Effectiveness of Industrial Visit on Learning Capacity of Female Students

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ABSTRACT

The core values of any subject expertise are recognized and realized in the realm only when practical hands-on industrial visits are done. Through this paper there is an attempt to assess the effect of industrial visit on the learning capacity of female students in Higher Education.

The study was conducted on 20 students of UCSSH, MLSU, Udaipur. The visit was conducted after taking permission from University administration and HR Department of Sangam Group.

A questionnaire was framed to collect the data from selected sample subjects before and after conduction of industrial visits. To analyze the data, Mean and Standard Deviation was taken as the basis calculation.

Results show that this type of practical training and industrial visits have a great impact on students in learning theoretical aspects with new approaches. Many terminologies, enterprise related factors, leadership experience, independency like characters are inculcated in the students during such industrial visits.Government should take the initiative to promote this type of program by making it a mandatory part of course curriculum.

KEYWORDS

Learning,Industrial visit, Effectiveness, Capacity building, Practical training.

INTRODUCTION

Learning while observing and discussions not only facilitates the teaching process but also makes the students practically trained in the field. Fashion and design in general require not only a vivid look through but also hands on wayof looking how things work.

All such industries, specifically the fashion industry is on the lookout for applicative individuals with strong roots in their subjects

Many universities round the globe, routinely conduct industrial visits making it a part of their curriculum. The effectiveness of an industrial visit depends on many factors namely Objectives, Quality of place, Efficient groups, Mindset shift post visit, Enriching experiences, Question effectiveness and Understanding level of students.

This not only ensures an enhanced learning capability but an experiential learning for a lifetime. Students are the center pools of learning, where hands on visit as well as observation play a vital importance.

Bhilwara (Rajasthan) which is known as Textile Hub of India, was selected as the base location for the study. In Bhilwara, Sangam Group (Est. 1984) is one of the foremost producers of dyed yarn, cotton and ready to stitch quality fabric with seamless knitting division also.

The fabric division of Sangam is equipped with latest technology and state of the art computerized designing looms like high speed Air Jet looms (Models includes Somet Mythos, Toyota Tappet & Jacquard, Picanol& Tsudakoma), P7100 Sulzer Tappet & Jacquard looms and Dornier Jacquard looms to produce one of the finest fabrics in Polyester/ Viscose, Polyester/ Cotton, Pure Cotton, PV Lycra and Polyester Woolen segment.

The division has 251 looms with and annual production of 30 Million meters fabric.The Group's spinning division is ranked amongst the world's largest PV Dyed yarn industry. Thus, making it the most appropriate place for an industrial visit for our students.

As per the New Economic Policy 2020, all professional education will be an integral part of the higher education system. Preparation of professionals must be based on education in the ethical direction, education in the interest of public purpose, education in discipline, and an education for practice. It must centrally involve critical and interdisciplinary thinking, discussion, debate, research, and innovation. Vocational skills development (with a view towards obtaining local employment); (basic education (including preparatory, middle, and secondary stage equivalency); and continuing education (including engaging holistic adult education courses in arts, sciences, technology, culture, sports, and recreation, as well as other topics of interest or use to local learners, such as more advanced material on critical life skills).

Field trips can be defined as a type of experiential learning that gets students out of the traditional classroom setting into a new mode of learning. It is advocated that field trips are one of the most important things educators can provide for their students as they not only expand students' learning and experiences, but also increase students' knowledge and understanding of the world in which they live.

Despite ample evidence shown through research on the effectiveness of field trips which emphasizes on hands-on, real life, and practical applications of learning, the dilemma that is faced by educators lies in providing proof of student learning for the current trend in education tends to emphasize mainly on assessments.

Keeping in mind the objectives of the study firstly, to evaluate the effectiveness of field trips as an educational tool to enhance student's understanding of the subject taught and, secondly, to show whether report writing can be used as an assessment tool to evaluate the learning that takes place via field trips.

METHODOLOGY

To conduct the present study a sample of 20 students were randomly selected from the department of Fashion Technology and Designing, UCSSH, MLSU, Udaipur. To conduct the visit permissions were taken from the university administration and the Human Resource Department of Sangam Group.

A questionnaire was developed having 20 statements covers the various aspects of industry. The prepared questionnaire was administered on selected 20 students before and after the industrial visit to assess the knowledge gain by the visit. To analyze the data, frequency, percentage, mean percent score, mean and standard deviation were calculated.

RESULTS AND DISCUSSIONS

A set of students, in a group of 20 out of the strength of 50 with facilitators conducting pre, post surveys, thus matching with learning outcomes based in synchronization with learning objectives led to a high effectiveness of the industrial visit. The questionnaires led to a better clarity in form of effectiveness and discussion with knowledge about the Industrial Unit.

Several studies (Myers and Jones, 2015; Krepel and DuVall, 1981; Kennedy, 2014) have documented that the key factor to a well-designed and eventually a successful field trip is planning. Evidently, field trips must be carefully planned so that they support the curriculum and most importantly achieve the objectives for which they were intended for. In fact, field trips have been regularly encouraged as part of teaching and learning strategy.

Table-1 Percentage distribution of the respondents by Knowledge level before and after conducting the visit

n=25

S. No.	Aspects	Existing knowledge (Before industrial visit)			Knowledge gain (After industrial visit)			Improvement (%) (After industrial visit-Before industrial visit)		
		Good	Average	Poor	Good	Average	Poor	Good	Average	Poor
		f (%)	f (%)	f (%)	f (%)	f (%)	f (%)	(%)	(%)	(%)
1.	Sangam India Limited Profile related Knowledge	1 (4.0)	4 (16.0)	15 (60.0)	13 (52.0)	7 (28.0)	-	48.0	12.0	-60.0
2.	Terminology related to a textile unit industry related Knowledge	2 (8.0)	5 (20.0)	13 (52.0)	16 (64.0)	4 (16.0)	-	56.0	-4.0	-52.0
3.	Product Range and Supply chain related Knowledge	-	2 (8.0)	18 (72.0)	15 (60.0)	5 (20.0)	-	60.0	12	-72.0
4.	Loom, Processing, Quality control and packaging related knowledge	-	2 (8.0)	18 (72.0)	13 (52.0)	7 (28.0)	-	52.0	20.0	-72.0
5.	Overall Knowledge	3 (12.0)	5 (20.0)	12 (48.0)	15 (60.0)	5 (20.0)	-	48.0	0.0	-48.0
	MPS	4.8	14.4	60.8	57.6	22.8	-	52.8	8.0	-60.8

An overview of the table reveals that students did not have good knowledge regarding Sangam India Limited Profile. Knowledge of Terminology related to a textile unit industry, Product Range and Supply chain related Knowledge, Loom/Processing/Quality control and packaging related Knowledge were all calculated and marked in low numbers, showcasing the lack of knowledge amongst students owing to the limited industrial exposure visits. The possible reason of poor knowledge may be that the aspects were technical in nature and majority of students did not have any practical training regarding process of Textile Industry.

Post knowledge test of the students was measured after visit to Sangam India Limited about Sangam India Limited Profile related Knowledge, Terminology related to a textile unit industry related Knowledge, Product Range and Supply chain related Knowledgeand Loom/Processing/Quality control and packaging related Knowledge by using the same Performa.

Regarding the overall gain in knowledge of students, table 2 depicts that MPS 57.6 respondents had 'good' knowledge and 22.8 respondents were in the category of 'average' knowledge group interestingly none of the respondents had 'poor' knowledge category which indicates the gain in knowledge after visit to Sangam India Limited.

While analyzing the knowledge improvement after the visit, it was found that60.0 per cent improvement was seen in the Product Range and Supply chain related Knowledge, 56.0 per cent improvement was observed in the Terminology related to a textile unit industry related Knowledge, 52.0 per cent improvement was assessed in the Loom, Processing, Quality control and packaging related knowledge, 48.0 per cent respondents having good knowledge about Sangam India Limited Profile and overall knowledge aspects.

The MPS score shows that majority of the respondents 52.8 % gain good knowledge while 8.0 % respondents gain average knowledge after conducting the industrial visit.

All the respondents showed their keen interest in learning the process and system of each department of each industry. The dedication in learning and exploring all things is showing by query raised by the respondents during visit. All the respondents were very curious to know whole system of industry.

Table-2 Percentage distribution of students for knowledge category

n=20

S.No.	Knowledge categories (Percent score range)	Students (%)		Mean percent score	
		Pre	Post	Pre	Post
1.	Low (0-33)	86.67	0.00	13.41	0.00
2.	Medium (34-66)	13.33	23.33	39.69	60.38
3.	High (67 & above)	0.00	76.67	0.00	75.78

Knowledge scores of students were divided into three categories i.e. 'Low (0-33%), Medium (34-66%), High (67 & above)' based on the percent scores obtained. Perusal of table 2 indicates that in pre-test majority of students (86.67%) had 'Low' knowledge with a mean percent score of 13.41 percent followed by 13.33

percent of students who had 'medium' knowledge with a mean percent score of 39.69 percent. Post test revealed a significant increase in knowledge as mean percent score of 39.69 percent students falling in 'medium' knowledge level came out to be 60.38 percent and in 'high' knowledge level 76.67 percent students had a mean percent score of 75.78 percent.

Table: 3 Knowledge acquisition of students

n=20

S.No.	Aspects	Pre		Post		t-value	Results
		Mean	SD	Mean	SD		
1.	Sangam India Limited Profile related Knowledge	9.42	9.39	37.25	8.15	-17.34	**
2.	Terminology related to a textile unit industry related Knowledge	5.58	5.76	16.5	5.07	-11.03	**
3.	Product Range and Supply chain related Knowledge	11.33	8.07	51	10.65	-22.99	**
4.	Loom, Processing, Quality control and packaging related knowledge	7.5	6.79	39.42	10.66	-19.56	**
	Overall knowledge	33.83	22.58	144.17	17.57	29.88	**

**significantly different at $p < 0.05$
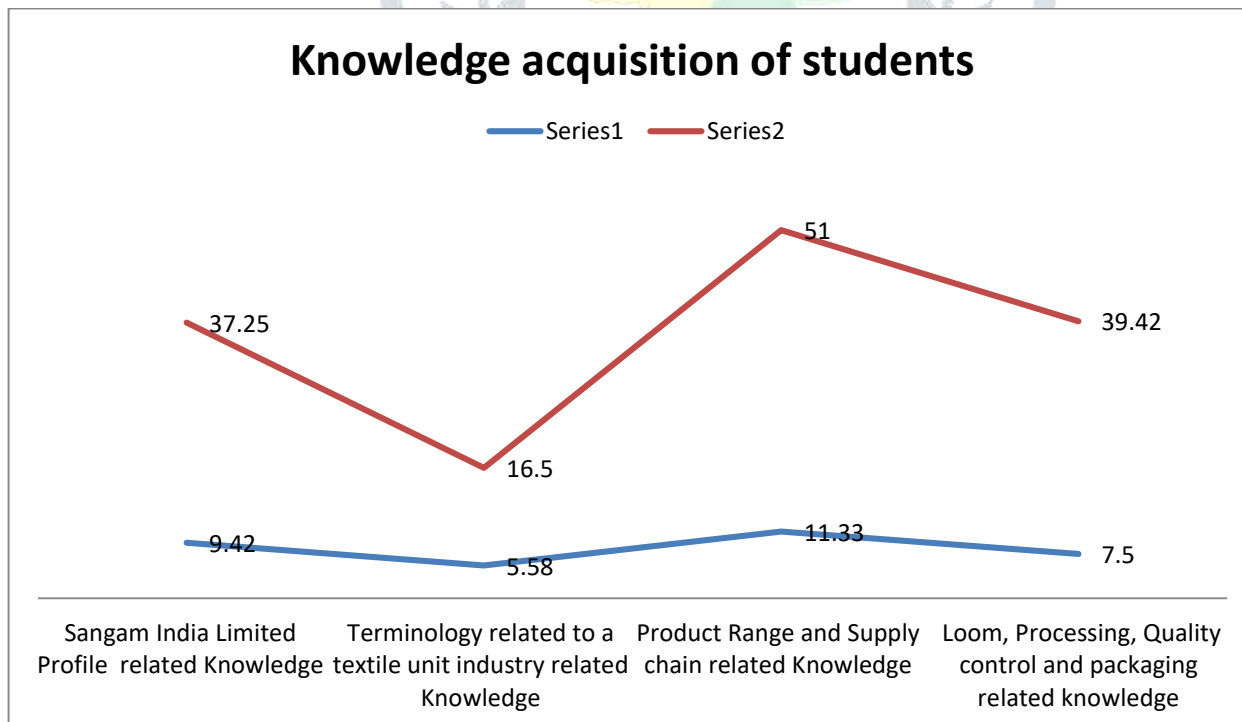
Figure 1: Knowledge acquisition of students

RESULTS & REVEALINGS

Table 2 and figure 1 highlights the significant difference in the knowledge of students at pre and post exposure stage on different aspects i.e. 'Sangam India Limited Profile related Knowledge ' (mean 9.42 ± 9.39 and 37.25 ± 8.15), 'Terminology related to a textile unit industry related Knowledge ' (mean 5.58 ± 5.76 and 16.5 ± 5.07), 'Product Range and Supply chain related Knowledge' (mean $11.33 \pm8.07$and 51 ± 10.65), 'Loom, Processing, Quality control and packaging related knowledge' (mean 7.5 ± 6.79 and 39.42 ± 10.66) and 'overall knowledge'(mean 33.83 ± 22.58 and 144.17 ± 17.57).The mean differences at post exposure stage on all the aspects were comparatively higher than that of means at pre-exposure stage of students. These differences clearly highlighted the impact of educational visit to Sangam India Limited on the knowledge level of students for different aspects of Textile manufacturing Industry.

Table 3 further displays that in case of 'Sangam India Limited Profile related Knowledge' the calculated 't' values exceeds the critical value (17.34>1.98) revealing means are significantly different. Similarly, in case of 'Terminology related to a textile unit industry related Knowledge' the absolute value of the calculated 't' exceeds the critical value (11.03>1.98), depicting means are significantly different. Further the absolute value of the calculated t in case of third aspect i.e. 'Product Range and Supply chain related Knowledge' exceeds the critical value (22.99>1.984), indicating means are significantly different. Adding on in case of 'Loom, Processing, Quality control and packaging related knowledge ' the absolute value of the calculated 't' exceeds the critical value (19.56>1.98), hence means are significantly different.

Table 4: Overall gain in knowledge of the students

n=20

S.No.		Mean	Variance	SD	t-value	Critical value
1.	Pre	33.83	509.63	22.58	29.8772**	1.98
2.	Post	144.17	308.62	17.57		

**significantly different at $p < 0.05$

Table 4clearly shows linear progression of gain in knowledge of students. An increase in average marks of students was seen from 33.83 average marks in pre-test to 144.17 average marks in post-test.

The overall calculated 't' exceeds the critical value (29.8772>1.984), indicating the means are significantly different. The findings showed that significant improvement in the knowledge of students was found as a result of exposure to training on "Productive handling of PCTW".

CONCLUSION

Experientially learning from yarn to fabric, learning machine techniques, seamless knitting unit's observations, understanding advance technologies from a deeper level changes the entire perspective of the level of analysis thus recognizing the fruitfulness of the impact of the visit in lives of designing and fashion technology students.

The use of educational field trips has long been a major part of teaching and learning strategy. Krepel and Duvall (1981) considers a call or school field trip in the interest of educational purpose, wherein the students interact either with the setting, displays, or exhibits to gain an experiential connection to the ideas, concepts, and subject matter. Field trips take students to locations that are unique and cannot be duplicated in the classroom.

Field trip provides real-world experience, increases the quality of education, and improves the social relations, outside of the four walls of a classroom. The idea behind this experiential learning is to contextualize knowledge in order to develop a deeper understanding.

Many field trips combine educational content with team-building activities, such as working together to complete assignments and projects. In fact, it is often a good idea to go on a field trip to help create a bond between the students. Good field trips can provide an integral part of the learning experience if they are planned well. The aim of this project is to consider how effective field trips are in providing contextualized knowledge and if this knowledge can then be easily transferred to work in the classroom. (MalarvizhiG. , H. Glory , S. Rajeswari , Bindu C Vasanth - 2017)

Thus, the use of an industrial visit to enhance learning of students at grass root level in   textile and designing generated a new mindset of learning outcomes in core principles of the objectives and led to a deeper practical study of the expertise, making it an enriching learning experience of teaching learning practices with applicative knowledge.

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