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A STUDY OF THE IMPACT OF INSTITUTIONS' INFRASTRUCTURAL FACILITIES AND TEACHING-LEARNING RESOURCES ON ACADEMIC ATTAINMENTS AND PLACEMENTS OF MANAGEMENT STUDENTS

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ABSTRACT

Studies carried out by the Indian and foreign scholars for assessing the impact of institutions' available infrastructural facilities and teaching-learning resources on academic attainments on their students present a somewhat mixed bag. While AICTE impresses upon on availability of the necessary physical infrastructural facilities and the teaching-learning resources in technical education institutions including B-Schools for effective delivery of education, it is evident that due to obvious reasons, many B-Schools seriously falter on these accounts thus adversely impact educational attainments and subsequently the placements of their students. The present study is a modest attempt to assess the impact of infrastructural facilities and teaching-learning resources on the academic attainments and placements of management graduates of selected Bangalore based B-Schools. Analysis of the captured data from two Bangalore B-Schools reveals that there is a positive correlation between the variables under study and thus the findings strongly supports the necessity of having all the prescribed physical infrastructural facilities and the teaching-learning resources on the campuses of the B-Schools for more effective and efficient delivery of knowledge, which is a pre-requisite in any knowledge-based economy. Further, the study has made certain pointers for consideration of the concerned stakeholders, if India has to globally emerge as a competitive quality education provider.

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INTRODUCTION

The era of liberalization, privatization and globalization (LPG), encouraged many of the entrepreneurs, including the first generation entrepreneurs, to establish technical institutions in the country to meet the increasing requirements of the trained management graduates in the country and abroad to successfully handle different sectors of economy at various levels. The technical education institutions so established were expected to diligently handle this enormous responsibility towards the nation by producing quality manpower over a period of time. The regulatory authority i.e. All India Council for Technical Education (AICTE) established by the Government of India through an Act of Parliament was entrusted with the august responsibility i.e. first to prescribe

the norms and standards, and then closely monitor and mentor quality of technical education across the country by enforcing adherence with the prescribed norms and standards in terms of requisite infrastructural facilities, teaching-learning resources and intellectual capital etc. The technical education institutions since their inception were expected to strictly adhere with the set norms and standards and report to AICTE every year in the prescribed format. Thus the expectation was that technical education institutions well equipped with requisite mandatorily prescribed inputs will deliver effectively and efficiently to compliment and supplement State efforts and endeavours of producing quality manpower. Since time immortal in India, education has been considered a very pious and one of the important instruments for peaceful social empowerment of the society. Further, education was generally viewed as a noble profession and not a business for profit motive. However, the

management education with passage of time became victim of the growing commercialization and strong profit motives. This made many technical institutions to drastically compromise with the required inputs, both in terms of quantity and quality, which unfortunately resulted into churning out the army of unemployable graduates year after year. Prescribed infrastructural facilities and the teaching-learning resources became victims of Management of many technical education institutions across the country. This trend adversely impacted the academic attainments and subsequent placements of management students. The present study is a modest attempt to gauge the impact of physical infrastructural facilities and the teaching-learning resources on the academic attainments and subsequent placements of management students.

Literature Review

This portion of the literature review has been carried out for both the independent variables under study and has been presented accordingly in the following paragraphs.

a). Infrastructural Facilities:

Many researchers both Indian and foreign have conducted detailed works studying the impact of various factors including infrastructural facilities (independent variables) on the academic attainments and placement of students (dependent variable). Singh and Mallik (2016) stated that the student's academic performance is affected majorly by psychological, economic, social, personal and environmental factors. The environmental factors mostly comprise of the infrastructure facility, teaching and learning resources and intellectual capital along with the teaching pedagogy and intellect of teaching faculty at higher education institute. Kwesiga (2002) stated that the number of facilities offered usually determines the quality of the school, which in turn affects the performance and accomplishment of its students. David Branham in his work stated that the quality of educational institute infrastructure has a significant effect on education institute attendance and drop-out rates. The study focused on Wilson's and Kelling's (1982) work wherein they mentioned that the condition of education institute infrastructure has crucial consequences on student's performance, specifically attendance and drop-out rates. Lockheed and Verspoor, 1991; Laukheed and Hanushek, 1988; Harbison and Hanushek, 1992 and Crampton (2009) have clearly stated that resources like infrastructure plays critical role in determining student performance. Murillo and Roman (2011) found that the availability of basic infrastructure facility and services like water, sewage, electricity etc. and didactic facilities including sports, laboratories, libraries greatly impact the Study by Kenn Fisher (2010) indicates that the student academic achievement improves with improved building condition. Individual factors, such as lighting levels, air quality and A growing body of research has found that physical infrastructure facilities can have a study of the University of Gottingen found that student's perceptions and behavior are influenced by conditions like scale of the buildings and the variety and stimulating potential of structural shapes and color schemes. Other factors of infrastructure impacting student's performance include transitional spaces (indoor/outdoor), the anthropological and social aspects of design, sensory stimulation, context, education institutes-within-education institutes, harmony, the incidence of views and vistas,

functional zones, circulation patterns and super visible circulation spaces like hallways and corridors.

Alani (2001) states that 'the university world-wide are the seats of the highest level of human capital development, those whose training and development depends largely on the quality and quantity of the available infrastructure'. According to Ehiamentalor (2001), infrastructure is the operational inputs of every instructional program and constitutes elements that are necessary for teaching and learning. Such elements include buildings, laboratories, machinery, furniture and electrical fixtures. Bosah (1997) considered landscape, playgrounds, classrooms, library, laboratory blocks, hostels, toilets, health block, administrative blocks, utilities such as electricity, water, security facilities – walls (fences), gates, phones, and alarm system as the major elements of infrastructure. Coombs (1991) emphasizes that educational system is a function of the quantity and quality of inputs, of significance. He found through that there exists a significant relationship between infrastructure and students' perceived motivation to learn. The finding also agree with Adeboyeje (1994), Vaisey (1968), Ejiogu (1997) and Nwagwu (2004), who supported the availability of adequate education institute buildings, classrooms, chairs and tables, laboratory, library and other physical structures to be necessary for accomplishment of said educational goals and objectives. Lekjep and Ripnung *et al.* (2010) while studying the effects of physical infrastructure on student's performance indicated that physical infrastructure significantly impacts student's performance along with being responsible for the quality of graduates present in the market. Obasi (2005) stated that a student will become more focused in his academic pursuit without much direction, if the environment is conducive and the facilities are available for studies. Lyons (2002) said that 'Learning is a complex activity that puts students' motivation and physical condition to the test'. Apart from curriculum and teaching the physical condition of education institutes also influences the student's achievement.

Chan (1996) reported that student's achievement was highest in Institute with Modern infrastructure and lowest in Institute with Obsolete infrastructure. He also concluded that technology and adaptabilities to modern environments better equip students to procure better grades and to be successful. Stricherz *et al.* (2005) has acknowledged that student's achievements significantly deteriorates in education building which are in bad shape as compared to the student's studying in better buildings. Earthman (2004) in his study found that the students in classrooms with natural lighting and large windows performed 19% to 26% better in academics as compared to those in absence of these features. He mentions that most of the similar studies are increasing their focus on the impact that the environmental design on the student outcomes in terms of academic attainment and placements. Chan (1996) said that there is a positive correlation between facility provided by an education institute and learning. Chan stated that 'poor learning facilities can foster negative attitudes just as exceptional designs may bolster achievement'. Killeen, Evans and Danko (2003), Maiden and Foreman (1998) and Olutola (1982) were of the opinion that we cannot ignore the impact of the physical environment on education and the success of any learning process in an educational instituted largely depends on the physical facilities provided to the students along with better teaching and learning resources and intellectual capital. Roberts Lance (2008) stated that there are four vital

propositions of an education institute's infrastructure which includes pedagogical functionality like structural building systems, programmatic suitability like classroom facilities, cosmetic appropriateness and participant's wellness which play vital role in assuring true learning outcomes. They are also responsible for maintaining good learning environment or Social climate which includes morale, commitment, pride of place, enthusiasm— which directly impacts academic achievement of a student. Earthman Glen (2002) in his studies concluded that education institutes with better design features, particularly acoustics and indoor air quality, have a humongous impact on student performance. He stated that "students in better education institutes outperform those in substandard ones by several percentage points". Smaller class size also improves the academics records. In 1992 Harbison & Hanushek conducted a study in rural northern Brazil and found that facilities index (infrastructure facility) was significantly associated with student's performance. Contrary to the above findings, Earthman (2004) states that the building in which students study does influence the degree of academic attainment. Bryk (1994) found that students in smaller learning environments achieved more academically as compared to their counterparts in larger education institutes as smaller institutions provide more attention to students as compared to larger institutions. Thus it doesn't matter whether the institute is large or not what matters is that whatever area which is available should be effectively and efficiently managed. Smaller institutes tend to see better attendance as compared to larger institutes (Irmsher, 1997). Most of the previous literature on educational performance initially concentrated on the relation between high spending and good performance but later it was proved that high spending on students education is no indicator of better performance. (Hanushek, 1989, 1994, 1996) and Jencks (1972) confirmed that increased spending on education has no positive effect on student performance. On the others hand some researchers have disputed such findings for instance Greenwald, Hedges, and Laine (1996) find that small increases in spending on education can significantly increase the student's performance. Recent studies carried out by Okunamiri (2003), emphasized that mere availability of physical facilities alone does not enhance learning, rather it is the adequate utilization of these facilities that can only motivate students to learn and enhance their academic performance.

b). Teaching-Learning Resources

Teaching-learning resources comprises Computer systems, internet and the Library facilities. Libraries form an essential part of education. Libraries define themselves as knowledge centers and are considered to be the source of not only relevant books but also research journals, magazines, case texts, editorials, news clusters etc. Hallack (1990) describes teaching and learning resources as 'facilities that contribute to academic achievement in an education system. It includes libraries, laboratories, furniture, recreational equipment, apparatus, Computer Labs and other instructional materials'. Popoola and Haliso (2009) define library as a resources of information bearing materials. They stated that 'these materials are in both printed and electronic formats such as textbooks, journals, indexes, abstracts, newspapers and magazines, reports, CD-ROM databases, internet/E-mail, video tapes/cassettes, diskettes magnetic disk, computers, and micro forms'. These information materials are the raw materials that libraries acquire, catalogue, stock, and make available to their patrons,

as well as use to provide various other services. Elaturoti (1977) defined Library as 'something that can provide intellectual stimulation to the reader or learner and includes books, periodicals, newspapers, pamphlets and ephemera, audio materials, film materials, graphic computers etc. along with individuals and objects in the community'. Roberson (2005) defined library as 'an institution that manages the intellectual products that individual can gain access to readily'. Iyanda and Salawu (2006) on the other hand consider library 'as a building, an instructional and self-development center, which operate as an integral part of the entire school environment'. They also quote Ranganathan in their study who describes library 'as a public institution or an establishment charged with the care of a collection of books the duty of making them accessible to those who require the use of them and the task of converting every person in its neighbourhood into habitual library goers and readers of books'. According to Oye *et al.* (2010) 'e-learning is the use of information and communication technology like internet, computer, mobile phones, learning management system (LMS), televisions, radios and other similar technologies to enhance teaching and learning activities. It is a unifying term that is globally used to describe the fields of online learning, web-based training and technology delivered instructions.

Dayo *et al.* (2013) stated that education is an essential pathway to make a responsible child and in this the various resources provided play a crucial role. Similar views have been expressed by Yara and Otieno (2010) stating education to be one of the fundamental human rights. The pivot to sustainable development, stability and tranquility within and among nations is the provision of education to the populace of such countries. Day and Spoor (1998) stated that 'technology is the inescapable companion of the 21st century citizen'. According to Daniels (2003) technology has undisputedly impacted the content of learning along with impacting the teaching pedagogy. Barrowetal (2009) found that an instructional computer program for pre-algebra and algebra in the United States had a positive impact on the student's tests scores. Joseph and Philiat (2011) observed that school facilities act as a potent factor to quality education. The importance to teaching and learning resources and other instructional facilities cannot be neglected. Adhering to the dictum that teaching is inseparable from learning but learning is not separable from teaching potentially proves that effectiveness of all the resources that are involved in teaching pave a way for effective learning. According to Akande (1985) 'learning occurs through one's interaction with one's environment'. Environment in his perspective referred to facilities those are available to facilitate students learning outcome which would include books, audio-visual, educational software and hardware. Farrant (1991) and Farombi, (1998) moderated the issue of teaching and learning resources quoting size of classroom, sitting position and arrangement, availability of tables, chairs, chalkboards, shelves on which instruments for practicals are arranged also to be of vital importance to decide learning outcomes. Oni (1992) stated that education facilities are involved majorly in constituting the strategies for the growth of an education institute and also are involved in determining the education outcomes. There criticality can be addressed to the fact that they are vital in the smooth functioning of any education system influencing its efficiency and productivity. Balogun (1982) concluded that facilities in teaching-learning enable students to develop a problem-solving skills and learning attitudes. Ajayi and Ogunyemi

(1990) were of the view that adequate teaching and learning resources have a prolonged impact on the pace of an individual's learning resulting in the academic performance of students. Thus the availability, utilization and management of all such teaching and learning resources become vital for both education institute and the students. Scholars like Wilcockson 1994, Lawal 1995, Ajayi 1996 and Suleiman (1996) all have expressed similar views about the significance of facilities and resources in teaching learning spheres.

Popoola (1989) studied the relationship between instructional facilities and academic performance and discovered that those schools with well-equipped library normally maintain high academic performance. Farombi (1998) suggested that students understand and recall better with the help of libraries and laboratories. Ajayi (1987) and Ahmed *et al.* (2005) figured out that a constant decline in student's academic achievement can be directly linked with the non-availability of teaching and learning materials which may be non-availability of class rooms, libraries, laboratories etc. Ayodele (1988) conducted a study that proved that school facilities particularly the teaching and learning resources were the most vital determinant of academic achievement. His study indicated that academic achievement is a function of availability of facilities to students. Higgins (2003), Newhouse (2002), Marshall (2002) Honey and McMillan (2005) conducted extensive research in the field of impact of information technology in teaching and learning and found that there is a widespread belief that 'Education Technology can enhance teaching and learning practices and create an ideal learning environment'. Hence, it becomes an integral part of both the teaching and learning process. Nutball (2000) and Hawkins *et al.* (1996) reported that educational technology can have the greatest impact on improving student's learning motivating them to achieve better educational objectives. Higgins (2003) and Trucano (2005) were of the view that technology in education will empower both teachers and learners, transforming teaching and learning processes from being highly teacher dominated to student centric. Trucano (2005) also stated that inculcation of such technologies creates opportunities for learners to develop their creativity, cognitive skills, critical thinking ability, information reasoning skills, communication skills and other high order thinking skills.

Kulik and Kulik (1991), Rutz *et al.* (2003), Sivin-Kachla (1995) and Baker *et al.*, (1994) revealed the positive impact of technology on enhancing the achievement and performance of students and in gaining significant improvement in all subjects. Kulik (1994) in his research stated that students who used computer based instruction scored better than those without it. Main factors were the increase of interest level, delivery of more knowledge in less time, more enjoyable classes and more interesting interface. Dorothy Williams and Caroline Wavell found that library resources positively impact the learning outcomes and improves the quality of learning. Kuhlthau and Collier (1993) in their research stated that there is a positive impact of library resources on the total learning experience and by providing suitable information libraries tend to enhance better learning among students. Michele Lonsdale (2003) found that 'school libraries have a positive impact on student achievement and can be measured in terms of reading scores, literacy and learning. He also suggested that 'a strong computer network should connect the library's resources to the classroom. The study also aligned the fact that 'libraries can have positive impact on student's self-esteem, confidence,

independence and sense of responsibility. Elley (1992) suggested that institutes should have big libraries and is the most important differential characteristic between high-scoring and low-scoring countries. Even a less developed countries with better school libraries were better than affluent countries school library can m with not so good library facility. Froese (1997) found that 'students in classrooms with easy access to school libraries achieve higher (in terms of reading scores) than those who do not have such access, and that students who have many books in their homes achieve at higher levels than those who have fewer books. Yoo's (1998) concluded that libraries contribute towards improved attitudes of student towards reading. Kinnell (1994) in his study found that the school library played a significant role in developing cross-curricular skills, such as communication, numeracy, problem-solving, personal and social, and use of information technology. The study revealed that although textbooks and worksheets still made up around two-thirds of any student's teaching & learning resources, library books and software also play a significant role. Todd (2001) in his study found that libraries initiate a shared educational philosophy that centers around inquiry-based learning, systematic development of student's information and critical literacy skills, information competence, and active reading programs that foster higher levels of reading, comprehension, vocabulary development, and language skills among students.

Studies conducted by Keith Lance *et al.* (1993-2000) examined the impact of the school library on student's academic achievements and stated that students who are better readers are also better users of language and the library. The findings also verified that students in schools with better funded libraries tend to achieve higher average test scores, independent of economic status of the community. The research findings concluded that networked computers linked to library from classrooms and labs enabling access to library resources, licensed databases and the Internet *also* raised reading test scores of students. Hopkins (1989) stated that library can impact positively on pupil's self-concepts through the enhancing factors like cooperation, independence, success, challenge, feeling of value, and creating a positive atmosphere. The results also clearly highlight that 'the library has the potential to play an enhancing role in developing student's positive self-concepts and thus help them achieve more academically'. Murray (1999) stated that libraries encourage a positive self - concept among students as evident from the fact that better library facilities help the integration of disabled students into the mainstream schooling. A similar view was propagated by Evans and Heeks (1997) who suggested that 'libraries have the potential for a greater role in supporting the needs of this group of students, including the gifted and talented'. Vrasidas and McIsaac (2000) in their studies stated that 'e-learning can change the methods of learning and has the capability to overcome the barriers of time, distance, and economics'. Robert Scott McGowen (2007) in his study stated that there lies a positive correlation between the teaching and learning resources and student's achievement. He stated the facility adequacy is directly proportional to the student's academic performance. These resources also become critical in defining the absenteeism rate and behaviour of students. McDonough (2000) in his study stated that 'technology allows educators to focus on the development of lifelong learners'. Through involvement of technology in education teachers can move on to constructivism mode of teaching that will focus less on feeding the facts to the students and rather would

empower students to engage themselves in a process of self-analysis of facts and then learn it. ArunKarnad in his study titled 'Student Use Of Recorded Lectures' brought about a yet new aspect of teaching and learning resources that focused mainly on virtual learning environment (VLE) particularly that of recorded lectures by using lecture capture technology that students could use for further reference. He stated that specific group of students use this technology varyingly but is most effective for neuro-diverse students and those who do not have an effective command over language. He states that a large majority of students are interested only in the 'summary audio podcasts' as listening to the complete lecture is time consuming for them. Kondalarao and Narayana (2014) in their study found that there was significant effect Laboratories on student's achievement in science domain. They stated that using improvised apparatus in labs allowed students to interact well with teachers and also to achieve better in their lessons. Better lab resources helped students to use their intellectual ability during learning and teaching processes. It encouraged creativity, brought learning home wards and enhanced student's achievement.

In a paper presented by UNICEF titled 'Defining Quality Education' it was stated that an effective education program in India shall use interactive video technology to reach a large number of teachers and students. Maheshwari and Raina (1998) found that 'training using interactive video technology has led to improved conceptual understanding'. According to him e-learning eliminates the barriers of time and distance, creates an ambience of universal learning. Karemera (2003) found that student's performance is significantly correlated with satisfaction with academic environment and the facilities of library, computer lab and etc. in the institution. Robert & Sampson (2011), found that the member of educational board specially faculty will be educated and their impact on school is positive, for professional development it is essential for student learning. Norhidayah Ali *et al.* (2009) in a study established that proper use of the facilities provided by the institution to the student and a good match between student's learning style positively affect the student's performance. Young *et al.* (1999), held the view that student performances are linked with use of library and level of their parental education. The use of the library positively affected the student performance.

Research Objectives and Hypothesis

The present piece of research investigation was undertaken with the following broad research objective to ascertain:

- i). The presence of proper physical infrastructural facilities as prescribed by the AICTE for Management Education Institutions;
- ii). Find out the relationship of the available physical infrastructural facilities (independent variable) with the academic attainments and placements of Management Graduates (dependent variables);
- iii). Find out the relationship of the available teaching-learning resources (independent variable) with the academic attainments and placements of Management Graduates (dependent variables); and
- iv). Suggest suitable measures for optimal utilization of physical infrastructural facilities for enhancing academic attainments and placements of Management Graduates.

In order to study this relationship between the independent and dependent variables, below mentioned Null and Alternate Hypothesis were formulated:

Null Hypothesis (One)

H0: There is no statistically significant relationship between the physical infrastructural facilities of the B-School with the academic attainments and placements of its Management Graduates.

Alternate Hypothesis

H01: There is a statistically significant relationship between the physical infrastructural facilities of the B-School with the academic attainments and placements of its Management Graduates.

Null Hypothesis (Two)

H2: There is no statistically significant relationship between the teaching-learning resources of the B-School with the academic attainments and placements of its Management Graduates.

Alternate Hypothesis

H02: There is a statistically significant relationship between the teaching-learning resources of the B-School with the academic attainments and placements of its Management Graduates.

Research Methodology

For the purpose of the research study, three Bangalore based Management institutions offering PG Management Programs were selected and primary data were captured during September 2016 to March 2017 from the 300 randomly selected final years PG Management students on different parameters included in a standard research questionnaire, which was suitably modified and field tested in consultation with the experts in the domain of management and research methodology. Basic data about the institutions and the selected students were collected from the various records available with the respective institution. The information gathered was cross-verified and doubly checked for its correctness, completeness and trustworthiness. The collected research data was analyzed and put to statistical treatment. The research findings arrived at after statistical treatment of the research data are presented in the following paragraphs.

Data Analysis and Research Findings

Table 1 given below presents the descriptive statistics of the variables under study. It speaks about the total number of respondents (300), the minimum, the maximum and the standard deviation as well as the mean drawn in respect of each of the variable under study.

Table 1. Descriptive Statistics

Descriptive Statistics					
Variables	N	Minimum	Maximum	Mean	Std. Deviation
(1)	(2)	(3)	(4)	(5)	(6)
Y	300	55.8000	80.2000	71.087500	3.4954560
x1	300	1.6400	4.2400	2.635359	.8105482
x2	300	1.5000	4.5667	2.701372	1.1107418
Valid N (list-wise)	300				

The above mentioned both the hypotheses were tested by using the coefficient and correlation approach by studying all r values and the results obtained are presented in the below given Table 2. The coefficient of correlation speaks about the type of association and the strength between the variables under study.

Table 2. Coefficient of Correlation

Variables	Correlation and N	Y	x1	x2
(1)	(2)	(3)	(4)	(5)
Y	Pearson Correlation	1	-.303**	-.272**
	Sig. (2-tailed)		.000	.000
	N	300	300	300
x1	Pearson Correlation	-.303**	1	.942**
	Sig. (2-tailed)	.000		.000
	N	300	300	300
x2	Pearson Correlation	-.272**	.942**	1
	Sig. (2-tailed)	.000	.000	
	N	300	300	300

Hypothesis Testing (Hypothesis One)

Each of the above mentioned two hypotheses were tested by using the coefficient and correlation approach by studying all r values and the results obtained are presented in the below given Table 2. The coefficient of correlation speaks about the type of association and the strength between the variables under study. Null Hypothesis One is that the 'available physical infrastructure facilities in the B-School have no relationship with the academic attainments and placements of its management graduates'. However, the coefficient of correlation between the independent variable i.e. available physical infrastructure facilities in the B-School, and the dependent variable i.e. academic attainments and placements of its management graduates is negative i.e. -.303, which is the value of coefficient of correlation r. This speaks about a weak or poor relationship in between the two variables under study. But on the other hand, this value is statistically significant as the p-value for the correlation is .000 which is much less than 0.05. Therefore, based on this statistical treatment of the captured primary research data from Bangalore city based B-Schools' graduates, it can be safely concluded that the relationship in between these two variables is not only poor but negative too. Based on the above finding, the Null Hypothesis One i.e. 'available physical infrastructure facilities in the B-School have no relationship with the academic attainments and placements of its management graduates' stands rejected as the p-value is 0.00. In view of this, the alternate hypothesis i.e. 'available physical infrastructure facilities in the B-School have statistically significant relationship with the academic attainments and placements of its management graduates' stands accepted.

The above findings of the study in respect of the Hypothesis One about the relationship in between the available physical infrastructure facilities in the B-School and their impact on the academic attainments and placements of its management graduates' are in conformity of the findings of the research studies carried out by Lyons, (2002), Schneider Mark (2002) Earthman, Glen (2002). However, this finding of the present study is also contradicted by few scholars. This dilemma in the research findings may be on account of the following reasons:

- i). Infrastructure facility not as per the norms set by AICTE for B-Schools.
- ii). Improper utilization of infrastructure facility.

- iii). Lack of maintenance.
- iv). Students at times tends to misuse the infrastructure facilities so few areas get restricted.
- v). High cost of maintenance and changing for of education industry.

Hypothesis Testing (Hypothesis Two)

Null Hypothesis two is that the 'available teaching and learning resources in the B-School have no relationship with the academic attainments and placements of its management graduates'. However, the coefficient of correlation between the independent variable i.e. teaching and learning resources in the B-School, and the dependent variable i.e. academic attainments and placements of its management graduates is negative i.e. -.272' which is the value of coefficient of correlation r. This indicates a weak or poor relationship in between the two variables under study. But on the other hand, this value is statistically significant as the p-value for the correlation is .000 which is much less than 0.05. Therefore, based on this statistical analysis of the acquired primary research data from three Bangalore city based B-Schools', it can be deduced that the relationship between these two variables is not only poor but negative too. Based on the above finding, the Null Hypothesis Two i.e. 'available teaching and learning resources in the B-School have no relationship with the academic attainments and placements of its management graduates' stands rejected as the p-value is 0.00. In view of this, the alternate hypothesis i.e. 'available teaching and learning resources in the B-School have statistically significant relationship with the academic attainments and placements of its management graduates' stands accepted. The above values and findings of the study in respect of the Hypothesis Two about the relationship in between the available teaching and learning resources in the B-School and their impact on the academic attainments and placements of its management graduates' are in conformity of the findings of the research studies carried out by Daniels (2003), Maicibi, (2003) Yara and Otieno (2010). However, this finding of the present study contradicts the findings arrived at in the research studies by some scholars, this dilemma in the research findings may be on account of the following reasons:

- i). Teaching and learning resources may be available in a B-School but not optimally used.
- ii). The present condition of the facilities included in teaching and learning resources might not meet the current quality requirement.
- iii). Lack of proper maintenance and up gradation
- iv). Lack of proper guide and guidelines to use them.
- v). Limited duration of usage.

Suggestions and Recommendations

The findings of the present piece of research investigation are quite alarming as the findings have very clearly advocated the presence of proper infrastructural facilities and the teaching-learning resources on the premises of the B-Schools for ensuring effective teaching resulting into excellent academic attainment of the students and subsequently their placements in the job market. In fact, the Management of the technical education institutions should give proper attention to these aspects as well the mandatory requirements of the AICTE and ensure strict compliance. It is necessary not merely for satisfying the mandate and the directives of the regulatory authorities/bodies but also to attract and retain good quality of

students, faculty and the support staff in their folds; and thus create an encouraging and competitive learning enabled atmosphere on the campus. Moreover, any academic institutions is always known in its environment and leaves imprints among its contemporaries, locally, nationally and internationally, only due to its quality of students produced year after year in different specialization verticals. Further, education institutions being service providers fall under the ambit of the Consumer Protection Act and are thus legally required to strictly comply with the given norms and standards for the larger good of the society. Students are always the brand and goodwill ambassadors of any academic institutions; therefore any deficiency in services provided to them is bound to attract legal actions under the relevant laws of the land.

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