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Title: Transition from open plan office design, to activity based work

Author’s Name: David C Caple¹, Lawrence J Chan², Angela Geest²

Affiliation: David Caple & Associates Pty Ltd¹, AUSTRALIA
Westpac Banking Group², AUSTRALIA

Introduction:

This project was undertaken between 2012-2015 as part of the design and construct of a new office tower to operate as the international office for a major banking group. The focus behind this new office project was to consolidate different property portfolios into one central building and to provide an opportunity to implement a flexible work environment for managers, staff and clients. The primary focus of the architectural brief, was to design a workspace to incorporate the principles of activity based work (ABW) for this next generation of office design.

This building will be designed to host approximately 5,800 workers. Part of the concept of activity based work is that for every 11 or 12 workers, there would be 10 ergonomically adjustable work points provided. This is on the basis that at any time, up to 30% of the staff are not utilising a workstation, but are attending meetings, absent from work, or utilising informal break out areas.

One of the drivers for innovation with this project was to provide a “green” work space that reflects the criteria set out by the “Green Star” accreditation process. One element in this process included a Certified Professional Ergonomist (CPE) providing an independent assessment of the design from an ergonomics perspective.

Project Methodology:

1. Meetings were arranged with the architect to conduct desktop ergonomics evaluations of the proposed layout of each floor within the new office building. This required consideration of compliance to relevant Standards including circulation spaces, emergency exits, access for people with disabilities, as well as the dimensions of the workstations and shared work points.

2. Site visits were conducted to the suppliers of workstations that were short listed by the client for this project. During the site visits, measurements and functional assessments were undertaken of the different furniture items to determine compliance with ergonomics requirements. This included elements such as workstations, chairs, monitor arms, storage units, casual seating, and team tables. Other items assessed included lockers, utilities areas, video conference and teleconference rooms. The ergonomics data and ranking was provided back to the architect as part of their overall scoring in selecting the final tender.

3. Consultation occurred with representatives from the staff in relation to the functions that would be undertaken at each work point type. One of the major determinants in this evaluation was to understand what technology would be required and how it would best be supported on the different work points. This included the growing utilisation of dual LCD monitors, as well as one large LCD monitor and a laptop located on a stand beside it.

4. A pilot floor was established for occupancy by different user groups with up to six weeks per group allocated to this area. Visits were made to the pilot floor and informal consultations and observations made with the staff. This enabled further input into the functional suitability of the different fitout elements and how the overall layout of the ABW environment was working to suit their needs. This included environment aspects such as lighting, noise, and privacy.
5. A final report was prepared to summarise the overall outcomes of the ergonomics review. This was documented as an “Ergonomics Technical Note”. This has now become the basic ergonomics input towards future office design projects based on the ABW principles.

Project Findings:

1. The following chart provides the results of the subjective feedback from the staff who participated in the pilot project.

![Employee Experience Survey Results Chart]

It is evident that since the introduction of ABW the feedback from the staff on a range of work assessment parameters has been positive compared with the pre trial levels.

2. The assumptions that were made about the benefits of standing work points particularly for short term interactions such as meetings, were not found to be supported in practice. It was observed that the meeting rooms that provided chairs were most frequently used and those that were designed solely for standing were infrequently used. Follow up introduction of stools compatible with the standing height table, found that these rooms were utilised more often to enable those staff who did not find standing comfortable, to have an alternative to sit.

3. In relation to the preference of work points selected by the staff, it was found that their first preference did not relate necessarily to the postural opportunities with the work point, but more typically where the work point was in relation to areas deemed to be quieter, or more active. As a result, the work points that were closest to the external windows were the most popular for staff to select in the first instance. Those that were adjacent to noisy areas where staff interaction was more predictable, tended to be less frequently used.
4. It was also found that individual work points were preferred over sitting at large tables shared with other workers. These large tables tended to be more used for “drop in” such as between meetings to check emails etc. Where staff were working as a team then the large tables were frequently used for collaborative work.

5. In relation to the sit to stand individual work points, there were some staff who became advocates for standing for the majority of their working day. However, the majority of staff, still preferred to sit for the majority of their day at an individual workstation. This was when the workstation was lowered to clerical height and they sat on an office chair. The other alternative when it was adjusted to standing height.

6. The other major finding was the high uptake of casual meeting spaces where staff moved away from workstations with their mobile technology, i.e. laptops and ipads. These were arm chairs, couches, or other more relaxed areas, often in close proximity to the tea room and break out areas.

Discussion:

Significant research has been undertaken on the benefits of providing a variety of work points, and in particular, increased standing and walking during the working day, (Dunstan et al, 2012; Dunstan et al 2013; Larson et al 2014; Neuhaus et al 2014; Neuhaus et al 2014).

It was evident that the two year program involved in selecting the design and the “kit of parts” to be used in this new office fitout required active participation from an ergonomics perspective. This was within the context of the ergonomist being part of the design team, together with the architect, interior designers, client management, and client representatives.

Some of the initial assumptions about the preference of staff to work together and to move between work points, particularly those offering the option to stand, was not found during the pilot trials. There are still many staff who prefer to sit for the majority of their working day, and are happy to move to casual areas to sit and socialise whilst undertaking work duties with mobile technologies. However, the expectation that staff will stand for prolonged periods during meetings, or at workstations, was not found to be their preferred behaviour.

It was also noted that a large design project needs to integrate the full spectrum of diversity in the design model including those with specific access needs such as pregnant women, as well as those with particular disabilities. It was important to ensure that they were not excluded from using collaborative work spaces as a result of particular design elements such as couches, booths, as well as standing only work points and lockers.

Conclusion:

This project was undertaken over a two year period to integrate an ergonomics contribution into a new activity based work (ABW) office work environment. The development of the “Ergonomics Technical Note” occurred during this period by taking the specific dimensions and performance requirements for each element included in this fit out.
References:


Dunstan et al., (2012), “Too much sitting – A health hazard”. Diabetes Research and Clinical Practice 97, 368-397,


Neuhaus et al., 2014; "Workplace Sitting and Height-Adjustable Workstations - A Randomized Controlled Trial". American Journal of Preventative Medicine 46 (1):30–40