

Critique essay windows in the workplace examining issues of essay examples

[Education](#), [Sustainability](#)



Environmental sustainability and occupant comfort in

The selection of multi-glazed windows

The purpose of this paper is to provide a thorough critique of the research paper Critique Essay: Windows in the workplace: examining issues of environmental sustainability and occupant comfort in the selection of multi-glazed windows by G. F. Menzies and J. R. Wherrett. The critique will be formatted in the following order: a) Factual summary, b) Contextualization, c) Critique, and d) Conclusion.

1 Factual Summary

The work environment of an organization consists of various factors such as working conditions, interpersonal relationship and the workplace itself. A workplace consists of the physical environment that an employee interacts with throughout the day at the office. The workstation, equipment, stationary, furniture as well as the office premises itself are all integral parts of a workplace. However, there are certain aspects of a workplace that do not gain enough attention as their impact on an employee's performance or other benefits may be relatively unknown. For example, ergonomics is a subject that has gained tremendous exposure in recent times after the effects of well planned furnishings and equipment came into light.

One such feature of a workplace that does not get due consideration are windows. Windows play a crucial part in making the work environment of an office comfortable. They contribute to the psychological and environmental

well being in the workplace. The design of a window can not only boost employee job satisfaction, but it also has several other benefits such as reduced expenditure on heating or cooling achieved through optimally glazed windows. Window panels that are made for bio-degradable or sustainable materials such as wood are also considered to be environmentally friendly. Ample daylight and having a view of the outside world have been known to have a positive psychological effect on employees. However, non-glazed windows may aggravate glare and passive solar heating which can cause issues.

In the research paper titled ' Windows in the workplace: examining issues of environmental sustainability and occupant comfort in the selection of multi-glazed windows', the authors G. F. Menzies and J. R. Wherrett rely on three studies to analyze the problems pertaining to comfort and sustainability when different types of multi-glazed windows are used in a workplace. First, a focus group consisting of professional architects was interviewed in order to ascertain the impact of glazed windows on productivity and sustainability. Secondly, four buildings with different glazing specifications were studied to analyze the effect on the level of energy consumed. Finally, a post occupancy survey was conducted in the same buildings to study the level of comfort.

The purpose of these studies was to examine whether sustainability or design of a window has a greater impact on energy conservation and the comfort level of occupants on the building post occupation. The results from the four studies showed that so far as windows are concerned, architects

gave preference to productivity and comfort when compared to environmental friendliness and sustainability when designing windows. It was also found that the design of the building had an impact in the efficiency of multi-glazed windows in energy conservation as well as comfort to occupants. Hence, the authors conclude that window design has a greater influence on productivity and comfort than sustainability.

2 Contextualization

The paper seeks to address a key issue that concerns the modern day architectural society. With growing concerns around the world on the impact that human interaction has on the environment, it is crucial that every aspect of human life that has a negative impact on the environment needs to be checked. At the same time, getting the maximum benefit from every resource is an outcome that every institution seeks to attain. The architectural field caters to almost every key aspect of human life. Housing, office spaces, industrial buildings, educational institutions and any work that needs to be carried out in an enclosed space needs the input of architectural knowledge.

Windows in the workplace are an often overlooked aspect when considering the overall design of a premises. However, Menzies and Wherrett give proof early on by stating that level of energy loss attributed to poorly planned windows. A total energy consumption of 3% in the USA and 7% in Sweden is lost as a result of heat loss or gain through windows . This data also highlights the extent of the impact that windows have on the environment, making sustainability design a desirable trait of windows in the modern

world. However, the authors seek to analyze whether this aspect of windows, is given its due attention, especially in the case of multi-glazed windows. For this purpose, they conduct a thorough analysis, which takes into account the views and perspectives of architects, occupants and the environment itself, via the four studies that they had undertaken.

The topic of the research paper is quite relevant to several of the subjects covered in the Environmental and Sustainability Assessment, Management and Post Occupancy Evaluation module as the studies address each of these key constituents in relevance to the design and use of windows, which are one of the most common features of any architectural creation, especially workplaces. Through their research, the authors seek to highlight the gap between the impact that window design, especially of multi-glazed windows, has on the environment and the level of preference that is laid in sustainability when compared to productivity and post occupancy comfort.

3 Critique

The authors have relied on three individual studies in order to gain an insight into the relevance of design of multi-glazed windows to sustainability when compared to comfort and productivity. A target base of architects, occupants and buildings was chosen to gain a comprehensive analysis from different perspectives. Needless to say, this represents a great amount of individual data that need to be analyzed as a standalone as well as seen as a ' bigger picture' in order to draw reasonable conclusions. Hence, it is important for

the understanding of readers of the article, that the data, its analysis and conclusions drawn are placed in an easy to read and logical structure.

The authors follow a simplistic structure when presenting their study in the paper. They begin by providing an abstract that conveys a gist of the topic, the studies and the results. However, the abstract does not contain any portion of the conclusion or relay what benefits are expected from the outcome. The purpose of the research itself is also not stated clearly in the abstract. Hence, it can be said that the abstract does not give a comprehensive and clear picture about the paper. The abstract is followed by an introduction to the topic of windows in a workplace and the predicament of architects and engineers who are told to bear in mind comfort as well as sustainability when designing spaces. It also clearly states that, the comfort of occupants and control over the internal environment is often given greater emphasis than sustainability .

A section of the introduction is dedicated to the importance of windows in productive and sustainable buildings. The introduction gives a good overview of the current scenario of the perception of using glazed windows. However, it goes on to state that the inter-relationship between productivity and environmental stability is the purpose of the studies that have been conducted by the authors. This seems to deviate from the research conclusion stated in abstract which states that ‘ comfort and productivity in the workplace is related more to design factors than to sustainability factors’ . This reveals a lack of clarity and focus at the very onset of the paper with the reader being unclear as to what the paper aims to convey.

Next, the authors provide a background section which is further divided into two segments, namely: a) environmental sustainability, and b) post-occupancy studies. The first segment appears to be a continuation of the section of the introduction dedicated to the importance of windows to environmental stability. However, this next segment provides more specific detail on how exactly windows impact several factors such as energy conservation, thermal performance and insulation . Particular features of windows such as frames, coatings and glazing cavities, and their impact on environmental stabilities is also discussed in detail. However, it would have been structurally better if the two segments pertaining to windows and their effect on environmental sustainability would have been clubbed together instead of being mentioned separately as parts of the introduction and background.

The second segment of the background focuses on the importance of a post occupancy survey to analyse the effectiveness of a building's design. It lists a variety of reasons why windows in a workplace contribute positively towards energy efficiency and the need for daylight . While discussing why windows are preferred in a workplace by both, employers as well as employees, the authors also point out several negative aspects of glazed windows. They cite the fact that many people find glares and reflections on their computer screens , as well as noise coming through open windows to be discomforting . It should be noted that the authors provide reasons for there being a disagreement on the use of windows and the predicament it causes to architects as well as the inhabitants of a building. However, while sufficient coverage is given to post-occupancy issues, the perspective of

architects could be further elaborated.

In the next section of the paper, the authors discuss the methods they used in the three studies, elaborating further on the focus groups and the selection of case study buildings. They mention that they have relied on qualitative surveys based on semi-structured interviews instead of using questionnaires in order to gain data for the first study which was aimed at architects. For the second study where four buildings with glazed windows mounted on frames using different materials were examined, the authors have used a case study method and list their mode of observation, inclusions and exclusions and reasoning behind the selection of this method. Finally, for the post occupancy study, they authors used questionnaires for a target group of occupants of the four buildings that were used for the case study. This part of the paper is comprehensive, clear and concise, providing sufficient information without wasting words.

The results section of the paper forms the largest portion of the paper and rightfully so. The authors segregate the findings first by the individual studies, each being further categorized based on sustainability, and comfort and productivity issues. Through the first study involving architects, it was found that, while there is a willingness among clients, supplier as well as the architectural community to factor in the sustainability issues when selecting window design, cost and performance take predominance when the final selection is being made. The research was able to isolate various reasons why sustainability takes a back seat. Further, comfort to occupants was found to be the most important consideration when design windows when compared to building layout, heating and ventilation, and window

performance. The data collected through the case study buildings is organized onto two tables while the findings of the survey of occupants is shown through a figure. However, in both these cases, the findings are not elaborated and readers may face difficulty in understanding the results simply through tables and figures. A more detailed explanation, as in the case of the qualitative study of architects, would have proved to be more effective.

The results mentioned in the earlier segment are discussed at length in the discussions section of the paper. Once again, the authors segregate the discussions based on the individual studies. However, case study of the buildings is given more emphasis than the qualitative survey and the post occupancy survey. The discussion of the qualitative survey is more or less a reiteration of the information given in the results segment of the same study. Further deductions on this aspect seem needed. The same applies for the post occupancy survey discussion, which is brief but does not seem to provide an in-depth insight on the subject. The case study of the buildings is far more proportionate, giving sufficient diagnosis of the different materials used in the windows of each building, their impact on performance, sustainability and post occupancy comfort.

The paper ends with a conclusion which is a summary of the findings of the three studies and their implications. While the conclusion effectively summarizes the paper, as mentioned before it does not mention any benefits that the architectural community may derive from this research. Also, it does not make any suggestions on further research that may be needed into the subject nor does it provide any recommendations to address the issues of

sustainability and performance that have been the main criteria of the research. Should these two aspects of a study have been included in the conclusion, the paper would be more comprehensive than it is now.

4 Conclusion

The paper ‘ Windows in the workplace: examining issues of environmental sustainability and occupant comfort in the selection of multi-glazed windows’ by G. F. Menzies and J. R. Wherrett aims to provide a comprehensive view of the issues of sustainability and performance surrounding the use of multi-glazed windows in the workplace. For this purpose, the authors have effectively conducted three studies and have provided adequate data and analysis in most sections of the paper. However, the lack of a clear direction or purpose mentioned in the abstract or the introduction reduces the clarity of the paper. While the paper is well structured, the information and discussion is not always well balanced.

Through the studies conducted, the authors are able to deduce that, while multi-glazed windows do have a definite benefit when it comes to energy conservation, post occupancy comfort and environmental sustainability, there are far too many factors that influence this outcome, making the efficiency and performance of such windows highly volatile. The authors, however, fail to make any recommendations to address the issues pertaining to sustainability and performance that are faced by architects, clients, suppliers as well as occupants. This is a major drawback of the paper as the

ultimate purpose of a research is to contribute to the progress of a given community or body of knowledge.

A better understanding of the problems that the application of a sustainable design of windows faces will enable the architectural community to not only increase the use of but also boost the efficiency of multi-glazed windows. In times when environmental sustainability is fast becoming the need of the hour, the application of such knowledge could prove to be highly beneficial to the world at large. In order to address the issues isolated by this paper, further research would be necessary on the perception of clients as well as the architectural community on how sustainability can be given greater preference than it current receives in relevance to the design and use of multi-glazed windows.

Works Cited

Baird, G., & Kendall, C. (2002). The MSCS Building, Christchurch, New Zealand— a case study of integrated passive design, low energy use, comfortable environment, and user satisfaction. CIBSE National. London: Royal College of Physicians.

Ballinger, J., & Lyons, P. (1996). Advanced glazing technology for Australia— research and application. *Renewable Energy* , 28 (5-6), 353-367.

Boyce, P., Hunter, C., & Howlett, O. (2003). The Benefits of Daylight Through Windows. Retrieved June 19, 2012, from Lighting Research Center, Rensselaer Polytechnic Institute, USA: [http://www. lrc. rpi. edu/programs/daylightdividends/pdf/](http://www.lrc.rpi.edu/programs/daylightdividends/pdf/)

Christoffersen, J., Johnsen, K., Petersen, E., & Valbjørn, O. (2000). Daylighting

and window design: post-occupancy studies in office environments. *Light and lighting* , 19, 31-33.

Leslie, R. P. (2003). Capturing the daylight dividend in buildings: why and how? *Building and environment* , 38, 381-385.

Menzies, G. F., & Wherrett, J. R. (2005). Windows in the workplace: examining issues of environmental sustainability and occupant comfort in the selection of multi-glazed windows. *Energy and Buildings* , 37, 623-630.

Menzies, G., & Wherrett, J. (2003, September). Issues in the design and selection of sustainable multi-glazed windows: a study of qualitative issues in Scotland. *The Worldwide CIBSE/ASHRAE Gathering of the Building Services Industry International Conference* .

Robinson, P. D., & Hutchins, M. D. (1994). Advanced glazing technology for low energy buildings in the UK,. *Renewable Energy* , 5, 298-309.