



IDENTIFICATION AND ANALYSIS OF THE FACTORS AFFECTING STUDENT ACHIEVEMENT IN HIGHER EDUCATION

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ABSTRACT

Student achievement is one of the major determinants in assessing the quality of Education. Students at higher education are mature enough to mention the influential and hindering factors towards their achievement. So far very little work has been done in this crucially important dimension. Present study tends to explore and analyze the factors which distinctively affect student's achievement in Higher Education. Contributing elements were identified through extensive review of literature and a preliminary study. Finally an instrument was designed with 52 statements on 5 point rating scale and one open ended question. Data was collected from 353 students of various disciplines. Sample comprised of all levels of higher education i.e. 126 bachelor level, 164 master level, 29 M. Phil and 32 PhD level students. Data was analyzed both quantitatively and qualitatively. Analysis revealed that certain elements contribute towards student's achievements, which are categorized into six major factors: Academic, Personal, Media, Facilities, Guidance Services and Organizational Climate. Moreover, ANOVA revealed that significant difference exist on the variable of gender and disciplines but not at the variable level. Findings may help the stake-holders to take into consideration the elements which are brought forward as result of the study.

INTRODUCTION

Identifying factors that influence students' learning and thus achievement continues to be an important objective of educators at all levels (Carrotte, 1999). However, literature review reveals that most of the research studies addressing effect of various factors have been conducted from kindergarten to 12th grade. There are research evidences that factors identified as a positive predictor of achievement in early grade levels may not necessarily have the same effect for adult learners and vice versa. The lack of findings in higher education regarding students' judgment about factors affecting their achievement combined with the scarcity of research on comparative effectiveness of various factors prompted the current study.

Various factors affect student achievement at higher education level like personal confidence and a feeling of competence in learning; hopeful but realistic projection into the future occupational roles and social roles; emotional stability; temperamental tendency towards introversion; relative independence from teachers and a tacit acceptance of the of the curricular and work demands arising within the structure of tuition (Wankowski, 1991). Self-efficacy has been identified as a positive predictor of academic performance (Lee & Bobko, 1994). Achievement is affected by students' personal characteristics, attitudes, activities and most of all students' interest and engagement. Students with low academic self-esteem and the students that are not interested and actively engaged are at a significantly higher risk of low achievement

(Linnakyl, Malin & Taube, 2004). Students' attitude towards a particular subject has a positive relation with achievement (Bos & Kuiper, 1999). Cognitive aspects, motivational factors, teaching methodology and classroom-contextual factors exercise a significant influence. Cognitive factors including cognitive capabilities, previous knowledge, and, to some extent, subject-specific self-concept are important for achievement (Von Rhöneck, Grob, Schnaitmann, & Völker, 1998).

Along with these factors pertaining to the students' personalities, family background is also very important. Research indicates that students from lower socio-economic background in terms of parents' occupational status faced a higher risk of low achievement. Home educational background and parents' educational attainment greatly influences the quality of education for their children. Student achievement was found to be directly proportional to the education of their parents (Bos & Kuiper, 1999, Rainey & Murova, 2004). The cultural factors of the home were another family characteristic that proved significant in predicting low achievement (Linnakyl et. al, 2004).

The educational institute has the key importance in this regard. Social climate of the institute indicated by characteristics such as the teachers' inclination towards improving educational achievement, and their expectations for pupil achievement are crucial for student achievement (Brookover & Lezotte, 1979). Teaching directly affects attitudes toward a particular school subject (Papanastasiou, 2002) and achievement is directly related to attitude. Conducive environment and other facilities provided by the institute affect the student learning positively (Schneider, 2002). Along with physical facilities, guidance services provided by the institute play a significant role in achievement. Guidance services have significantly positive effect on student's study attitudes, study habits and academic achievement (Chaudhary, 2006).

Above mentioned findings are drawn either mostly from the studies that are conducted up to secondary level or from the studies that are conducted with reference to particular subject. Factors affecting student achievement at higher education level might be some what different from that of affecting achievement at up to the secondary level. For example, one instructional variable, *verbal praise*, has often been identified as an important mediator in the enhancement of students' motivation in the classroom (Bergin, 1999; Mueller & Dweck, 1998; Thompson, 1997). On the other hand, Good (1987) reported that older students ignored the praise that they perceived as invalid and interpreted praise given for easy tasks as an indication that the teacher had low expectations of them.

Another factor which is distinctive to higher education is peer assisted learning that encourages students of higher education to take the responsibility for the learning process in terms of academic achievement and social development (Packham & Miller, 2000).

Assessment system of the Higher education demands remarkably different criteria from the school level assessment. The ultimate aim within Higher Education is to develop independent learners and the university student is required, to a much greater extent, take responsibility for their own learning. Modularized semester system can appear fragmented to the student who is now largely responsible for selecting their own areas of study within the program, organizing study material and managing their time. (Cassidy & Eachus, 2000)

The students at higher education level are mature enough to express about the factors that are influential in their academic achievement. The current study aims at exploring the factors and the extent to which they count for the achievement of students at higher education level.

It is very important to nurture the elements of academic achievement which are controllable to some degree. While making any important decisions and developing policies, parents, teachers, community and other stake-holders should take into consideration the students' opinions and preferences and in this way should play their active and effective role to maximize their achievement and to get the most out of the students.

PROCEDURE

Participants

A total of 353 students were included in the study representing various discipline of different faculties. The disciplines include business administration, biochemistry and biotechnology, centre for high energy physics, chemistry, education, mass communication, mathematics, philosophy, statistics and zoology. There were 91 males and 259 females; three students did not mention their gender. The students were from all the levels of higher education namely bachelor (126), master (164), M.Phil (29) and Ph.D (32). Level of two students was not available.

Instrument

Initially an instrument was constructed comprising of 42 statements on likert scale and one open ended question. A pilot study was conducted on the students of one department. The pilot study helped the researchers to enrich the instrument. An instrument with 52 statements and one open ended question was finalized. Cronbach alpha reliability co-efficient of the instrument was 0.815. The open ended question was included to take into account those components left un-inquired in the instrument but considered duly important by the students affecting their achievement. The statements were categorized into six major themes: academic, personal, guidance services, media, facilities and organizational climate.

Data Analysis

Data was analyzed both quantitatively and qualitatively. Mean scores of the statements under each factor were obtained. Open ended question was analyzed qualitatively and categorized and discussed under the relevant factor. T-test and ANOVA were applied to find out the significant differences between the mean scores of different factors across the variable of gender, level and discipline.

FINDINGS

Findings of the study are discussed with respect to each factor. Statements relevant to each factor along with the respective mean score are tabulated. The statements are arranged in order from highest mean score to the lowest for each factor. Results are interpreted depicting the preferences of students in order of their preference. Student produced statements in response to the open-ended questions are categorized with respect to each factor and are given for each level and analyzed respectively.

Academic Factor

The factors affecting student achievement pertaining to content, methodology, assessment system, teaching learning environment and attending educational events were grouped into academic factor.

Academic factors	Mean Scores
Teacher's command on subject	4.53
Attending educational events	4.12
Clear presentation of content in the reading material	4.12
Examination system	4.12
Use of different methods during teaching	4.10
Tutorial assistance	4.07
Use of Audio Visual aids	4.07
Group work	4.00
Appropriate Classroom size	3.98
Semester system	3.80

Students at higher education level agree that all of the described elements are important in their achievement as the mean scores indicate. However, they strongly agree with the teacher's command on the subject.

Responses given by the students on open ended question regarding this factor are categorized and discussed below level wise.

Bachelor Level

1. qualification, experience, talent, creativity and cooperative behavior of the teacher, teacher command on subject, good presentation skills of teacher, clear concepts and strong grip on subject of teachers and maintaining motivation in the students, attention and encouragement of poor and introvert students to speak, values and norms of students kept in mind, appreciation
2. good communication skills of students for extracting knowledge from teachers
3. Burden of much assignment in short time, not overburden the students, burden of studies should be according to the mental level of the students, take class on time instead of extra classes, good.

Masters Level

1. talent, ability, teaching style experience, commitment and regularity of the teacher-he should be model of good understanding for the students, reinforcement, interest, motivation, appreciation, confidence, equality, good company of teachers, friendly attitude of teachers and respect of students by the teacher, co-operation between student and teacher, rigidity of teacher affects negatively, they require work according to their view and accept to-the-point answer in paper, enough time should be provided for attempting paper, they have over expectations in their own subject neglecting other subjects, some time they underestimate student ability.

- national language should be there, GRE, NTS type tests are obstacle in high education, option of syllabi, proper syllabi, access to course outcomes in library, library based assignments, better labs and libraries, peaceful study environment, research on current issues, proper assessment, exams should not benefit the students using cramming and feed back.

M.Pill / Ph.D Level

- Higher qualification and latest knowledge delivered by the teacher.
- Internship, weekly class tests, course over view and informing the students about all assignments for time management, practical implementation and importance of the subject, research and workshop.

Regarding the qualitative component of the study relating to the academic factor, the single common theme which is emerged on comparing the statements of students from all levels is the teacher. Whether they mention the behavior and personality of the teacher or they talk about the competency and style, they consider the role of a teacher as equally important in their achievement. However, the individual differences can also be seen when compared for example students at graduate level consider the extra and out of schedule classes as burdensome and affecting negatively on their achievement. Students at masters level mention some other factors like conducive environment and awareness of the students to the course objectives may yield better results. However they do not favor GRE and NTS tests in this regard. Students representing the highest level i.e. M.Phil and Ph.D consider research, workshops and continuous assessment important in their achievement. They also view that students' prior knowledge about course requirements as an important factor.

Personal Factor

The elements which are subjected to individual traits, abilities, psychosocial conditions and opportunities and constraints affecting their achievement were categorized into personal factors.

Personal factors	Mean Scores
Good study habits	4.30
Health conditions	4.28
Facilitating environment at home	4.11
English proficiency	4.05
Peer tutoring	3.98
Education of the parents	3.95
Intelligence	3.72
High self-esteem	3.64
Past achievements	3.55
Self conflict affect negatively	4.06
Love affairs affect negatively	3.72
Day dreaming affect negatively	3.67
Extroversion	3.31
Being financially strong	2.73
Rich students are unable to get good results	2.31

Regarding the personal factor, students of higher education consider good study habits (4.30) as most important followed by health conditions (4.28), facilitating environment at home, English proficiency, peer tutoring, education of the parents, intelligence, high self-esteem and past achievements(3.55) as contributing elements for their achievements. On the other hand self conflict, love affairs and day dreaming have negative effect on their achievements.

They are indecisive whether extroversion and being financially strong is related to the academic achievement or not. However, they disagree that the rich students are unable to get good results.

On open ended question, following responses were given by the students.

Bachelor Level

1. Devotion-the most important-the only quality that works even in hurdles, steadfastness, study and eating habits, health, proper aim of life, trust in God, peace of mind, self interest, choice of field by the student rather than the parents, healthy social interaction, homesickness in case of hostel students, insufficient sleep, psychiatric problems, and undesired activities affect negatively.
2. Family background, parent support contribution, check and prayers, awareness of parents regarding courses and discussion of progress with parents whatever the level is, appreciation, encouragement, home environment, tension and frustration at home affect negatively.

Masters Level

1. IQ, time wastage by gossip and chatting,
2. Understanding, support and facilitation of parents and family, home problems, inter relationship of siblings, guests staying for long time, inter conflicts among parents and broken families affect negatively.

M.Pill / Ph.D Level

1. Goal setting gives direction to the students, sound educational background at previous level, peer study, Psychological factors and
2. Parents-relationship, moral support from peers.

Concerning the qualitative feature of this factor, students from all levels of higher education affirm the component of parents as most important predictor of achievement in terms of awareness and interest to their children's education and their mutual relationship. However, the students at Graduate level think that parents influence in selecting the subjects of study may lead to leave a negative impact. They also duly consider the individual's mental and social health and habits to influence achievement. Students at Masters level consider wastage of time in activities other than education as harmful to their achievement. M.Phil and Ph.D students believe that individual goal setting as well as moral support and good psychological conditions are helpful for achievement.

Media

How different type of media contributes to higher education of students in their achievement was studied under the factor Media.

Statements related to Media	Mean Scores
Newspaper and periodical reading	4.06
Watching TV in excess affects negatively	3.82
Radio listening	3.18
Watching T.V.	3.16

Students of higher education agree that newspaper and periodical reading influence their achievement positively. About radio listening and watching T.V; they are not sure whether they contribute to their achievement or not. However they are convinced that watching TV in excess has negative effect on the achievement.

No student gave any qualitative description pertaining to this factor.

Facilities

Effect of different types of facilities either provided by the institute or available at home and on student achievement was investigated by a set of questions headed by the factor facilities.

Statements related to Facilities	Mean Scores
Scholarships	4.49
Easy access to library	4.41
Financial support (fee concession, stipend)	4.31
Access to the internet facility	4.22
Facilities at home	4.12
Provision of transport by the institute	4.03

Students in higher education have positive influence of facilities on achievement. However, they rate the scholarships as highest to be followed by the library access and other financial support by the institute. Access to the internet facility, facilities at home and the provision of transport by the institute also considered as contributing towards their achievement.

Responses given by the students on open ended question regarding this factor are, as follows:

Bachelor Level

Comfortable classes, easy chairs, A.C., no locks should be in library.

Masters Level

Class room environment, clean and cool classes, weather conditions, AC and heaters in classroom according to weather conditions, furniture, use of A.V. Aids incorporating the human nature, Islamic environment and mosque.

1. Financial support, merit based free education system, scholarship on merit rather than opinion, high fee for evening students, easy approach to higher education, donation and loan to needy.

M.Pill / Ph.D Level

Increased number of research labs and institutes, facilities for research.

Making qualitative judgments about facilities, students from masters and bachelor level signify the physically conducive environment whereas students from master level also account for other factors in this regard like A.V. Aids and Islamic environment. However, high fee for evening students hinder the achievement. M.Phil and Ph.D students describe the research facilities in this perspective.

Guidance

To what extent various guidance services affect student achievement, was inquired through statements categorized as guidance services.

Guidance Services	Mean Scores
Information about subjects and their future scope	4.30
Counseling services to solve individual problems	4.12
Clear orientation for combination of subjects	4.09
Advisory services	4.06
orientation about facilities	3.93

Information about subjects and their future scope is considered as most important guidance service by students. They also consider counseling services important to solve individual problems. Conformity is there regarding clear orientation for combination of subjects, advisory services, and orientation about facilities as contributory towards achievement.

Responses given by the students on open ended question regarding this factor are as follows:

Bachelor Level

Guidance about facilities, future study, subject choice, and guidance for hostel students as well, career counseling, lack of guidance affects negatively.

Master Level

Understanding and guidance of the problems of students by the parents and teachers, aptitude of subject should be considered.

M.Pill / Ph.D Level

Proper time for guidance given by teachers, orientation of institute about further study opportunities, counseling of parents.

Bachelor level students view that guidance service important especially for hostel students. They also think career counseling as important at this level for their achievement. Master level students think that teacher's understanding of students' problems and positive aptitude of students towards their chosen subject is the key to achievement. Similar points were also mentioned by the M.Phil and Ph.D Students with an additional component of Parents' counseling.

Organizational Climate

Social and political environment; and ethical and moral considerations prevailing in the institute and their effect on achievement was discussed under organizational climate factor.

Organizational Climate	Mean Scores
Good teacher-student relationship	4.49
Freedom of expression in classrooms	4.19
Prizes	4.17
Praise	4.10
Freedom of expression in institution	3.92
Participate in sport or in other co curricular activities	3.48
Student union	2.90
Political activities in the institutions	2.70
Unfair means (cheating, approach, bribery) are effective	2.69
Strikes affects negatively	3.82
Harassment by other students affects negatively	3.82
Playing proxy affects negatively	3.54

Good teacher-student relationship is considered as the strongest indicator for student achievement. Other factors relating to organizational climate like freedom of expression in classrooms, prizes, praise and freedom of expression in institutes are also considered as important by the higher education students in their achievement.

Students in higher education are found not to be sure that whether participation in sport and other co-curricular activities is helpful for achievement or not. Likewise they are undecided about the effect of student unions, and other political activities in the institutes. Similar perplexity is observed about the effect of unfair means (cheating, approach, bribery) for achievement.

However, they think that strikes, harassment by other students and playing proxy has negative effect on their achievement.

On open ended question, following responses were given by the students:

Bachelor Level

1. Favoritism for girls, teacher's pet, social behavior, show off of status by other students by bringing car etc. arouses the feeling of deprivation, co-education, morning evening discrimination, prizes and scholarships are not given to them
2. Administration, management of institute, effective work division and timing, semester should not be short, summer vacations, consideration of student opinion and listening to their problems, choice and holidays in paper – keeping them away from unfair means, use of mobiles in class and wastage of time by teachers in classroom affect negatively
3. National political situation, political and economic conditions of the country,

Masters Level

1. Favoritism, co-education, teacher-student affair, jealousy, inter institute politics between teachers affect negatively, good relations with teachers is necessary in semester system as it is teacher dependent, teacher behavior towards student should be fair.
2. Exchange of reading material and ideas, trips, dramas, consideration of students and their problems, cooperative atmosphere, full attention on studies and not much on other extra activities.
3. Interest of administrator in institute, classroom management, mobiles.
4. National and international political affairs.

M.Phil / Ph.D Level

Semester system just increases grades and not increases education; there should be check on semester system by external exams.

When asked about the qualitative description of this factor, a variety of student responses were produced by all the three levels, however the favoritism being common for both bachelor and masters level. This element was reported to be affecting negatively on achievement and was more emphasized by bachelor level students. They also described the social discrimination as one of the negative reinforcement to achievement. Use of mobile phones in the class is also discouraged by the students. A significant point in this regard was the role of administrator considered important by master level students. M.Phil and Ph.D students think that semester system is promoting the race of getting marks instead of real achievement. Another shortcoming of this system was stated by Master level students who assumed the system responsible for favoritism and highly teacher centered. Bachelor level students think that for sustainable achievement, semester's duration should be long enough. Inter institute politics among teachers is also considered affecting negatively on achievement by the students at Master level.

Inferential Statistics

Independent Sample t-test

Factor	Gender	N	Mean	Std. Deviation	Mean Difference	t-value	Sig. (2-tailed)
academic	Male	83	40.3855	4.66652	1.02722	1.96	0.048
	Female	235	41.4128	3.81347			

Independent sample t-test shows that the mean scores of females on the academic factor is significantly greater than the males.

Independent Sample t-test

Factor	Gender	N	Mean	Std. Deviation	Mean Difference	t-value	Sig. (2-tailed)
Personal	Male	65	54.1231	7.44670	2.28948	2.689	.008
	Female	223	56.4126	5.56859			

Independent sample t-test shows that the mean scores of females on the personal factor is significantly greater than the males.

On rest of the factors, no significant difference was found to be on the variable of gender.

On the variable of different levels of higher education factors, no significant difference was found.

ANOVA reveals that significance difference exists in academic, personal and organizational climate factors across the disciplines. However these differences are not meaningful due to the lack of any consistent pattern in them.

DISCUSSION

Students of higher education are the fate of a nation. It is the need of the time to be conscious of their perceptions regarding their achievement. The current study wraps up with some optimistic as well as astonishing results regarding students’ discernment and their achievement. Data analysis reveals that overall students from all three levels of higher education do not significantly differ from their perceptions regarding achievement. The difference is witnessed only on variable of gender where female students recognize academic and personal factors for their achievement notably higher than the male students. Apart from these specific findings, an overall analysis portrays a mature and consistent image of a higher education student. Students, for their achievement consider ‘human and abstract factors’ more important in comparison with the material and concrete factors. They acknowledge the role of teachers and parents as influential in their success as well as they recognize the importance of relations with them. Students are found to be intrinsically motivated, believing in themselves. They prefer the scholarships over other financial aid, assuming that financial status has nothing to do with the achievement. They accept that good study habits can yield better results and they believe in the negative effect of unconstructive habits and activities. They are well aware of benefits and limitations of their assessment system and able to make sensible suggestions. There is a conformity in the quantitative score and qualitative interpretations of descriptions of open-ended question, which verifies the students’ reliable and research-oriented attitude. However, study has

brought before us some conspicuous results which need serious consideration. In response to the effect of unfair means (cheating, bribery and approach) on achievement, students are inclined towards an undecided status. While there is no doubt about the social, moral and religious undesirability of this factor, the hanging state of the students itself leaves a question mark. The other finding though not serious but worth mentioning, is the role of media assumed by the student in their achievement. Statistically, the students are in agreement with the influential role of the media but not a single student discussed any aspect of media in qualitative component of the study. It shows their least concern towards this factor. It may not be assumed that the students are unaware of the importance of the media but they might not be considering this factor as irrelevant to their achievement as other factors. So, in this regard, media should also play its effective role.

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