The connection between Mind Rest, Creative Mindset, and Productivity:

Exploring the Influence of Surrounding Environment and Effective Strategies

Abstract

This research delves into the relationship between mind rest, creative mindset, and productivity, focusing on the impact of the surrounding environment and effective strategies to foster creativity. Through a review of multiple existing literature sources, the interconnections between mind rest, creative thinking, and overall work performance were examined. The findings highlight the types of creativity and the way creativity is fitting in ICT. Furthermore, the regular periods of mind rest, such as breaks and leisure activities, are essential for replenishing cognitive resources and enhancing creative thinking. Last but not least, the surrounding environment significantly influences individuals' creativity and productivity. The paper also discusses effective strategies that can be employed to stimulate the transition into a creative mindset such as change of environment, socialization, mindful rest (meditation), etc. The insights derived from this research provide valuable information that would be used as starting point in a futute user research into improving the productivity feel and happiness of the inhabitants of the Fontys University TQ Building, Eindhoven, The Netherlands.

Contents

What are the relation between mind rest, creative mindset, and productivity?

In order to understand what the link between mind rest, creative mindset and productivity is, it is required to understand the topics separately first.

Creative thinking and Computer Science

At the mentioning of the word "creativity", most people think in the direction of art or music or other artistic medium. However, creativity can be shown in other ways and does not necessarily need to be connected to an artistic product.

Why is creative thinking important?

Creativity is present in the way of thinking. Therefore creative thinking can show multiple solutions to a problem. By having developed creative thinking people can reach to an innovative solution quickly. Creative way of thinking makes people better problem-solvers. ~ *(Wooll, 2021)*
In the article *"What is creative thinking and why does it matter?"* from BetterUp it is stated that

creative thinking can take different forms most often fitting in one of 5 groups (on the image above).

Divergent thinking represents traditional brainstorm session. People come with as many ideas as possible. **Convergent thinking** uses a logical approach, it requires the gathering of facts and

the discovery of the most common solutions to the given problem. **Inspirational thinking** requires imagining the best-case scenarios in order to find a solution to a problem. **Aesthetic thinking** focuses on looking fot the beauty and value of a problem as if it were a painting. **Expressive, creative** thinking helps us challenge our own assumptions, discover new things about ourselves and our perspective, stay mentally sharp, and even be more optimistic. ~ *(Wooll, 2021)*

Ways to practice Creative thinking

It is clear that creative thinking is not bounded to only the creative industries and it is an important skill a problem-solver should have. As every other skill, creative thinking can also be practiced. Several methods that encourage the creative thinking are:
  ● Start Creating Stuff – But Pretend It's A Joke
 "Creating something jokingly is incredibly powerful. My friends and I used to do this in university and I was always kind of "disappointed" when the songs we wrote were actually pretty catchy and, well, good." ~ (Y'ou, 2022)
  ● Make bad things on purpose
Based on the blogpost of Jake Y'ou another method to boost creative thinking is to make bad things on purpose as that removes the mind tension of performing good and let us just create.

Creativity, Creativity in ICT (computer science)

Computer science is a great example for creativity thinking outside of the creative industry. Unlike math where only one solution is correct, in computer science there are often multiple solutions to the same problem. In that area creative thinking becomes an extremely powerful asset even if the people in ICT do not consider themselves as creative people.
In educational context like in an university setting creative thinking might be beneficial for getting out of one of the following situations: **Writers block, Endless error, Lack of inspiration.** ~ *(Dibble & Baird, 2021)*

Based on the explanations from the text above a field of ICT that is full of code errors, challenges and problems to solve is definitely benefitial. Therefore, creative thinking is indeed an extremely needed skill that should be practiced from the people of ICT.

Why the brain needs more downtime?

In the Schentifc American's article, *(Jabr, 2013)* it is stated that there are existrant researches of the benefits of vacation, meditation and time spent in parks, gardens and other peaceful outdoor spaces. It is mentioned that napping, and even the act of blinking can help sharpen the mind. That is because downtime refills the brain's stores of attention and motivation, encourages productivity and creativity, and is essential to both achieve higher levels of performans and form the memories w form every day.
The downtime is an opportunity for the brain to make sense of what it has recently learned.

Daydreaming
The article states that daydreaming is similar to nighttime dreaming in the aspect of the brain ability to process what we have learned. It is also helpful to sorting tough problems (it is a well known occasion of people solving a tough problem while daydreaming in the shower)
That happens because *"with the right kind of distraction the default mode network may be able to integrate more information from a wide range of brain regions in more complex ways than when the brain is consciously working through a problem." ~ (Jabr, 2013)*

The article mentioned the Psychologist K. Anders Ericsson of The Florida State University, who has spent more than 30 years studying how people achieve the highest levels of expertise.
*"Ericsson has concluded that most people can engage in deliberate practice—which means pushing oneself beyond current limits—**for only an hour without rest"** ~ (Jabr, 2013)*

Vacations
On turms of days off, it is proven by psychologists vacations have real benefits.Vacations indeed benefit by distancing people from their job-related stress. However, A recent analysis by Jessica de Bloom, now at the University of Tampere in Finland, demonstrates that these benefits generally fade within two to four weeks.

In one of de Bloom's own studies, 96 Dutch workers have reported that a winter sport vacation of deven to nine days long benefits their energy,happyness and life satisfaction. **Within one week of returning to work, however, all the feelings of are fading away as the work stress is back.**

That means that people should have shorter, more often vacations during the year to eep their happiness state. The article mentions that the Boston Consulting Group employees were insisted to take regular time off during the year, even when they did not think they should be away from the office. After five months employees who had been part of the experiment with more regular rests were *"more satisfied with their jobs, more likely to envision a long-term future at the company, more content with their work–life balance and prouder of their accomplishments." ~ (Jabr, 2013)*

Time outside
As it is clear that vacations should be part of the worker/student yearly schedule. However, it is just as important that people not only take vacations but also take care for their well-being during each working day in order to achieve ultimate workstudy life satisfaction.
An equally restorative treatment for mental fatigue is spending more time outdoors - before, during or after the working day.
The same article also states it is evidently concluded that meditation can indeed improve mental health, thone one's ability to concentrate and strengthen memory.

Likewise, Michael Taft advocates deliberate mental breaks during *"all the in-between moments"* in an average day—a subway ride, lunch, a walk to the bodega. He stresses, though, that there's a big difference between admiring the idea of more downtime and committing to it in practice. *"Getting out into nature on the weekends, meditating, putting away our computers now and then—a lot of it is stuff we already know we should probably do." ~ (Jabr, 2013)*

Walking as an inspiration
A study from Stanford University has showed that, when people tackled mental tasks that required imagination, walking led to more creative thinking than sitting did.
They found that participants who walked, whether indoors or out, came up with more creative responses than those who sat. In other words, there seemed to be something specific about the act of walking that got people's creative juices flowing.
Their EEGs revealed that walking on a nature path induced a calm state of mind, while walking along city streets amped up engagement. Depending on your personality and the type of writing you do, either might prove beneficial. ~ *(Andrews, 2016)*

Breaks and Productivity

In the previous point it was mentioned that, vacations do not have a long-lasting effect on the stress of people. The topic of downtime during the working day was also mentioned. He following section wuld cover more in depth the effect of those shorter more often breaks have on productivity and the ways a rest can be achieved with the help of those type of breaks.
The article *(The importance of taking breaks, 2020)* mentions that Micro-breaks, lunchtime breaks and longer breaks, have all been shown to have a positive relationship with wellbeing and productivity. ~ *(Alammyan, 2020)*
In a blog post by Alammyan, "*The science of taking breaks at work to help boost your productivity*", the author explains that studies have found that breaks can reduce or prevent stress, help to maintain performance throughout the day and reduce the need for a long recovery at the end of the day. They also prevent decision fatigue, restore motivation and long-term goals, boost productivity and improve creativity. A study from Stanford University has showed that when people tackled mental tasks that required imagination, walking led to more creative thinking than sitting did.
An article posted by (*Breaks during the workday, 2020*), has nicely summarised main points of the benefits of breaks and the way breaks should be taken.

Benefits of breaks:
- Increases productivity
- Improves mental health and well-being
- Employees feel more valued by their organization and supervisor if they promote taking breaks
- Increases job satisfaction
- Restores focus and attention, especially for long term goals
- Can prevent decision fatigue
- Increases creativity
- Promotes healthy habits
- Movement breaks are helpful for emotional and physical health
- "Rest" helps consolidate memories and improves learning

How to take a break:

- Do an activity that uses a different part of the brain than was being used for work, which allows the part of the brain being used for work to rest
- Be fully detached from work during the break
- Try to be active during the break
- When feeling too busy to take a break, switch to a different task

There seems to be a specific ways that people should take a break in order to be effective. **Relaxing and social breaks** have been found to be particularly beneficial. A relaxing break can help to facilitate recovery, by returning the mental and psychical functional systems to their baseline. Additionally, a relaxing break can help to reset the mood, thereby promoting positive wellbeing and reducing stress. Social breaks, such as chatting with your peers, have also been found to be beneficial. Social interactions allows for a personto share their experiences and feel part of a group. This feeling of relatedness, during a social break shows a positive association with feeling recovered after the break. Mini-breaks is another way to help support the wellbeing and increase productivity. A mini-break requires for a person to be only a few minutes away from their work; this may be chatting with someone who is in the room with you or getting a drink. *~ (Alammyan, 2020)*

In Alammyan's blog post **"The science of taking breaks at work to help boost your productivity"**, the author covers the importance of detaching from social media during breaks. She states that method might be counter-productive. She bases the statement on a survey by Huffington Post that suggests, activities like social networking can significantly increase stress, rendering a social media break detrimental.This study of people spending most of their time confined to a desk has concluded: *"Standing up and walking around for five minutes every hour during the workday could lift your mood and combat lethargy without reducing focus and attention. It can and even dull hunger pangs."* ~ *(Alammyan, 2020)*

In her blogpost once more meditation during a break is mentioned as an effective way to lower anxiety and to boost brain activity.

How does the surrounding environment have an effect on people's creativity and productivity?

In addition to breaks, the working environment also has an effect on people's actions and feelings during the working day.

A statistic from Harvard Business School study showing that *"Contemporary open offices led to 70% fewer face-to-face conversations"* because when people lack privacy, they tend to create it by popping in earphones or avoiding eye contact. This shows that open space does not mean automatic connection, but it doesn't illustrate that workplace design is unimportant. Rather, it means that we have to pay attention to the nuances of how, where, and when those connections are forged. ~ *(Burke & Zettler, 2022)*

Building Archetypes

The building environment is important. However, it turns out that not all people have the same needs for surrounding working environment. In an article *"Who are you? Four archetypes shaping workspaces"* Woltjer states the four different archetypes at the working office

- **Dwellers** - primarily work in the office, but don't necessarily want to be bound to their desk all day. <u>Some tasks require focus, others can be done in a more social environment.</u> They want to <u>choose from a range of postures that support an array of tasks</u> (collaborative and focus areas) as well as access destinations that support their health and wellness throughout the day (like outdoor space). Dwellers want to feel their range of needs is supported in one place.
- **Nomads** - come and go. They may work in the office in the morning, then be in and out of off-site meetings in the afternoon. Nomads may need a convenient touch-down hub to connect with colleagues or catch up between meetings.
- **Hybrids** - spend some days of the week in the office and some days working remotely. They may like the social and community-building aspects of collaborative work, but also crave the extended focus time or work-life balance that comes with a few remote days.
- **Remotes** - work off-site most of the time. Remote workers may provide specialized skills that can only be found outside the region of your organization, or the type of work they do doesn't require a lot of in-person interaction. But remotes still want to connect equitably, so workplace meeting spaces need the appropriate technology to engage team collaborators digitally. ~ *(Woltjer, 2022)*

Exploring the archetypes and the effects an open space is important as that gives useful knowledge of possible strategies to help people feel better and be more productive with the help of the surrounding working environment. Those strategies would be explored more in the next points of the research.

What strategies can be used to effectively help people in getting into a creative mindset?

After covering the importance of downtime for the mind refreshment and discovering that creativity is the act of thinking in a different way, it can be concluded that creativity is just another way of thinking and in order to be performed with more ease the mind should not be fatigued. As downtime can prevent that type of tiredeness is is worth exploring more the topic of how to take more effective breaks as a strategy to get into a creative mindset.

How to take breaks more effectively?

Different sources have started that a break's effectiveness on the productivity depends on several factors:

Break Consistency
It was already mentioned during this research Erricson's conclusion that *"most people can engage in deliberate practice—which means pushing oneself beyond current limits—**for only an hour without rest"** ~ (Jabr, 2013)*. There are multiple work-break time ratios, some of th emost popular are:once every hour, 60-90 minutes work intervals, 52 minutes work to 17min break, the Pomodoro method - 25 min work to 5 min breaks. As the above stated methods suggest, it is recommendable that a breaks are taken regularly. The image below taken from a blogpost *"How to take effective breaks (and be more productive)" i*s showing the better consistency of taking a break in the goal of beating mental fatigue and procrastination. The post is tating *"We aren't computers. We can't go at full speed 24/7. We're humans and we need breaks."*. As a representation of that statement an image is displayed that shows the productivity change overtime with and without breaks. On the left, the amount of breaks is not spread out which can overtime lead to overworking and overwhelm. On the right, the image is showing the mre spread in time breaks which give the mind a needed recharge and prevents the mental fatigue. ~(deprocrastination.co, *n.d)*

breaks
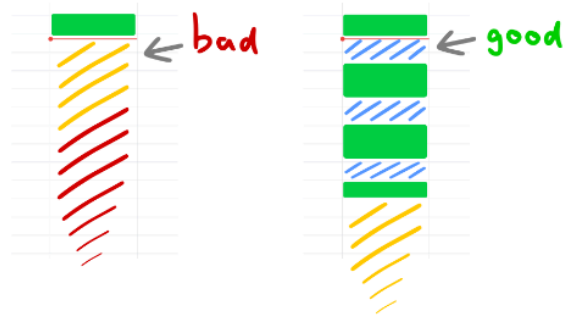
Productivity over time with and without breaks ~(Jabr, 2013)

Another ipostant factor that leads to th emore efficient taking of breaks is the activity done during the break. It was mentioned that social media is not an efficient way of resting. In the *(deprocrastination.co, n.d)* the author has categorised the types of breaks in two groups:

1. Unproductive breaks:
Those are the types of breaks that are low effort and give high dopamine. Activities like checking social media or playing a game. Based on the blogpost of eprocrastination.co and Alammyan's "*The science of taking breaks at work to help boost your productivity*", those types of activities should be avoided. Examples of unproductive breaks are:
- Social media use (without effective boundaries in place).
- Reading news articles
- Watching YouTube, Netflix, Twitch,...
- Eating junk food
- Browsing shopping sites aimlessly

2. Effective breaks:
The other type of breaks are catregorised as effective. Those are activities give the mind time to relax anddetach from the work.
- Brew coffee or tea.
- Do a breathing exercise or meditate.
- Stare out of a window.
- Read a page of a book or a blog post.
- This can be a good substitute for social media checking.
- Tidy up a part of your room.
- Lie down with your eyes closed or nap.
- Stand up and stretch.

- Take a short walk.
- (Studies say that taking a walk through nature boosts your ability to concentrate by as much as 20 % and at the same time reduces your stress levels.)
- Have a chat with a roommate or a colleague.
- Call someone.
- Do a quick workout.
- Take a nap.
- Take a shower.
- Eat a healthy snack.
- Doodle.

The article also suggests that even power naps can benefit the overall productivity as it can strongly increase energy levels. However,napping is a skill that should be developed so that the person does not make the mistake to sleep too long and get more tired instead of rested.
Last but not least the author of (*Stop taking breaks wrong to be more productive, n.d*) states that *==“The best way to stay productive is to stop for a break while you're still having fun. This will help you become more excited to return to work when your break's over.”==*

As already mentioned the working environment is also playing a role of the creative mindset of a person. Depending on the archetype though, the building setting should change in order to give the needed environment that would be charging the worker's brain. As there is no working establishment with only one type of inhabitatnt buildings are designed so that the people have options and there is some space for everyone's needs. ~ *(Burke & Zettler, 2022)*

Based on the article of Burke & Zettler *“How to foster collaboration and inspiration for a workplace culture that does not exist”*, there are multiple methods that can be used in order to motivate better communication in an open spaced building.

Varied Work Postures + Opportunities to Connect
If the workers need pricavasy for more concentration-related work, they shold have the space that allows that privacy. If they need a change (or a break), they should have options for that too. Creating a playroom can be beneficial as communication brings ideas.

Putting Research on Display
By putting ongoing research on display within social hubs and in a gallery on the main floor, the building creates opportunities to connect disparate lines of investigation. It invites conversation between members of different research teams.

Making Room for Relaxation (and Breakthroughs)
Archimedes' “Eureka!” moment came in the bath. Newton's came in a garden. Those at Digital Futures might happen in the little pocket park just outside or while a researcher lets her eyes scan over the abstract patterns on the wood panels that wrap the building's core. **“*Inspiration is unpredictable, but its patterns are familiar.*”** ~ *(Burke & Zettler, 2022)*

More ways for personalizing the work space to benefit a person's creativity can be to personalizing the workspace (Get a plant). Adding some colour can also affect emotion and therefore productivity and inspiration - for instance, colours like black and red suggest power and dominance, while colours like orange and blue can stimulate creative thinking.
~(Spence,2022)

Summary

Based on the findings in the research, it is cear that productivity, creativity and mind break are connected. As there are many types of creativity and creative thinking is the way of solving a problem in a different way, creative thinking can be strongly connected to an ICT student's productivity. Having more creativity is stimulated from the state of the mind. A person should have rested mind in order to be thinking optimally. Mind downtime can be achieved in a efficiently in a working environment from promoting regular and effective breaks. Many etchniques for break schedules exist but the overal rule is that a person should not take more than 90 minutes of uninterrupted concentration time in order to keep the productivity uring the day. Whenever a person takes a break, they should be aware of the types of break that are beneficial for their mind: time outdoors, relaxing or social breaks. Avoiding high dopamine easy breaks is key to staying on focus after the break is done. Because of the largery open spaces and lack of privacy, modern buildings' environment should assist the worker/student in achieving the goal to better concentration and mental energy. Last but not least, it is important to understand whatt archetypes are inhabiting a bealding in order to create the environment that is optimal for the people's archetypes.

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