate level students to think in higher order. (Hashim, 2022). Creating new knowledge and solving problems are the abilities that increase as the qualification. The ability to create new knowledge gets better as the level of qualification goes high; the ability to create new knowledge also increases a person's problem-solving ability.

Intellectual and Cognitive Development

Intellectual development is a broader term than cognitive development. Intellectual development is associated with acquiring knowledge through experience and formal instruction (Dai, 2010).

Adult Development

The first half of a person's life is attended by psychologists and educators. Still, until the 20th century, the adulthood part of a person's life was ignored by educators and psychologists. Adulthood is preceded by Infancy, childhood, adolescence, and later the second phase of a person's life begins with early adulthood, middle age, and later adulthood.

Development in adults refers to changes in experiences, the meaning of their world, and the simplicity and complexity of life situations.

Theories of Adult Development

There have been theories on adult development; one of them is the theory of adult development proposed by William Perry in 1981 (Helena, 2008), which came up with a sequential development model from the adult perspective linked to cognitive development in adults. Theorize the transition of an adult as essential duality, relativism, and commitment. Perry came up with different themes such as Personality change, World and love in adulthood, life events, and transitions. (Merriam, 1983)

Adult Education and Adult Development

Acquiring education is essential in achieving intellectual development, which can be measured by participating in social, cultural, economic, and creative activities in daily life. (Radhika, 2019). Adult intellectual development is known to adapt and produce age-related changes in thinking patterns (Hertzog, 2019). Adult education is both formal and informal. Decision making, preparing oneself for the crisis in the future, being able to make decisions based on moral and ethical bases, and filling gaps in fulfilling responsibility for the welfare of others. Education and development interchangeably impact each other; Taking different courses, reading, researching, etc., all activities at higher education levels all lead to intellectual development (Parisi et al., 2012)

Theories of Adult Learning

There are theories of adult learning, as Mezirow (1981) suggests, the perspective of transformational learning for adult education. Intellectual, vocational, ego, and moral development are all related to adult education and adult development. Also known as andragogy, “as an art and science to helping adults learn.” And counseling adults in their transition. (Merriam, 1983)

Changing meaning from past to present and from present to future is the ongoing progression in an adult life based on experiences that alter the meaning of the outer world. Disintegration and reintegration is the ongoing process in a personal, biological, cultural, and sociological context. Unlike growth, the developer has no termination learning and can never terminate as it is called lifelong learning; adult learning is transformational, mainly concerned with adult intellectual or cognitive development, and also known as a sequential series of adaptations between the organism and the environment. It is also suggested that contradiction is constructive in enabling an individual to look for opportunity in a crisis. In 1982, as per (Hobson & Welbourne 1998), Kagan suggested a constructive developmental framework for human maturity as a theory of lifespan development, as the process of meaning-making evolutionary activity. Development is more than making adjustments to a specific society. Which is a more qualitative change in how one views the world? Concept of Adult development and adult education: (Bateman, 2021)

Pakistan: A Traditional Society

Pakistan as being a traditional society intellectual development is not the aim of every university going student; instead, their aim is more economically influenced where more than 600,000 students annually are increasing unemployment; universities emphasize developing the intellectual competencies in adults to develop a whole-thinking person (Hussain & Malik, 2014)

Critical thinking is recognized as one of the characters developing intellectual development in contrast to the rote learning, students are followed with the Socratic approach to make reasoning, where problem-solving is the second characteristic required for the intellectual development. Creativity is yet another way to intellectual development.

Critical thinking, problem-solving, and creativity are essential for intellectual development, which requires students' attention and focus (*John Dewey in the 21st Century - ed 1985*).

Hypotheses

Ho: There is no difference in the gender and intellectual development of students in different universities situated in Karachi

Ho: The intellectual development of graduate and postgraduate students at different universities in Karachi is the same.

Material and Methods

The data is collected using an adapted 17-question-based questionnaire instrument designed by Dianne Bateman and Janet G Donald developed. Using a Quantitative Research approach, this research project followed a survey method in which the data was collected through google forms, in which participants recorded their responses on the Likert scale, Based on Perry's Intellectual Development Scheme.

Data was collected from 274 male and female students from 25 universities situated in Karachi. An instrument designed by Dianne Bateman and Janet G Donald with seventeen items to measure Perry's scheme of intellectual development was adapted.

Result and Discussion

Table 1
Independent Sample t-test based on Gender.

	What is your gender?	N	Mean	Std. Deviation	Std. Error Mean
Intellectual Development	Male	129	64.6744	7.06351	.62191
	Female	145	62.1862	5.43393	.45126

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Intellectual Development	Equal variances assumed	7.550	.006	3.287	272	.001	2.48821	.75692	.99805	3.97837
	Equal variances not assumed			3.238	239.303	.001	2.48821	.76838	.97456	4.00186

Since the significance value from the test statistics is 0.001 we reject Ho; hence we conclude by saying that there is a significant difference in the gender and intellectual development students in Karachi. Also, that Males are more intellectually developed than the Females.

Table 2
Independent Sample t-test based on Qualification.

	Qualification	N	Mean	Std. Deviation	Std. Error Mean
Intellectual Development	Graduate	121	67.7190	7.60397	.69127
	Post Graduate	153	68.3922	7.26766	.58756

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Intellectual Development	Equal variances assumed	.042	.838	-.746	272	.456	-.67315	.90244	-2.44980	1.10351
	Equal variances not assumed			-.742	252.129	.459	-.67315	.90724	-2.45987	1.11358

Since the significance value from the test statistics is 0.456, we reject Ho; hence we conclude by saying that intellectual development of graduate and postgraduate students of universities in Karachi is not the same. Post graduates have more intellectual development than the graduates.

From the findings of the test statistics above, gender difference exists in the intellectual development of male and female adults at the tertiary education level; it is seen that males are significantly more intellectually developed than females, which also supports the literature review about the Pakistani traditional society scenario of Karachi, Pakistan where males are more dominant than females.

Also, the intellectual development score of graduates and post-graduates is not the same, and postgraduates have more intellectual development than the graduates we can conclude that the higher the education level, the higher the intellectual development.

Conclusion

The intellectual development of men and women at the graduate and post-graduate level in Karachi, Pakistan was studied, and the intellectual development measured using an instrument designed by Dianne Bateman and Janet G Donald with seventeen items to measure Perry's scheme of intellectual development was adapted.

This study concludes that in the Pakistan traditional society, women are behind the men in aspect of the intellectual development. Which needs a serious attention to be catered at priority, while keeping the sustainable development goals in action the Gender Disparity be eliminated in the intellectual development of women in equality to men.

This study also came up with conclusion that the vertical level of education from Graduate level to postgraduate there is a significant difference of intellectual development among graduate and post-graduate degree level students.

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