

ABSTRACT

Design of an Ergonomic Learning Environment for IBM Trinidad

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This project involved the design of three different learning environments, each suited for a specific application. These rooms are intended for use by IBM Trinidad to facilitate technical and non-technical courses for business professionals. Extensive research was done on published international classroom design guidelines. Most of these resources were developed by foreign universities and hosted on the internet. Anthropometric and ergonomic theories were also explored via traditional printed material.

The specifications outlined in these guidelines were used to develop alternative designs for each of the three rooms. The ergonomic value of each environment was analyzed with specific emphasis on its advantages and disadvantages. A mathematical approach known as Criteria Rating was employed to aid in the selection of final designs for each of the three environments.

Room Orientation, Room Dimensions, Doors and Windows, Seating Arrangement, Workstation Dimensions, White Board and Projector, Acoustics and Lighting Technology were explored in detail for each of the chosen designs. Generally accepted design procedures were employed with specific emphasis on lines of sight and user comfort. Microsoft Visio and AutoDesk. AutoCAD graphics application were used to create scaled drawings of these learning environments.

The designs developed were based on foreign university standards and hence needed to be adapted for teaching and learning within IBM Trinidad. A review of the company's corporate policies and procedure was undertaken and the designs altered as necessary. User feedback via student assessment forms were also used to further tweak the designs to best fit the Caribbean business professionals.

A cost estimate was conducted for each of the learning environments to ensure its construction was financially feasible. The costs involved were derived from the historical costs of similar projects and contractors' estimates. Payback period for the construction of each room was calculated and found to be within the company's financial guidelines.

The author has included a discussion outlining the limitations of the classroom and illustration of the link between ergonomic designs and profitable business.

Keywords: Paula Rajnauth; Ergonomics; Ergonomic Design; Classroom Design; Learning Environments.