



A Qualitative Study of Undergraduate STEM Majors' Copyright Knowledge and Educational Experiences

Sara R. Benson, Kelli J. Trei and Merinda Kaye Hensley
University of Illinois at Urbana Champaign Library



ABSTRACT

This study sought to better understand students' grasp of complex copyright issues. Thirty-one undergraduate STEM students were interviewed to learn more regarding what students know about basic copyright and how they learned what they know about copyright. The interviews revealed that students often conflate aspects of copyright and plagiarism. Most students also indicated a desire to receive formal instruction regarding copyright.

RESEARCH QUESTIONS

What do undergraduate students in STEM know about basic copyright requirements and rights?

How did undergraduate students in STEM learn what they know about copyright?

From student reporting, have undergraduate STEM students received any formal educational instruction about copyright?

METHODOLOGY

The research method chosen for this study as a qualitative interview approach was used to identify themes revealed in the data while allowing students to freely explain their understanding of the issues presented in two case study examples.

Case Study No. 1

You are taking a class about nature and the environment. One of your assignments for class is to take a photograph in a natural environment, write a short paragraph about the photograph, and submit it for a grade in the class. You go to a local park over the weekend and take a photograph of a butterfly landing on a local flower. You write a paragraph about why you chose that particular scene for the assignment, noting that the flower is a local variety and, as such, highlights the local environment.

Give some thought to the ownership of the photograph—who owns it? Please outline your thought process about the ownership of the photograph.

Case Study No. 2

You are taking the same class about nature and the environment. Later in the semester, the professor asks you to create a poster to show to the class about a particular subject in the natural world. You choose to create a poster about polar bears. Because you do not have any photographs of polar bears that you have taken yourself, you look on a professional photographer's website and download a copy of a photograph taken by a professional photographer. You incorporate the photograph into your poster. In the credits section of the poster, you include a citation to the photographer's name, the title of the photograph, and the location of the website where you obtained the photo.

Give some thought to the legal use of the photograph. Was your use of the photograph permissible under copyright law? Please outline your thought process about the legal use of the photograph.

RESULTS

Theme 1: Students understand ownership, but are confused about copyright

When asked who owns the copyright for the photographs, most students became confused and were uncertain about the specifications necessary to create a copyrighted work, referencing concepts like a mistaken requirement for copyright registration with the Copyright Office or some other federal agency.

Theme 2: Students frequently confuse copyright with plagiarism

Students tend to conflate plagiarism principles with copyright rules and tend to think they involve the same concept. This is likely grounded in the abundance of plagiarism instruction students received at both high school and college levels, in comparison with the dearth of copyright instruction provided to students in either scholastic setting.

Theme 3: Students understand the meaningful difference between commercial and educational use

Students often noted the freedom to use a copyrighted image without seeking permission, especially in CS2, where the student did not take the image herself but borrowed the image from a professional photographer, was more permissible in the context of non-profit educational use. A majority of the students mentioned that if they wished to sell the poster containing the professional photograph, the legal analysis would likely change.

Theme 4: Students engaged in copyright-related activities that intersect with their hobbies retain accurate copyright information

Eight of the students mentioned they informally acquired copyright information from YouTube. Students mentioned YouTube when discussing topics like copyright infringement, fair use, and the improper use of copyrighted work without permission. Due to their knowledge of issues surrounding YouTube creators' rights, students are attuned to broader discussions about copyright policy.

CONCLUSIONS

STEM fields, in particular, create unique challenges when undergraduates are attempting to navigate the distinction between creative works and patentable works. These interviews revealed that undergraduate students engaged in hobbies or internships involving copyrightable materials develop a greater understanding of copyright issues overall. The use of case studies as a basis for the interview process seemed to positively resonate with the students, a notable pedagogical approach for relating to undergraduates which is also reflected in the current literature on copyright instruction models. It is also promising that most students who participated in this research think learning about copyright should be part of their education and meeting students where they are is a compelling approach for teaching complex scholarly communication topics such as copyright.

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