



Critical Media Literacy for Sports Technology Design

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ABSTRACT

This work is part of an ongoing Sports, Technology, and Learning class where computer science students and student-athletes learn different aspects of technological development, ideation, design, and prototyping in the context of sports technologies.

Alongside developing these technical skills, this class also takes advantage of various media related to sports to examine and discuss utilizing such media as a contextualizing factor in deciding what to build and why. Media depictions of sports and the role of technology in the creation of narratives and innovation is an often under-examined way of furthering understandings about the social construction of numerous phenomena like race, gender, and ability. In this poster, we present and discuss a pilot assignment using Critical Media Literacy (CML) tenets as an explicit tool for engaging with media discussions in class and how it can impact learners' understandings and practices around technology ideation, design, and critique.

As the students engage with the media collected for the course, such as films & television, conference & journal articles, and sports journalism, they engage people outside of the class with course content and document the engagements in an assortment of formats (e.g., writing, podcasting, videos, drawings, etc.). The discussions continue throughout the quarter, aiming to develop the student's awareness of a context at the intersection of sports and technology that will inform their final design projects.

1 BACKGROUND

CML provides a “framework that encourages people to read information critically in multiple formats, to create alternative representations that question hierarchies of power, social norms and injustices, and to become agents of change” and centers the concepts of social constructivism, languages/semiotics, audience/positionality, politics of representation, production/institutions, and social justice in their guidance for investigating media [1]. This builds on McLuhan's conception of the medium is the message – “No message can be neutral and no technology can represent information without in some way affecting the message” [2]. Since the form of our information

directly influences how knowledge is perceived and interpreted [3], the consumers and producers of such forms must be empowered to navigate and decipher them. This concept is integral to our course, as the enrollment is predominantly made up of future producers and consumers of sports technology in the form of computer scientists/technology designers and athletes, respectively. This assignment affords the opportunity to have discussions with these student populations who reflect core groups within the sports-industrial complex.

2 METHODS AND EXPECTED FINDINGS

The course is taking place at a large private midwestern university, with a class size of 70. The students can choose from a selection of 3-5 films/movies per week with each week center on the following themes: 1. Race, Individuals, and Movements 2. New Horizons 3. Sports Industrial Complex 4. Technology on the World Stage 5. Doping & Chemical Technology 6. Algorithms and Sport 7. Health & Wellness 8. Disability. After collecting the weekly discussion submissions, we plan to engage in qualitative analyses by grouping and coding the posts, highlighting different students' focuses and CML approach. With this coding scheme, we will then analyze the final design projects, looking for throughlines and parallels that demonstrate consideration of the problem space as explored through their earlier CML investigations.

We believe this work can inform the teaching of design in a variety of CS classes, highlights the potential value of using widely available yet seldom esteemed popular media like films to enrich CS education, and elevate discussions about media literacy as an avenue for informing the creation of technology.

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