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## A blue future might await WMU

Going green has been all the rave lately, but soon Western Michigan University may be going blue.

An exploratory agreement has been reached between NatureBright, a revolutionary lighting company, and WMU's College of Aviation to supply the college with over 2,000 of the company's Sky Effect light bulbs to study their effects on learning, concentration and attentiveness.



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The Sky Effect technology uses bulbs that emit a blue tinted light to better simulate the frequencies of a clear day with a bright blue sky. According to research conducted by the company, the inner eye has a third receptor contained within the retina that doesn't necessarily see light, but responds to different light frequencies all the same.

Studies have shown that this receptor responds most favorably to blue light and then sends signals to the area of the brain that controls sleep, as well as hormonal and emotional functions.

The theory behind NatureBright's lights is that the blue tint will better allow the body's natural inner clock to coordinate with the time of day to promote proper sleeping and eating habits combined with a better sense of well being and increased energy.

The project, which is being spearheaded by aviation professor Lori Brown, who has also contributed various writings and presentations to the aviation industry, is only in the opening stages as the lights were installed in select classrooms at the College of Aviation's Battle Creek campus earlier this month.

Research gathered by Brown explains the process of how these lights work with a little more detail.

"Researchers have been able to demonstrate that bright light pulses of 10,000 lux, at about 30 minutes a day, were able to help adjust employees to new circadian rhythms. The light entering the retina is said to affect neurons in the suprachiasmatic nuclei (SCN) of the hypothalamus, which is the compound that affects circadian light/dark cycles in humans. These neurons secrete a chemical called vasopressin, which studies have shown is a neuropeptide involved in synchronizing these cycles. These neurons once again begin secreting vasopressin, allowing the subject to redevelop a normal sleep cycle."

The Sky Effect lights, along with other products from NatureBright are being used in various studies with flight attendants and pilots to see their effect on minimizing fatigue during and between long haul flights with short turnarounds between flights. Many flight crews are forced to work long shifts with odd and varying sleep cycles, which many times promote a fatigued condition. Researchers are hoping to find links between using this new technology and decreased fatigue along with enhanced performance among flight crews.

“Decreasing fatigue and its associated errors would increase safety and enable operational improvements to further meet business requirements of today’s airlines, especially in these lean times,” said Brown.

Brown sites that research conducted by NASA and Airbus have both shown positive results pertaining to fatigue as well as other elements, and that the only real drawback to the technology is whether or not students and staff here at WMU and flight crews in the aviation industry, will be willing to accept a different shade of light in their everyday environments.

The College of Aviation, Nature Bright, and Dr. Idzikowski from the Sleep Specialist Center in the UK, have collaborated on a pilot study designed to research the viability of high lux lights to mitigate fatigue for pilots, flight attendants and air traffic controllers.

The study will use the Dia portable light therapy unit, another product from NatureBright. The Dia portable device emits 5000 Lux Sky Effect light (LED source) and is rechargeable. The benefit of this is that if pilots and flight attendants need to use light therapy when they are away or during flight, this portable unit can be used to help reset circadian rhythms.

If additional benefits of NatureBright’s lights were needed, the company claims that their lights are not only blue, but also green. The Sky Effect bulbs are up to 30 percent more efficient than standard fluorescent bulbs and have an average life of over 10,000 hours per bulb.

NatureBright is attempting to revolutionize our lives in a way that is both very simplistic and very complicated. Few of us have probably ever considered the affect that light has on our daily moods and natural cycles, but that effect might be substantial.

Research will be conducted throughout the summer and feedback will be vital for the lighting already installed at the College of Aviation. If a blue shade of light is something that can be accepted by the majority of the WMU community, a blue future may await you when you return for the fall semester, or sometime in the more distant future.

Nonetheless, summertime is coming and we’ve got some 100 percent natural blue light to enjoy for the next few months. Only finals week is in our way, so buckle down, pass your classes, and get ready to enjoy summer.

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