

Influence of Type of Management on Design of Instructor's Work station in Classroom

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ABSTRACT

The present study was undertaken to understand the association management of educational institutes and the design of the instructor workstation in the classroom in higher education institutions in the Guntur district of Andhra Pradesh. Thirty higher educational institutes were selected for the study. Four recommendations that guide the design of the instructor's workstation in class a room proposed by various higher educational institutes and official bodies. They served as a base for identifying the features to evaluate the existing instructor's workstation in a class room. The design of the instructor's workstation mainly focused on the distance between the instructor's workstation and the teaching wall, the minimum clear distance between the chalkboard and the front edge of the first row of the desk when the chalkboard is in use, the height of the instructor's seat and the instructor's console. Chi Square analysis revealed no significant association between the type of management and the instructor's workstation. The results showed that educational institutes with a relatively more number of students paid attention to the design of the instructor workstation as per standard design guide lines.

Keywords: Educational institutes, Instructor workstation, Type of management, Classroom.

INTRODUCTION

The instructor workplace enriches connections between instructors and students. It facilitates the social learning by designing flexible work space for teacher where students can easily connect and collaborate. A flexible instructor work station in the class room supplies teachers with a greater ability to effectively respond to different learners learning needs. A

learning environment helps to uplift knowledge and interest in education for the learners. The teacher's role has changed from transmitting knowledge and maintain order to facilitating learning and managing learning materials comparable teacher's equipment's in workspace. Classroom equipment gives educators the space they need with functional and affordable.

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According to Arizona Campus Technology Standards (2019) the teaching space should be equipped with proper book rests, podiums, and tables. By providing this equipment, attempts should be made to maintain aesthetics and functional compatibility with the overall decor of the room. Podium was preferred in lecture hall. In classrooms where the instructor's workstation was movable, adequate space must be provided to allow the workstation to be positioned at least 3 feet away from the teaching wall. The class room should be well-appointed with static tables and seating. The front edge of the instructor's workstation must be at least 7 feet and maximum 10 feet away from the front row when the class room was with fixed seating.

Classroom Support Services Design Guide (2008) suggested that the seating should be fixed riser mounted with folding tablet arm. Provision of podiums is very important in lecture hall. The front area must be large enough to give a minimum of 3 feet 5 inches for instructors to stand behind the podium and/or desk and still allow free movement of students between the front of the podium/desk and the seats.

As per design guidance of University of Cincinnati (2003) class rooms includes instructor workstations, designed to accommodate computer-based audio-visual systems and other commonly-used audio-visual components. Instructors who are standing, seated. Workstations shall be oriented to allow instructors to maintain eye contact with students while using keyboards and allow students to see projected media. In class rooms with one screen, an instructor workstation on the left side of the instructor area, marker boards in the center, and a screen in the right corner usually works well. In large rooms with multiple screens, a workstation located on the left side of the instructor area, near the marker board and overhead projectors, usually works well, but a more central location may be preferable in some class rooms.

University of Iowa (2001) the recommended furniture item such as tablet arm

chairs that were large and comfortable for use by people ranging in size from the 5th percentile female (4' 11" tall, 113 pounds) to the 95th percentile male (6'2" tall, 246 pounds). The recommended dimensions for Instructor console, approximately 2 feet 5 inches depth, 6 feet width and 3 feet 3 feet height.

According to Bureau of Indian Standard (1978) the distance from the teaching wall to first row should be 7 feet 2 inches approximate. (2200 mm); Student desk should be 3 feet 6 inches by 1 feet 4 inches

Freeman et al. (2014) suggested the instructor's station should possess extra features to accommodate the additional lighting and sound options. Electrical and other outlets, lighting and projector controls, voice amplification systems i.e. microphones and speakers, and other controls for equipment in the room need to be readily accessible to the instructor. The podium area should possess a command console, along with enough space to accommodate equipment or materials the instructor plan to use for class.

MATERIALS AND METHODS

The study was conducted in the Guntur district of Andhra Pradesh in the year 2020. A list of higher education institutions was made and they were selected by random sampling techniques. Thirty higher educational institutes willing to take part in the investigation were selected for the study included not only universities and colleges but also various professional colleges that provide preparation in such fields as engineering, agriculture, medicine, and pharmacy. An interview cum observation schedule was used for data collection. Four design features such as (i) The distance between the instructor's workstation to teaching wall should be 3 feet, the front edge of the instructor's workstation must be at least 7 feet (ii) Maximum 10 feet from the front row when the class room with fixed seating (iii) Height of instructor's seat should be 1 feet 5 inches – 2 feet 2 inches above floor (iv) Instructor console,

approximately 2 feet 5 inches depth x 6 feet width x 3 feet 3 feet height that guide the instructor's workstation in a class room proposed by various higher educational institutes and official bodies served as a base for identifying the features to evaluate the on hand situation of instructor workstation design in the existing class rooms. Instructor workstation design features were evaluated in terms of these standard features. To quantify the responses, score 3 was given in case the existing feature was 'fully provided' as per the recommendations. score 2 was given in case the existing feature was 'partially provided' and score 1 was given in case the existing features was 'not at all' provided in the classroom. Thus the probable score each respondent institute can get was between 4 and 12. The results were interpreted such that the higher the score, higher was the probability of the design of instructor's workstation as per the recommended guidelines.

The hypothesis formulated for the study were $H_0 =$ There exists association between type of management and instructor workstation design in a classroom. Hence, the chi-square test and Regression was used as a statistical tool to study the association and percentage contribution. The Year of the establishment of the institution, type of management, and the total strength of the college were identified as independent variable.

RESULTS AND DISCUSSION

Background information of the institutes –

The type of educational institutes selected for the study were categorized as government, government aided, private and autonomous. Out of total sample 36.66% of the institutes were under the category of private management, 30 % of the institutes were under the management of government, 30 % of the institutes were under the management of government aided and remaining 3% under the autonomous institutes.

Existing instructor workstation design

An attempt was made in the present investigation to study the existing classroom design in higher education institutions.

The existing instructor's workstation design was evaluated in terms of standard design guidelines documented in the study. Almost three fourth of the institutes of the study sample provided minimum of 3 feet 5 inches area for instructors to stand behind the podium and/or desk and for free movement. The recommended distance between instructor workstation to first row was followed more than one fifth of the educational institutes. More than 70 per cent (73.33%) had not paid attention towards clearance spaces. 63.33 per cent of the educational institutes recommended design guidelines when designing instructor's seat height. Slightly less than half of the educational institutes designed instructor's console as per recommendation.

Table 1: Educational institutes by Instructor's workstation

Design features	Above the recommendations		As per the recommendation		Below the recommendations		Total	
	N	(%)	N	(%)	N	(%)	N	(%)
Minimum of 3 feet 5 inches area for instructors was required to stand behind the podium and/or desk and for free movement.	12	40	7	23.33	11	36.66	30	100
The front edge of the instructor's workstation must be at least 7 feet and maximum 10 feet from the front row when the class room was with fixed seating.	0	-	8	26.66	22	73.33	30	100
Height of instructor's seat should be 1 feet 5 inches – 2 feet 2 inches above floor.	7	23.33	19	63.33	4	13.33	30	100
Instructor console should be approximately 2 feet 5 inches (d) x 6 feet (w) x 3 feet 3 feet (h).	4	13.33	14	46.66	12	40	30	100

The distance between front row to instructor's workstation was neglected by more than 70 per cent (73.33%) of the institutes. Instructor table was not as per design specification in 40 per cent of the educational institutes.

Association between type of management, year of establishment, strength of the college and instructor's workstation

To test the hypothesis, the following null hypothesis was formulated. H_0 : There exists no significant association between type of management, year of establishment, strength of the college and instructor's workstation

There were four standard design recommendations to measure the variable "instructor's workstation". Chi-square analysis was used to find out the association between dependent and independent variables. Question-wise chi-square test was performed for dependent and independent variables and considered the total number of observations as the number of questions multiplied with the size of the sample. Thus the total observations were $4 \times 30 = 120$.

Table 2: Association between type of management, year of establishment, strength of the college and instructor's workstation

Independent variables	Instructor's workstation				Level of significance
	Above the recommendations	As per the recommendations	Below the recommendations	Total Observations	
Type of Management					
Government	8	13	15	36	Not significant
Government aided	1	2	1	4	
Private	9	16	19	44	
Autonomous	5	17	14	36	
Total	23	48	49	120	
X^2 value	2.0031				
Probability	0.9194				
Year of establishment					
Below -1990	7	20	13	40	Significant at 5 per cent level
1991-2000	13	13	26	52	
2001-2017	3	15	10	28	
Total	23	48	49	120	
X^2 Value	9.692				
Probability	0.0459				
Strength of the college					
Below 1000	6	13	21	40	Not significant
1000- 2000	13	18	17	48	
2000- above	4	17	11	32	
Total	23	48	49	120	
X^2 Value	6.6946				
Probability	0.1529				

The recommended distance between instructor workstation to first row was followed by more than one fifth of the educational institutes. Nearly three fourth of the institutes had not paid attention towards clearance spaces. More than half of the educational institutes followed recommended design guidelines when designing instructor's seat height. Slightly less than half of the educational institutes designed instructor's console as per recommendation. The distance between front row to instructor's

workstation was neglected by majority of the institutes. Instructor table was not as per design specification in 40 per cent educational institutes. Chi Square analysis revealed no significant association between type of management and instructor's workstation. The institutes established relatively later were found paid attention in designing a comfortable instructor's workstation.

Percentage contribution of type of management, year of establishment and

total strength of the educational institutes towards the existing class room instructor's workstation

Regression analysis was performed to estimate the contribution of three independent variables viz., type of management, year of

establishment, and the total strength of the institutes towards the dependent variable (instructor's workstation) of the study. The percentage contribution of total strength of the institute was up to 69.18 followed by year of establishment up to 19.95.

Table 3: Percentage contribution of type of management, year of establishment and total strength of the educational institutes towards the existing class room instructor's workstation

Dependent variable	Independent variables	Estimate	Std Err	t Value	Pr> t	Percentage contribution	Rank
Instructor's workstation.	Type of management	-0.07	0.19	-0.39	0.70	10.87	3
	Year of establishment	-0.14	0.30	-0.46	0.65	19.95	2
	Total strength of the institute	0.34	0.28	1.19	0.24	69.18	1

The major predictor of instructor's workstation design in educational institutes was total strength of the institute. Institutes with relatively more number of students paid attention to design of instructor workstation as per standard design guide lines. One fifth contribution for instructor workstation design was from year of establishment and one tenth was from type of management.

CONCLUSION

The present study evaluated the influence of type of management on design of instructor workstation in classroom. Statistical tool, Chi Square analysis revealed no significant association between type of management and instructor's workstation. The institutes established relatively later were found paid attention in designing a comfortable instructor's workstation. One tenth contribution for instructor workstation design was from type of management. The institutes established relatively later were found paid attention in designing a comfortable instructor's workstation.

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