CANCER CELLS ARE LIKE WEEDS
Use of visual analogies to explain cancer treatments

Kara Lukasiewicz¹, Derek Ng¹, Gael McGill², Jodie Jenkinson¹

1. Biomedical Communications Program, University of Toronto; 2. Department of Biological Chemistry and Molecular Pharmacology Harvard Medical School

ABSTRACT

Estimates are that more than 50% of adults living in North America have low health literacy. Unfortunately, much of the available health education material is written at a grade level that most people don’t understand. To facilitate understanding, a 3D animation was created to explain cancer treatment options using analogies between cancer cells and weeds. The goal is to create educational material that people of all levels of health literacy can understand and learn from.

INTRODUCTION

Health literacy is “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions”¹⁰. Low health literacy is detrimental as it is associated with poor health status, low participation in preventive testing, and improper use of health care service¹¹,¹².

People with low health literacy struggle with concepts about cancer diagnosis, prognosis, and therapy⁴. To help combat the lack of accessible cancer treatment educational materials, the author chose to create a 3D animation featuring an engaging character who guides the viewer through a series of analogies comparing cancer treatment options with ways to kill or remove weeds.

MATERIALS & METHODS

To make information about cancer treatment options more accessible, analogies are used to compare cancer cells with weeds and healthy cells with grass.

MASH Procedural Network

Maya’s MASH network nodes were used to distribute and modify the grass and weeds. MASH network nodes are procedural meaning that systems are used to control objects eliminating the need to keyframe every object. The MASH nodes can be combined to modify the behavior of objects they affect.

Nparticle Systems

The nparticle system within Maya was used to create the dynamic interactions between the cancer cells and the surrounding healthy cells. In this scene, the cancer cells are growing and pushing the healthy cells away.

DISCUSSION

The long-term goal for this project is to test this animation in the general population to determine if this helps people to better understand how different cancer treatment options work.

The author hopes that this animation empower people diagnosed with cancer and their loved ones by providing accessible information that will allow for discussion about cancer treatment options with their healthcare providers.

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Bibliography