Chikku Minecraft Reflection:

# Introduction:

This project aimed to explore the breadth and scope of Minecraft and its potential use in furthering understanding biochemical signalling pathways and how it could be useful in future learning. It is believed that with the integration of such methods, it will bring new innovative education, which may prove to help increase understanding and engage undergraduates in their learning.

# Project Phase I:

My initial reaction to the project was excitement and hope for a potentially useful way of applying a typical beloved game into a helpful learning tool for an undergraduate studying Biomedical Sciences.

Minecraft was a game I used to play when I was in middle school and have put hours playing, and seeing its potential in helping understand biochemical signalling pathways was an opportunity that I could not let pass.

I found researching CaMKII to be reasonably straightforward; there are plenty of journals that explore the activation of CaMKII and its action/role in the body.

# Minecraft Construction:

The initial challenges came with the limitations present in building on Minecraft. Minecraft blocks are cubes, and therefore creating a circular model poses it is on geometrical issues. For instance, I wanted to explore a concept; however, it was difficult to make anything quickly. If it were to looking around, it took a bigger structure, which took quite long.

I believe that this was due to my personal, limited understanding of Minecraft Creative, which is the game setting where structures may be built. **It was frustrating when a concept is there, but it is challenging to transform the vision on to Minecraft.**

I went about seeking inspiration for the models online, using various diagrams as a guide. After sifting through enough, I was able to pull up some simple diagrams that I could mimic with my limited Minecraft skills. Again, **I was frustrated by my lack of skills** – it made the building process very slow with additional issues with not being able to copy and paste parts of the structure.

I was thinking about how I could make models my own; I did not want to transpose a diagram I saw online and make a copy. I just used the model to create a base model in hopes of building it up from that. I was able to create a skeleton model that I used to experiment using Redstone, the games’ form of electricity. Redstone would allow the model to brought to life and would fit my aims and ambitions. **I had many ideas and concepts; however, I was limited. It was a great deal harder, perhaps due to the expectations I had set for myself**

**Progress was slow and difficult. Yet with the construction of the molecule in mind, I believe that my personal understanding of the molecule was growing. I was starting to understand the potential benefits and applications of such a task. It was difficult to gauge progress.**

**Was progress in making a brilliant model that others could use? Or would the project be deemed more successful if the activity improved and furthered my own understanding,**

# Working on the realm:

We worked on a realm where everyone participating in the investigation worked in the same space. Everyone could look at the others’ models. **This was both an advantage and a disadvantage.**

It was advantageous to seek inspiration or when someone had utilized a different technique or method to be able to adapt that to my own model. It was also interesting to just see what everyone was up to.

However, it made me more conscious of my own work. I ended up deleting my past failures and tried to keep my workspace as ‘tidy’ as I could. An advantage of leaving models that did not work is just to be able to look back and avoid past mistakes, but as everyone could see it – I felt more aware that anyone could have insight into it. That made me feel more conscious about my failure and made me delete it.

I decided to experiment and try new things in a single player world and try to transfer only the working models onto a shared realm. I felt more comfortable to experiment and try new models in my own realm. I preferred having a private workspace as I prefer not having a feeling that someone is ‘looking over my shoulder’ as I worked. **Although I did like having access to both areas of work and I interchanged for the reasons mentioned above.**

# Time:

I felt like I spent a great deal of time just trying to figure out what I was doing. So, in essence, I would work for longer than the 12 hours a week, but it would not directly translate into a model or much progress. However, 12 hours was the actual time spent doing it. I liked the flexibility of being able to work when I wanted. Yet, with a fixed ‘work’ time, I probably would have worked on it more productively. I spent a lot of time breaking down failed models and trying to achieve what I envisioned and did not have a great deal to show for even though I did work on it and try many things.

# Teaching Potential:

I think this software would work well for tutorials, In-course assessments, practicals, honours projects, and revision. **The beauty of Minecraft is its versatility and applicability. For instance, the learning can come from creating a model yourself, or learning from a model someone else created it.** I believe that our current education system is slowing outgrowing the current state of the world. **[…]** We are using methods that were effective a long time ago when we did not have cell phones the size of our palms capable of doing so much. Minecraft helps bridge that by providing a fun interactive platform for learning.

The limitations would be with the people with less Minecraft – when building a model, it would make it quite tricky. However, these can be bypassed by perhaps using pre-built models.

[…] even if the model is not very complex that a person with not much experience makes, it would help for their own personal learning. This is as they are spending time critically thinking about the various aspects they need to address or show in their model. So to others, it may not be complicated or understandable; to the creator, it is a way of reinforcing knowledge.

I think having pre-built skeleton structures with some room for change would be ideal for people very new to the game. There should be room to also freely create to not have people’s ideas constricted. I personally think starting out with pre-built worlds would be the most useful as it makes people step into a less pressured environment where they have to construct items from scratch.

I believe it can work even if the tutor does not fully understand Minecraft but having teaching workshops with Minecraft so the tutor understands some concepts would be helpful. This is so they can realize the potential of this new form of modelling. If the tutor believes that this is a useful way of learning, then perhaps they would be more inclined to explore it.

# Reflection:

When mentioning this project to anyone – there was a certain aura of intrigue and interest. Everyone was always curious about how Minecraft can be utilized at an undergraduate level and to see if it was actually useful. As aforementioned, everyone wants to learn in exciting ways rather than just learning off PowerPoints. This provides a uniquely interactive way to learn.

Overall, I see great potential in the study, and perhaps, it will be useful in the foreseeable future.