Practical studying and conscious lifestyle

Thao Huy Vu

Computer Science

Maharishi International University

Fairfield, IA, 52557

thaovu@miu.edu

Asaad Saad

Computer Science

Maharishi International University

Fairfield, IA, 52557

asaad@miu.edu

Abstract

Nowadays, getting a job in the technology field is a fashion, especially becoming a part of the software industry. Many people from different backgrounds want to change their paths to become software developers. At the same time, there are many programs to educate a person to have a skillset for the technology industry. However, how can we effectively teach students who can not only do the job immediately when they finish academy or university but can survive well in this challenging industry livelong? One method I would want to propose in this paper is to provide education which makes students study happily and have a good lifestyle. In my proposal, the first thing we as educators need to ensure that students can see the future in their learning. The simple way to do that is by leading students to actual projects. What they learn is not just skeptical things on the air for their exams, but they can use what they learn immediately to apply to their projects similar to other actual projects or systems they can quickly check out in reality. That will show them the way how the projects in actual companies work. It helps them not be surprised when taking interviews, starting the job, or getting along on projects. The second thing is nourishing them with a good lifestyle which can improve their mind. It means that they should always be aware of all activities they have done daily. They need to acquire all knowledge daily, and they can improve themselves continuously. I call this a conscious continuous improvement which is one of the essential skills for modern life because our life is changing speedily day in and day out. For this second purpose, I want to recommend four things that contribute to a mindful lifestyle: healthy foods, sleeping, exercising, and

meditation. If all students can achieve this happy studying and the proposed lifestyle day-to-day, they can not only have a great job in the technology industry. Still, they can follow the industry deliberately in their lifetime.

Thao Huy Vu and Asaad Saad

Computer Science

Maharishi International University

Fairfield, IA, 52557

thaovu@miu.edu and asaad@miu.edu

1 Introduction

Based on my experience as a computer science student at three different universities in three other countries and more than ten years working as a software engineer, I recently found that conventional education needs to change to be a truly transformative environment for students. In this paper, I propose a method for modern education in computing that includes two essential aspects: practical studying and a conscious lifestyle. Why do we need this change?

The main goal of this education methodology is to educate students to emerge into the industry faster. Then they can improve themselves like how they learn at universities, which is conscious, continuous improvement. Students can see their future at universities by doing actual projects; they can discuss these projects with teachers or classmates who might become their future colleagues. Moreover, universities complete the purpose of transitioning students to industry. That is also the target of my first facet, practical studying. However, modern life is so stressful, and people can quickly get anxiety or depression. Therefore, it is very critical to maintain physical and mental health.

The second part of this proposal has a healthy lifestyle to deal with the demanding and intensive industry. Four things contributing to this lifestyle are healthy foods, sleep, exercise, and meditation. If students and educators keep this lifestyle, they will live with their full potential in reality.

This proposal brings a new way of teaching and learning to the conventional education systems. As a result, all computing educators can leverage the existing educational methodology and my proposal to create effective teaching and learning.

2 Practical studying

As I mentioned, practical studying is the learning method with a practice that is as close to reality as possible. If students learn this way, they can go to work quickly and efficiently. That completes one purpose of education. However, are students able to do that with the current education system?

Most universities nowadays still keep the traditional way of education. We teach the students a lot of knowledge for passing the exams. I do not blame the exams, but the conventional education style slows how students can create a happy life with their learning after graduating. Some say that teaching for exams is essential knowledge, but technology is changing too fast, and the studying time of students is limited. Hence, we must teach students only a few things they can use immediately in their work and quickly grasp new concepts based on mastery. Students can only apply a few concepts in their actual projects, not all.

But what if we select some fundamental theory to teach them, and they can use them in their practice? As a result, they can fully understand these concepts for the exams, but in

reality. They can go to work immediately with their knowledge and expand their knowledge from their work. That means they store all their hypothesis in long-term storage because they fully understand and apply that in their practices.

It is a very sustainable way to do this in computing because many people worldwide add new knowledge daily. It is the same that many people working in this industry need to study new knowledge day-to-day. Practical studying is a suitable method in this case. Students learn the basic and latest technology that many companies want to employ. Therefore, they can easily apply for a job or go to work. Moreover, students with this studying can expand their knowledge like how they study practically at universities.

One good example of this education is the university of Waterloo, one of the top engineering universities in Canada, because they have a lot of practical training for students even though they are a new university [1]. But unfortunately, applying this way to other universities is hard because we can only have a few internships for all students.

However, we can create a hands-on experience at the university. I called that practical studying. This simple way leads students to work toward projects as close as actual products or real projects based on their understanding of fundamental hypotheses. They can have hands-on experience at the universities when performing in the same manner as the companies require. Educators must keep updated on the industry and then teach students to do something similar. They can study real projects and perform the tasks like they are in the company. Moreover, they can deeply understand the concept by knowing and applying it to the projects.

I want to mention two things in the practical studying here: fundamental concepts and application. Moreover, I also discuss the evaluation advantages if we apply this studying.

2.1 Fundamental concepts

The fundamental concepts are basic and profound. They are like blocks that students can use to accomplish more important things. Educators can introduce complex knowledge, but it should be optional. Educators must classify the ability to select the good ones for the industry and teach students. And students can study these basic blocks for their grades but for actual projects. Complex topics should be at will, it means students can explore if they are enthusiastic, but they know it is not mandatory. Educators must also create exams or homework based on the basic blocks. Educators might have difficult questions, but it is just for excellent students.

Moreover, educators discuss the basic knowledge necessary to pass the course and their future projects. Many people will wonder, if we only provide the basic concepts, how can students create something different? However, a new idea is just a permutation of basic knowledge. If students understand the foundation, they can make new ideas sometimes.

2.2 Application

Many universities teach students all academic knowledge. They expect that the more students have, the more they can accomplish their job. This conventional method works well for people who want to study higher education if they have intensive academic knowledge. However, after working with some new graduates in the industry and considering my case as a fresher again, I wondered why universities do not teach students more actual applications.

The traditional way does not work well for students wishing to have jobs and have to up to date the coming knowledge after graduation. In the computing industry, the quicker you can work on projects, the deeper you can understand these projects. Unfortunately, many graduates take months to join the projects, and some cannot finish their probation because of their poor performance; even though they know many things, they need to learn more about the basics. Even worse, they sometimes cannot use their knowledge because companies move to new and better ones. It wastes a lot of time and money from students, companies, and universities.

As I proposed here, educators should lead students to do actual projects or to build applications as close as the real ones they can refer to in their capacity. For example, we can ask students to create an online library, but we can ask them to go to the library to check the software and get the idea. After that, they can see the product and develop a similar outcome. They reinvent the wheels but study from the existing ones, not the old ones that can be obsolete. After that, these projects become their reference or building block; they can understand and apply their knowledge in the future.

2.3 Easy Evaluation

One problem in conventional education is that students think their professors are on a different side than them when they get low grades. If we see sports, all students like their coaches because they think coaches support them to improve.

What are the differences between coaches and teachers? They are the same. They all bring knowledge to students—however, the way they evaluate students differently. Coaches grade depending on the practical exercise that is clear and reasonable to students because they can feel and see their progress in their practices. Teachers do the same thing, but they grade students through exams. Grades or exams are not the problem, but it does not persuade students whey they get low grades.

What if we cooperate in sports and academics? What if we have grades, but it not only shows the exams but also the progress of actual projects in the course? That is what practical studying aims. If we apply this methodology, the grades are not a big problem between teachers and students because they can know their proceed in everything, not just see one facet of the exam. It helps to dissolve the barrier between teachers and students. Teachers can quickly evaluate students through their movement in homework, projects,

and exams. Seeing the benefit of the course in their job later inspires the studying purpose of students. Moreover, all students want to gain hands-on experience to understand the hypothesis practically and fully. And they can pass exams naturally easier than memorizing the bunch of knowledge that they only use for these exams.

3 Conscious lifestyle

As a student, I saw a common phenomenon that most of my friends spent overnight studying for the exam. They got good grades, but they remembered nothing after that. At present, it is still happening at many universities. Many students learn wrongly because universities only focus on discipline rather than lifestyle. Moreover, many argue that we do not need to guide students since they are adults. It is a drawback of conventional education systems.

Since the computing industry is very stressful due to the fast-changing and demanding environment, new graduates will be shocked if the universities do not prepare well for them. If students only keep the current lifestyle in this industry, it is tough to keep them happy.

I propose a new lifestyle, which students can apply at universities and later, is the conscious lifestyle. This lifestyle includes healthy foods, exercise, sleep, and meditation. Universities must be transformative environments for students to practice this lifestyle before using it outside.

3.1 Healthy foods

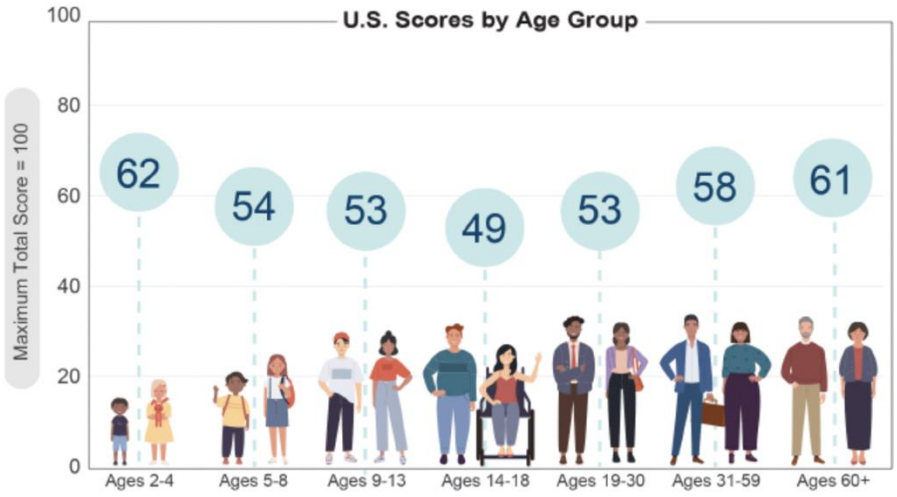

Figure 1: HEI scores for Americans.

As depicted in the above picture from USDA (United States Department of Agriculture), adults from 14 to 30 years old have the lowest grades on Healthy Eating Index [2]. It means they only care a little about healthy eating since they are in the golden age. I know that they

are healthy, can absorb any food, and can easily overcome stress or illness. However, if they can eat well during this period, they can improve their long-term health. Thus, they can study many new things if they have excellent health.

There is an old saying you are what you eat. You know that foods are essential to building solid physical and mental health because foods provide all nutrients that the body needs to produce energy for any activity. Since life is too fast, many people prefer to eat quickly. It is the same for students. They need more time to prepare good meals, but universities should encourage them to have healthy food. They should eat more vegetables, fruits, and enough protein. If they can eat healthy foods, they can have good health to obtain knowledge quickly and release stress.

Moreover, many people drink too much alcohol, which can increase the harmful effects. According to NIH (National Institute for Alcohol abuse and alcoholism), an alcohol overdose can cause mental confusion, difficulty remaining conscious, vomiting, seizure, trouble breathing, slow heart rate, clammy skin, dulled responses (such as no gag reflex, which prevents choking), and shallow body temperature [3]. Students have a lot of parties, and many of them drink to a great extent. They know the side effects of alcohol, but they still want to drink because it is fun. If we remind or encourage them not to drink while they have a course since they will lose their knowledge due to some blocks from alcohol. When students do not use alcohol, their brain is conscious, and they can gain understanding quickly.

3.2 Exercise

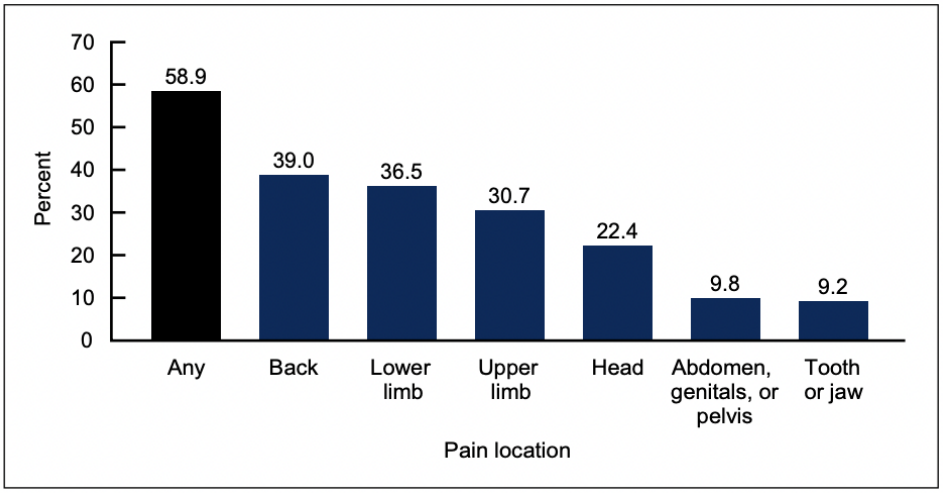

Figure 1: Back, Lower Limb, and Upper Limb Pain Among U.S. Adults, 2019.

As depicted in the above figure from CDC (Center for Disease Control and Prevention), 39 percent of adult Americans had back pains in 2019. Nowadays, people can have all services at home and even work from home with the internet. However, many people spend hours in front of computers without physical activities. Consequently, they have problems with their backs after a few years.

One of the best natural killers for this pain is exercise. With 30 minutes of walking, running, or any physical activity, bones, muscles, and other orgasms are more robust. Consequently, the body can resist many diseases. Moreover, exercise helps improve mental health, release stress, and sleep well. Some students might have many reasons to avoid exercise, but universities must have a way to stimulate them to practice daily for their long-term future. It can benefit students, universities, and society.

3.3 Sleep

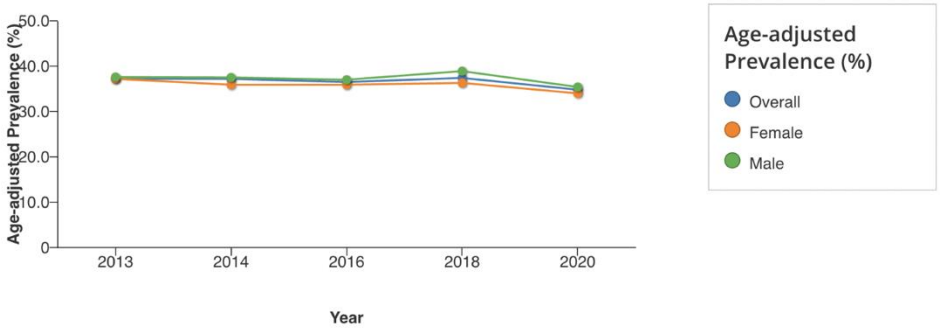

Figure 2: Age-adjusted Prevalence.

This figure reports the short sleep duration (less than 7 hours within 24 hours) is approximately unchanged from 2013 to 2020. According to CDC, one-third of adult Americans do not have enough sleep (7-9 hours per 24 hours) [4] during this period.

Sleep is essential to rest and rejuvenate the body for the following activities. If we lack sleep, we cannot have a fully awakened brain, and our actions cannot reach their full potential. Hence, it causes low performance and stresses out.

According to new research on the relationship between sleep and memory [8], long-term memory formation depends on sleep quality. There are two sleep stages: early sleep or slow wave sleep (SWS) and late sleep or rapid eye movement (REM) sleep. SWS reactivate recently encoded neuronal memory representations and transforms respective presentations for integration into long-term memory. And then, REM sleep may stabilize transformed memories. This process is significant in determining how students can keep their knowledge for the future.

Hence, students need to sleep enough to recharge their bodies, gain knowledge, and prepare for the next day. However, many students do not care about this tiny thing. They still study overnight. Libraries at many universities open very late for students. Students will be exhausted sooner or later, and when they have vacations, they want to sleep more or drink too much to release stress. This way damages their health in the long term. Universities and students should cooperate to resolve this simple problem.

Universities and educational institutions should encourage and remind educators and students to sleep well for a while later to have the full potential power. It will help both

teaching and learning better. Moreover, students do not have stress and have excellent sleep habits in their daily life later.

3.4 Meditation

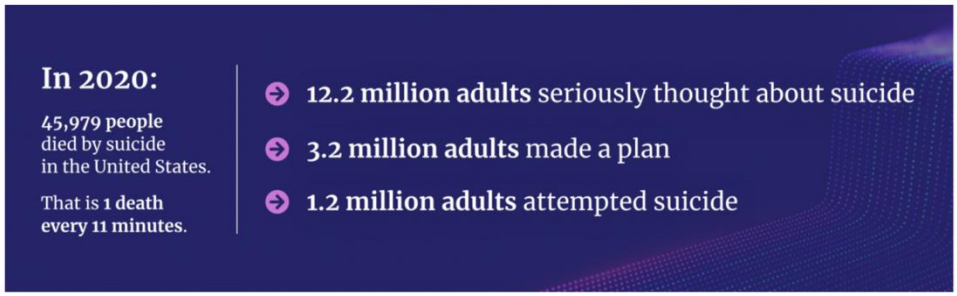

Figure 3: Suicide statistics.

As shown in the above figure from CDC, more than 45 thousand people died by suicide in the United States in 2020 [5]. As you know, the main reason is the mental problem these people cannot resolve since people have a lot of stress, depression, or anxiety daily. Since we cannot sort out all issues by relaxing or sleeping, the remaining accumulates in our bodies. The accumulation gets bigger like we pump air into a balloon every day. The balloon will expose itself for some days if we do not find a solution.

One of the best solutions to fix this problem is meditation. Many scientists have found that meditation helps to boost learning ability and creativity, improve brain functioning, and reduce stress and anxiety [5]. As their recommendation, if people practice meditation twice daily, their mental health will be much better.

Since the computing industry is changing too fast, anyone wanting to join it must improve their relief. Students have a lot of pressure because they are new to the environment without taking care of their parents. Universities are a transformative place before students can go into the industry. Therefore, it is essential that universities can lead students to practice meditation, which they can use this tool for dealing with stressful reality.

Conclusion

As you know, to live well in the modern world, people need to do their job well and have continuous self-studying capabilities to gain new knowledge. To do that, they need to have a crystal understanding of fundamental concepts and excellent mental and physical health to survive in this technology world which is moving extremely fast daily. And universities are vital in guiding students to have a long, happy life after graduation.

I have proposed a new method for modern computing education in this paper. The first thing in this method is practical learning which students will gain knowledge based on their projects. As a result, they can pass the academic requirements but can get a job quickly. To have good mental health at universities and in the future, the second part of this method is

a conscious lifestyle so that students can have a healthy body and a great mind. To have this lifestyle, universities guide students to have good eating and drinking, exercise, sleep, and meditation habits. If students can apply this method daily, they can have a better life in the fast-changing computing world.

References

[1] Author Salman Khan. The One World School House. pages 236–237, September 2013.

[2] U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. https://www.fns.usda.gov/hei-scores-americans

[3] National Institute on Alcohol abuse and alcoholism. Alcohol and brain. https://www.niaaa.nih.gov/publications/alcohol-and-brain-overview.

[4] Centers for Disease Control and Prevention. Data and Statistics: Short Sleep Duration Among US Adults. https://www.cdc.gov/sleep/data_statistics.html.

[5] Centers for Disease Control and Prevention. Data and Statistics: Short Sleep Duration Among US Adults. https://www.cdc.gov/suicide/suicide-data-statistics.html

[6] Maharishi International University. Transcendental Meditation: https://www.miu.edu/about-miu/transcendental-meditation-technique.

[7] Centers for Disease Control and Prevention. Data and Statistics: Back, Lower Limb, and Upper Limb Pain Among U.S. Adults, 2019. https://www.cdc.gov/nchs/data/databriefs/db415-H.pdf

[8] Bijorn Rasch and Jan Born. About Sleep's role in Memory. 2013 April. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3768102/