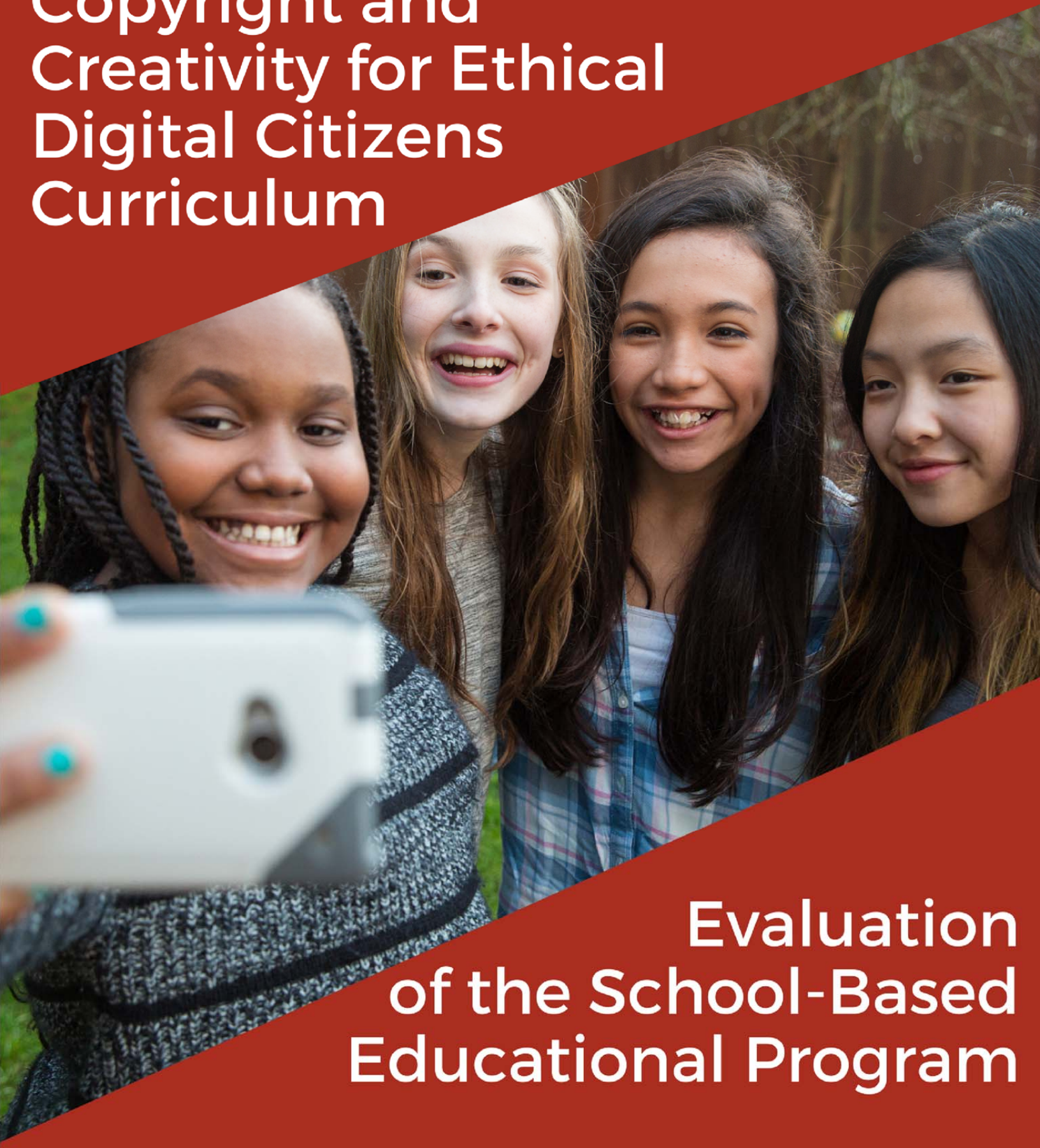
Copyright and Creativity for Ethical Digital Citizens Curriculum



Evaluation of the School-Based Educational Program

Center on Media and Child Health
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Copyright and Creativity for Ethical Digital Citizens Curriculum:

Evaluation of the School-based Educational Program

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BACKGROUND

In the 21st century, young people generate new creative works every day. With the tools available in their pocket they can produce new content that in previous generations required a team of people and expensive equipment. As youth take pictures, make music, and create videos, it is important for them to understand their legal right to the works they have created. Furthermore, these same devices are giving young people unprecedented access to commercially produced materials in both legal and illegal ways. To successfully and ethically navigate the portals offering movies, songs, and more, young people must be able to differentiate between legitimate and illegitimate providers and understand the laws about copyright content in regards to works they are accessing and sharing. The Copyright and Creativity for Ethical Digital Citizens curriculum aims to teach students about these concepts.

INTRODUCTION

In an effort to nurture ethical digital citizens, encourage creativity in young people, and reduce piracy, Comcast partnered with iKeepSafe, CreativeFuture, and others to create the Copyright and Creativity for Ethical Digital Citizens curriculum for middle-school aged students. Using what is known about online risks and behaviors, iKeepSafe developed the BEaPRO framework that defines the "six pillars of success of online citizenship:" Balance, Ethics, Privacy, Reputation, Relationships, and Online Security. This curriculum supports the Ethics pillar by talking with young people about how to make principled and legal decisions as they access and share copyrighted material. At the individual and immediate level, the curriculum's goals are to provide the "rules of the road" for moving legally and ethically through the networked superhighway. At a broader and longer-term scale, the lessons seek to ensure the longevity of the free and open Internet by formalizing and expressing the social and legal agreements that we enter into when accessing and sharing digital content. Together, these goals serve to encourage creativity by protecting digital work and helping to ensure the long-term viability of careers in the creative arts. In order to facilitate the acceptance of the curriculum in public school settings, it is designed to align with key educational standards. Students in the classes

are taught Common Core standards in English Language Arts, including comprehension and collaboration, presentation of knowledge and ideas, and production and distribution of writing.

In general, this program strives to teach participants the basics of copyright and its origins, the rights that creators have to control their creations, the limitations to these rights, and the ways that young people can use and share digital content in legal and ethical ways. Lesson 1 is entitled *Creativity in the Online World: Our Roles as Creators and Consumers*. It reviews how young people create and consume media and introduces the concept of copyright, the protection copyright provides, and the limitations of this protection. Lesson 2, *Acquiring Content Legally and Ethically,* reviews resources that provide movies, music, and other content legally and helps students develop skills for identifying the difference between sites that deliver content in lawful and unlawful ways. In Lesson 3, *Sharing Content—How Much is OK?,* students learn legal and ethical ways that they can share digital music and video. The fourth and final lesson, *Creating New Content Using Others' Work*, teaches students about creative commons licensing, the test for identifying fair use of content, how to determine whether content is in the public domain, and other tools for recognizing content that can be used in their own creative works. More information is available about the curriculum at http://archive.ikeepsafe.org/curriculum-download/.

The curriculum consists of plans for each of the 4 lessons as well as accompanying videos, all of which were designed to be suitable for grades 6 to 9. As a whole, the classes require approximately five 45-minute blocks to administer in their entirety and were designed to be delivered as a unit over the course of days or weeks. Each lesson includes a combination of items, including prompted discussions, video viewing and response conversations, and interactive and hands-on activities. While there is some flexibility in terms of how much of the curriculum is delivered (activities can be included or skipped at the discretion of the teacher), the results of the evaluation described below were generated after a full implementation of the course. The curriculum documentation also includes guidance to help teachers integrate the copyright content into their general teaching following the curriculum, but this approach was not implemented in the current evaluation.

The goal of the evaluation is, in the broadest sense, to determine whether the curriculum is successful at meeting its goals. At its core, this is an educational program, so the primary focus of the evaluation is to gauge the extent to which young people learn the intended information from the lessons. Therefore, the majority of the questions in the evaluation instrument assess participants' knowledge of key concepts related to copyright. Additionally, the curriculum seeks to align participants' beliefs about copyright with ethical perspectives relating to obtaining and sharing of digital content. To assess this goal, the evaluation includes attitude statements about the ethics and impact of copyright to which responding students gauge their agreement. Even though behavior change is not a primary goal of the curriculum, the evaluation is designed to assess the possibility that involvement in the curriculum could impact the behavior of participating students so that in the future they will be more likely to behave in ethical and compassionate ways when they acquire and share music and video on the Internet.. Using self-report questions, participants reported the likelihood that they would obtain and share digital media in described ways over the next year.

Every day children create and consume digital media. This curriculum is designed to provide students with an understanding about how complex topics such as copyright and public domain apply to their daily experiences and to explain to them that the original intent of copyright—to help encourage creative pursuits by giving artists control over what they create—applies even in an age when content is created by everyone and easily accessable. This evaluation iss designed to determine whether or not this curriculum is effective at accomplishing these goals, so as to inform schools and teachers who are considering implementing the program.

METHOD

The Copyright and Creativity for Ethical Digital Citizens curriculum was implemented by two middle schools in Ventura County California. Working with partners in the school district, iKeepsafe identified schools and teachers willing and able to implement the curriculum and administer the evaluation. Participating teachers attended a one-day training on curriculum content and best practices for delivering the lessons to their students. Following the training,

teachers administered the 4 lessons to their 6th to 9th grade students over the course of 1 week. Approximately 475 students received the Copyright & Creativity for Ethical Digital Citizens Curriculum.

Prior to lesson 1, teachers delivered the pre-test component of the evaluation. Students used school computers to complete an online questionnaire that asked about their knowledge of copyright, attitudes about copyright, and their intended behaviors regarding sharing online content. The post-test questionnaire was similarly delivered following lesson 4. The pre-and post-test questionnaires were identical, except for the addition of 5 questions regarding participant responsiveness on the post-test questionnaire. To maintain students' privacy and anonymity while permitting researchers to link their pre- and post-test responses, students were asked 3 questions that were used to uniquely identify the students: first 3 letters of first name, teacher name, and the day of their birthday (e.g. June 13th would be reported as "13"). All coursework and associated evaluations occurred in November 2016.

The questionnaire

The evaluation questionnaire consisted of 13 True/False questions and 21 Yes/No questions testing students' knowledge of key concepts related to copyright, legal, and ethical use and sharing; 19 Agree/Disagree questions regarding attitudes and opinions about copyright; 4 questions associated with behavior and the likelihood over the next year that the participant would share and use content in legal and illegal ways; and 2 scenarios (each with 3 associated behavior questions) about ways to watch movies and to listen to music. Students were also asked to provide a response in their own words to this question: "Why do we have copyright? What is its purpose?" The post-test questionnaire included 5 additional items asking participants to rate their enjoyment of the classes, as well as their belief that they learned something new, valuable, and that other students should also learn.

All questions were written specifically for this evaluation. To craft the items in the questionnaire, the lead researcher studied the curriculum and discussed the primary goals of each lesson with one of the curriculum designers. This process resulted in an extensive list of candidate questions that were culled through team discussions including members from each

collaborating institution. Redundant and less relevant questions were removed until a final list was created that represented the priorities of the curriculum and could be delivered online in a timely fashion using survey methodology appropriate for the age of the participating students. Full text of the questions is provided below in the tables that present corresponding results.

Analyses

Pre- and post-test responses were compared for each question in the Copyright & Creativity for Ethical Digital Citizens curriculum evaluation questionnaire. Differences between responses on the pre- and post-test questionnaire were tested for statistical significance using the McNemar test for the knowledge questions and paired t-test for the attitude and behavior questions. The McNemar test looks for differences in paired dichotomous responses (e.g. the number of "true" responses to a knowledge question in the pre- and post-test questionnaires) and the paired t-test examines differences in means between other paired data (e.g. Agree/Disagree attitude questions). Responses to the open-ended question were coded for specific themes; occurrences of themes in the pre- and post-test questionnaires were compared.

The results are displayed categorically with knowledge, attitude, then behavior questions. Results for knowledge questions report the percentage of participants who provided the correct answer for the question. Attitude and behavior questions show mean scores of the selected response, ranging from 1-5, with higher numbers indicating ideas consistent with the copyright curriculum.

Sample

The analytic sample for this study included participants who provided complete information on both the pre-test and post-test questionnaires. This included 371 individuals; their demographic information is provided in Table 1. Participants were between the ages of 10 and 16, in grades 6 through 9, and attended a participating Ventura County School.

Table 1. Demographics of Participants with Pre-and Post-Test Data

Characteristics	N participants (N=371)	%
Sex		
Male	188	50.7
Female	183	49.3
Age		
11	128	34.5
12	89	24.0
13	86	23.2
14	16	4.3
15	12	3.2
16	40	10.8
Grade		
6	154	41.5
7	86	23.2
8	76	20.5
9	55	14.8
Race/ Ethnicity		
White	200	53.9
Black or African American	16	4.3
Hispanic or Latino	108	29.1
Asian American	31	8.4
American Indian or Alaska Native	8	2.2
Native Hawaiian or Other Pacific Islander	8	2.2

RESULTS

Knowledge Questions

Table 2 shows the results for the True/False knowledge questions. The results show that the percentage of participants who gave correct answers to questions following the curriculum training was significantly higher than before the curriculum for 11 out of the 13 questions. For some questions, the majority of participants gave an incorrect answer on the pre-test questionnaire and gave a correct answer on the post-test questionnaire. These results suggest that prior to the curriculum, many students held an incorrect understanding about copyright. Some examples of this pattern include "Q4. Copyright protects creations made by professional artists (like movies and books), but not the kinds of things that you and your friends create," and "Q6. Anything you create, even a picture you draw on a napkin, is automatically protected

by copyright." The percentages of correct responses for these questions increased from 29.7% and 16.8% on the pre-test to 75.7% and 86.4% on the post-test, respectively. For a few questions, however, less than 50% of the participants gave a correct response at the post-test (Q11, Q12, Q13, and Q16). In two of these questions (Q13 and Q16), fewer participants answered the question correctly at the post-test than the pre-test. Even with these few exceptions, these results indicate quite consistently that participants in the classes, in general, increased their knowledge of copyright and related information.

Table 2. Knowledge Questions: True/False

	Pre-test	Post-test	Sig
	% correct	% correct	*p*
Q4. Copyright protects creations made by professional artists (like movies and books), but not the kinds of things that you and your friends create	29.70	75.70	<0.001
Q5. Copyright gives artists the right to choose how their work is shared with others	78.80	96.30	<0.001
Q6. Anything you create, even a picture you draw on a napkin, is automatically protected by copyright	16.80	86.40	<0.001
Q7. The copyright on a creative work lasts forever; it never expires	36.10	83.20	<0.001
Q8. Copyright does not apply to the photos you and your friends post on Instagram or Snapchat	35.80	73.80	<0.001
Q9. Copyright allows the creator of a song or a movie to choose whether or not to make it available for free on the Internet	83.40	92.00	0.001
Q10. Sharing a link to an artist's YouTube channel is a way to share that song legally with your friend	79.10	83.2	0.168
Q11. "Fair use" lets you use someone else's work however you want as long as you don't make money from it	26.50	31.60	0.105
Q12. Copyright's limits allow us to re-use or copy someone else's work even without their permission in some situations.	38.20	48.40	0.002
Q13. The only way to share a song legally with a friend is to buy the song for your friend through sites like iTunes or Amazon.	55.10	47.90	0.019
Q14. Using a quotation from a book in a book report is an example of fair use	82.70	93.90	0.001
Q15. If a picture is in the Public Domain, you can legally print it on a T-shirt and sell the T-shirt.	47.60	83.20	<0.001
Q16. If something has a Creative Commons License, you can always share it, use it, copy it, or sell it however you want.	56.40	38.00	<0.001
True/ False scale (Number correct)	6.73	9.33	<0.001

Table 3 shows the results of the Yes/ No knowledge questions that cover topics including: items protected under copyright, illegal movie sharing, fair use, and using and sharing songs legally. Individual question results and combined scale results for each set of questions are reported. For individual items, the values represent the percentage of participants that provided the correct answer. For combined scale results, reported numbers represent the average number of correct answers for the items in that scale. Results show that participants greatly improved their ability to recognize materials protected by copyright (questions 17-21). Improvements for other scales were smaller, but always reached the level of statistical significance. Some individual items showed large increases in the percentage of students providing correct answers, including Q23 (identifying misspelled words as an indicator of an illegal movie site) and Q31 (understanding that you can use a small amount of a movie clip as fair use). For other individual items, students demonstrated a strong knowledge of the question at pre-test, so significant improvement was less likely (see Q24, Q25, Q26, and Q28). For two items in the set of questions addressing "Fair Use" (Q30 and Q33), low percentages of participants gave the correct answer at the pre-test indicating a possible area for improving understanding. Neither of these saw significant improvement. For two other questions (Q27 and Q35), more participants gave correct answers at the pre-test than the post-test. With some exceptions, the results of the Yes/No questions support findings from the other knowledge questions and demonstrate an overall improvement in students' understanding of the key topics in the curriculum.

Table 3. Knowledge Questions Yes/No

	Pre-test	Post-test	Sig
	%	%	*p*
Questions 17-21: Which of the following are protected under copyright?			
Q17. Pictures that I take on my phone	26.10	81.90	<0.001
Q18. Books written before 1923	50.90	80.90	<0.001
Q19. Facts and ideas	63.60	81.90	<0.001
Q20. Video games	85.20	92.70	<0.001

Q21. Blog posts	39.40	73.60	<0.001
Protected under copyright scale (Number correct)	2.65	4.11	<0.001
Questions 22-25: Which of the following would be a clue that a web site is offering movies illegally:			
Q22. Lots of people use it	69.80	72.80	0.347
Q23. Many misspelled words	59.80	86.30	<0.001
Q24. When you search for a movie, the site gives you many different links to the same movie	72.80	76.00	0.331
Q25. The site offers movies for free that are currently only in theaters	90.00	92.20	0.350
Illegal movies scale (Number correct)	2.92	3.27	<0.001
Questions 26-29: Which of the following are legal ways to share a song with your friend?			
Q26. Let your friend listen to the song on your phone	92.60	92.40	1
Q27. Share a playlist on Spotify	83.60	73.90	<0.001
Q28. Send your friend a link to the singer's website or YouTube channel	87.90	86.20	0.635
Q29. Share the song through email, cloud storage, or Peer-to-peer site	49.80	75.50	<0.001
Sharing songs scale (Number correct)	3.13	3.29	0.005
Questions 30- 33: Which of the following are ways to make it more likely that your use of a movie clip or song can be considered "fair use?"			
Q30. You give credit to the artist	6.20	8.60	0.212
Q31. You use only a small part	62.30	90.60	<0.001
Q32. You use it for educational purposes	68.20	88.40	<0.001
Q33. You include a "fair use" label in the new work you create	44.70	42.00	0.411
Fair use scale (Number correct)	1.81	2.30	<0.001
Questions 34-37: How can you find a song to use in a video you're making without having to worry about copyright at all?			
Q34. Look for a song in the Public Domain	70.90	94.10	<0.001
Q35. Buy a song in iTunes	31.30	24.50	0.016
Q36. Have your friend give you a copy of a song they bought	66.80	81.90	<0.001
Q37. Look for a song with a Creative Commons license that allows what you want to do	80.30	87.30	0.008
Use songs legally scale (Number correct)	2.49	2.88	<0.001

Attitude Questions

Table 4 provides the mean results of the pre- and post-test items for the Attitude Agreement Scale, which assessed participants' attitudes about different tenets of copyright. Participants responded by indicating their level of agreement with each statement from "strongly agree" to "strongly disagree." Responses range from 1-5, with higher numbers indicating ideas consistent with the curriculum. The results in this table show that students had small, but mostly significant changes in their attitudes about copyright. Some of the items showing the largest shift in attitudes in the direction intended by the curriculum include Q45 ("It's OK to share copies of my music library with my friends"), Q38 ("When people get music illegally for free, it makes it harder for musicians to make a living"), and Q39 ("Copyright laws encourage people to be creative and make new art"), all of which increased by at least ½ point on the 5-point scale.

Table 4. Attitude Agreement Scale

	Pre-test	Post-test	Sig
	Mean	Mean	*p*
Q 38. When people get music illegally for free, it makes it harder for musicians to make a living	3.90	4.42	<0.001
Q39. Copyright laws encourage people to be creative and make new art	3.61	4.14	<0.001
Q40. Copyright laws only help corporations	3.18	3.52	<0.001
Q41. People should be able to share songs for free even if the artist doesn't want them to.	3.73	4.05	<0.001
Q42. Copyright doesn't really apply to you and kids like you	3.73	4.05	<0.001
Q43. It's not fair to artists if people copy their work or post it online without permission	4.11	4.30	0.005
Q44. Kids don't have money to pay for music, so it is ok for them to get it for free from wherever they can find it online	3.66	3.97	<0.001
Q45. It's OK to share copies of my music library with my friends	2.68	3.43	<0.001
Q46. It is important to only do legal things online even if you know you won't get caught	3.78	3.77	0.916
Q47. It is Ok to download or stream movies for free that are in the theaters right now	3.63	3.93	<0.001
Q48. Copyright could be important to you someday.	3.91	4.08	0.004

Q49. If everyone got all their music from illegal sources, artists would get discouraged and stop making as much music.	3.57	3.95	<0.001
Q50. It is OK for me to get movies online from illegal sources because movie companies are rich enough already	3.85	3.95	0.062
Q51. Lots of movies, songs, and pictures are available for use for free because of Public Domain and Creative Commons	3.56	3.90	<0.001
Q52. It's a good thing to share my music through peer-to-peer or cloud storage sites because it helps other people	3.08	3.46	<0.001
Q53. The only reason you shouldn't stream or download movies illegally is because you might get in trouble or sued	2.74	3.00	<0.001
Q54. If a company is charging too much for a video game or movie, it's ok for me to try to get it for free from whatever online source I can find	3.81	3.88	<0.001
Q55. Limitations to copyright, like fair use, help people be more creative	3.60	3.93	<0.001
Q56. It's OK to use peer to peer services (like BitTorrent) to share my music library with everyone who uses that service	3.03	3.48	<0.001
Attitude Agreement Scale	67.15	73.18	<0.001

Intended Behaviors Questions

Table 5 shows mean pre- and post-test results for the Intended Behaviors questions. In these questions, participants were asked to report on the likelihood that over the next year they would share and use content in legal and illegal ways. Participants responded by indicating their behavior in each scenario from "Definitely Will" to "Definitely Won't." Responses range from 1-5, with higher numbers indicating behaviors intended by the curriculum. Results for two of the individual items showed significant change toward more legal and ethical intended behaviors (Q59 and Q60). The other individual items typically showed small, non-significant changes in the intended direction that, when combined into a scale score, reached significance. For at least two of the questions (Q58 and Q66), participants reported a high likelihood of behaving legally in the pre-test response making a meaningful change unlikely. Overall, results in this table show that students had small and, at times, significant changes in the likelihood of certain behaviors related to finding legal content online.

Table 5. Intended Behaviors Questions			
	Pre-test	Post-test	Sig
	Mean	Mean	*p*
Questions 57- 60: Behavior Intent:			
Q57. In the next year, how likely is it that you will make a copy of a song you own and give it to a friend?	3.98	3.95	0.617
Q58. In the next year, how likely are you to use an illegal site to download or stream media (like movies, TV shows, or songs)?	4.00	3.94	0.318
Q59. In the next year, how likely is it that you will try to figure out whether a site you are using to find media (like movies, TV shows, or songs) is a legal or illegal source?	2.83	3.05	0.002
Q60. In the next year, how likely is it that you will check to see if a picture is in the public domain or has a Creative Commons license before you re-use it?	2.75	3.07	<0.001
Behavior Intent Scale	13.56	14.00	0.002
Questions 61-63: Movie Scenarios-Your friend tells you about a great new movie. You really want to see it, but you can't get to the theater. How likely are you to:			
Q61. Just not see it right now (It will be on TV or Netflix at some point).	3.73	3.83	0.129
Q62. Search the Internet for a place to stream it or download it for free.	3.47	3.58	0.095
Q63. Go online and watch trailers and read reviews about it.	3.93	4.01	0.192
Movie Scenarios Scale	11.14	11.42	0.016
Questions 64-66: Music Scenarios-A friend plays you a new song you've never heard before and you really like it. You want to listen to it again. How likely are you to:			
Q64. Buy it from iTunes, Amazon, or somewhere similar.	3.35	3.45	0.08
Q65. Look for it on Spotify or other legal streaming service.	3.60	3.71	0.08
Q66. Search the Internet to see if you can find someone who has put it up online for free, even if the big legal services like Spotify don't offer it yet.	3.99	4.06	0.22
Music Scenarios Scale	10.93	11.23	0.015

Open-ended copyright question

On both the pre-test and post-test questionnaires, participants were asked to answer an open-ended question, "Why do we have copyright? What is its purpose?" The question was designed to determine the students' general understanding of the idea of copyright and to give them the opportunity to answer a key question in their own words. In answering the question, students gave a wide range of responses that varied from simple statements of, "I don't know," to complex explanations of the impact of copyright on creators and creativity. Responses from all participants were used, even if an individual had not completed both pre-test and post-test questionnaires, resulting in a larger sample size than what was available for the above reported quantitative results (pre-test N=411; post-test N = 391). Responses were coded according to the themes evident in their responses. The frequencies of different themes were examined to identify differences between the pre- and post-test answers. Complexity of responses was defined as the number of different themes from the curriculum included in the response.

To code the open-ended responses, a graduate research assistant (RA) first identified key themes from the curriculum that were relevant to the question, "What is copyright?" Definitions provided by the curriculum, examples given in activities, and topics of discussion prompts were used to determine the different topics covered in the classes relevant to the open-ended item. These curriculum themes included legal protection for artists, artists' control over their work, limitations on copying and distribution, and promoting creativity (see Appendix 1 for full definitions of the themes and how they were created.) The RA read each student response and created data-generated response codes for the themes covered across the responses (each response could contain multiple themes). These response themes were categorized according to the curriculum themes with any non-relevant or incorrect responses coded as "other." The appendix provides the full list of response themes and how they are categorized by curriculum theme. Response themes were ordered by frequency. Table 6 provides the top ten response themes for the pre-test and post-test responses.

Table 6. Top 10 response themes of open-ended responses

Pre-test Themes	Post-test Themes
1. Credit to artist	1. Protection
2. Prevent stealing	2. Encouraging creativity
3. Protection	3. Productivity
4. Making money	4. Making money
5. Copying	5. Credit to artist
6. Encouraging creativity	6. Prevent stealing
7. Un-authorized use	7. Copying
8. Prevent illegal activity	8. Control
9. Control	9. Benefits artists
10. Access	10. Un-authorized use

Next, the RA coded each response for the number of curriculum themes that it covered. Each response was assigned one point for each theme covered resulting in a final score that ranged from 0 (response included no curriculum themes) to 4 (response referenced all four curriculum themes). Table 7 below shows the number of responses for each level of complexity for the pre-test and post-test questions. Shifts appear to be somewhat modest but reflect an increase in complexity after the curriculum. The percentage of responses that included less complex scores (0-2) decreased by about 9% between the pre-test and post-test questionnaires, while the percentage of more complex (3-4) responses increased by the same amount.

Table 7. Complexity of open-ended responses

Pre-test N= 454		Post-test N= 416		Percent Difference (Post-test – Pre-test)
0	43 (9.5%)	0	25 (6.0%)	-3.5%
1	4 (.9%)	1	2 (0.5%)	-.4%
2	193 (42.5%)	2	156 (37.5%)	-5.0%
3	162 (35.7%)	3	165 (39.7%)	4%
4	52 (11.5%)	4	68 (16.3%)	5.1%

Participant opinions

As part of the post-test questionnaire participants were asked to respond to questions assessing their opinions of the curriculum (on a scale from 1 "NO!" to 5 "YES!"). Table 6 displays the results of these questions in terms of the average of the responses for each question and the percentage of participants who gave a positive answer ("YES!" or "Yes a little"). These questions can be collapsed into 2 general themes: 1) Did you like the classes (Q68 and Q70)? and 2) Did you learn something new and relevant (Q69, Q71, Q72)? Over half of the participants gave a positive response to the questions about "liking" the curriculum, resulting in a mean that is about 1 1/3 points above the mean of the scale. About 2/3rds of the participants said that they learned something relevant and that other students should take the classes. Over 80% gave an affirmative response to the question, "Did you learn something new from the classes." Overall, most students liked the curriculum and the activities, but a larger percentage felt that the classes taught them something new and useful.

Table 6. Participant Opinion Questions

	N= 416	
	Mean	% Yes! or Yes, a little
Q68. Were the classes interesting?	3.35	55.5
Q69. Did you learn something new from the classes?	4.10	83.8
Q70. Did you like the activities you did in the classes?	3.36	51.7
Q71. Do you think you learned something that you will use in your own life?	3.80	63.2
Q72. Do you think other people your age should take these lessons?	3.86	65.2

CONCLUSION

The Copyright & Creativity for Ethical Digital Citizens curriculum created by iKeepsafe, CreativeFutures, and Comcast along with a team of professionals and scholars strives to educate young people about copyright and the role it plays in their lives. Through hands-on activities and in-depth discussions, participants are also encouraged to develop positive attitudes toward the impact of copyright on the creative process and to leave the program with the intent to behave in legal and ethical ways as they create, obtain and share digital media.

The goal of this evaluation was to determine the extent to which the curriculum was successful at increasing knowledge and changing attitudes and behavior intent of its participants. Overall, the results show a high level of success for the curriculum especially within the knowledge realm. Before the curriculum, students answered almost exactly half of the true/false knowledge questions correctly, indicating that they were doing as well as if they were providing random guesses. After participating in the curriculum, students on average answered 72% of the questions correctly, indicating a significant improvement in their understanding of the key concepts of the curriculum. For certain individual questions, almost 100% of the students answered them correctly at the post-test. For example, 96% of students correctly responded True to “Copyright gives artists the right to choose how their work is shared with others”, a significant increase over the 79% who answered correctly at the pre-test, and 94% correctly responded True to “Using a quotation from a book in a book report is an example of fair use”, a

significant increase over the 83% who answered correctly at the pre-test. Furthermore, there were certain questions where students appeared to have a strong misunderstanding of the concept prior to the classes which they understood correctly following the course. For example, at the pre-test, 83% of participants *incorrectly* answered False to the statement "Anything you create, even a picture you draw on a napkin, is automatically protected by copyright". After the course, 86% of the students correctly answered True to that same question. A similar pattern was present for the false statement, "Copyright protects creations made by professional artists (like movies and books), but not the kinds of things that you and your friends create (70% *incorrect* at pre-test and 75% correct at post-test). Together, these results point to the success of this curriculum in teaching students about key concepts about copyright in the digital age, and in some cases, correcting a large misunderstanding about copyright.

It is important to note that there were some knowledge questions that less than 50% of the students answered correctly on the post-test and there were some (Q13, Q16, Q27 and Q35) in which more students answered the questions correctly on the pre-test than on the post-test—the opposite of the intended effect of the curriculum. These questions tended to cover details of complex topics including Fair Use and Creative Commons. For example, the correct response to the following question is False: "If something has a Creative Commons License, you can always share it, use it, copy it, or sell it however you want." To answer this question correctly, participants have to understand that there are different types of Creative Commons Licenses and that some limit the way the content can be shared and distributed. Question Q30 asks if giving credit to the artist is sufficient to be considered "Fair Use." Considering that only 6.2% answered it correctly ("NO") at the pre-test and 8.6% at the post-test, it seems that this is a commonly held misconception that the curriculum was not successful at changing. Questions Q27 and Q35 are concerned with subtleties of sharing and reusing songs obtained through iTunes and Spotify. Future iterations of the curriculum may be able to improve the retention of these topics by emphasizing and repeating these specific details about the limitations of Copyright and possibility integrating them more thoroughly into the activities of the lessons.

On 17 of the 19 questions concerning attitudes toward copyright, participants significantly shifted their attitude in the direction intended by the curriculum. Some questions that had the largest changes included: "When people get music illegally for free, it makes it harder for musicians to make a living," "Copyright laws encourage people to be creative and make new art, ,and "Copyright doesn't really apply to you and kids like you. . It is important to note that for some of the questions, the difference in the average response between the pre-test and post-test is very small. This is most likely attributable to the limited response choices for these items (1-5) and a relatively large sample size (which makes small differences more likely to statistically significant). The fact that the Attitude Agreement Scale shows a significant change in the expected direction and that each individual item (except one) also shows this change supports the conclusion that participants demonstrated a consistent, albeit modest shift in their attitudes about copyright in the direction consistent with the messages of the lesson.

Gauging the behavioral impact of educational interventions is exceptionally difficult. Considering that the primary goal of this program was education, behavior intent self-report questions were added only to obtain some initial indication of the potential for the curriculum to affect behavior. Of the 10 items asking about behaviors in the next year, and in certain scenarios related to obtaining digital media, two showed significant changes in the direction of more ethical and legal use: "In the next year, how likely is it that you will try to figure out whether a site you are using to find media (like movies, TV shows, or songs) is a legal or illegal source?" and "In the next year, how likely is it that you will check to see if a picture is in the public domain or has a Creative Commons license before you re-use it?" All the behavior scale scores, however, showed significant increases, indicating modest but consistent changes in intended behaviors to be more in line with the curriculum goals. For some of the more egregious abuses of copyright outlined in the behavior questions, participants reported at the pre-test a very low likelihood of conducting that behavior. For example, the mean response for the question, "In the next year, how likely are you to use an illegal site to download or stream media (like movies, TV shows, or songs)?" was a 4 out of a possible 5. There was, therefore, little room for improvement in this and similar items. The items that did show change were linked to behaviors associated with finding legal content, rather than avoiding illegal content.

Considering that topics such as Creative Commons are potentially new to students, this curriculum could be encouraging students to act in legal ways as they obtain digital media by introducing them to easy and feasible strategies for doing so. While further research with additional follow-up is necessary to truly assess behavior change, these findings provide some preliminary evidence that for some behaviors, this curriculum alters participants' planned behaviors regarding obtaining and re-using digital content.

Responses to the open-ended question, "Why do we have copyright?" demonstrate that students are considering the complexity of copyright and how it impacts content creators. Participants' responses covered numerous topics, including legal protection of creative work, promotion of creative endeavors, control of content by the artist, and many more. Details and examples are provided in the appendix. There is some evidence that the responses given by students changed between the pre-test and post-test questions. First, two of the three most frequently used themes shifted from those that focus on protection of content from illegal use and distribution (coded as "credit," and "stealing") to those that emphasize the promotion of the creative products (coded as "creativity" and "productivity"). Legal protection remained in the top three pre-test to post-test. Next, participants gave responses at the post-test that were more complex than at pre-test. We defined complexity of a response as the number of themes it covered and found that overall there was a small, but consistent shift in responses from less to more complex (the post-test included an increase in 9% of responses with 3 to 4 themes and a decrease of 5% in responses with 2 themes compared to the pre-test). Together, these results indicate that after the curriculum, students had more complex understanding of copyright that includes the idea of the legal protection that copyright provides to the copyright owner, as well as its ability to promote creative practices by entitling creators to control of their creations and the financial benefits they produce.

To some extent, connecting with students so that they find a curriculum's lessons important and interesting is a prerequisite for the curriculum to educate them. At the very least, having a program that resonates with its participants sets the stage for success, both in the short and long term. To gauge students' response to this curriculum, we used five standard questions

that asked whether they felt the classes were interesting and appealing, were applicable to their own life, taught something new, and should be taken by other students. A large majority (83.8%) of participants felt that they learned something new from the classes. This supports a need for this program, as students from the participating schools are not learning this content in other classes. Just under two-thirds of the students felt that they learned something useful and that other students should take the courses. The curriculum, at least from the perspective of most of the participating students, is providing information that is relevant and applicable to the lives of young people. The perceived relevance of this information by students is likely to enhance their engagement with the content. Over half of the participants said that the classes were interesting and that they liked the activities in the classes. This does, however, leave a sizable minority (about 48%) that did not report liking the activities. Creating school-based curricula that students will say they "like" and find "interesting" is a difficult endeavor, but likely one that will further enhance impact. Future trainings of teachers for this curriculum might provide additional strategies for increasing students' positive experience with the classes and activities.

This evaluation is not without its weaknesses. Generalizing the findings of this report to other samples should be done with caution and only after considering the following limitations. First, all measures in this evaluation rely on self-reports from young participants. For measures of attitudes and intended behaviors, these responses may be susceptible to social desirability bias. That is, participants could have provided the responses they felt their teacher or the researchers wanted them to provide, rather than a response that truly reflected their attitude or intended behavior. For questions regarding illegal behaviors, responses are even more susceptible to this bias. The knowledge questions and related findings, however, are not vulnerable to this type of bias.

Next, all participants are from a single geographic location and a single school district. Students from other regions and schools are likely to come to the curriculum with different levels of knowledge and pre-existing attitudes about copyright. Lastly, this study does not include a comparison group. The observed effects may, therefore, be attributable to sources other than

the curriculum. There are, however, few other reasonable sources that would explain the shifts in the knowledge questions. It is possible that topics regarding copyright were covered in other classes or conveyed in some other way, but a large majority of students reported that the topic was new to them at the post-test. While a comparison group would have strengthened this study, we feel the lack of one does not invalidate our findings.

Conclusion

The mobile, digital, connected world of the Internet provides young people with unprecedented access to audio and video entertainment and with inexpensive and easy to use tools to generate their own digital creations. For the virtual connected world to succeed as a source for obtaining and sharing creative content, it must be inhabited by citizens who enter into social contracts that encourage continued creative endeavors by artists. By teaching the legal and ethical foundations of these contracts and explaining how they are equally applicable to content created by everyone, The Copyright & Creativity for Ethical Digital Citizens Curriculum begins to lay the groundwork for a sustainable online creative culture. As evidenced by this evaluation, participants in this curriculum leave with a fresh understanding of copyright and, in some cases, shift their attitudes about copyright and their expectations about how they will obtain and evaluate digital material in the future. Young people are constantly navigating the complex intersections between behaviors in the digital space and real world rewards and consequences. With this program included in a larger agenda designed to assist students as they struggle to thrive in the online world, educators can help foster an ethical, creative, safe, and kind digital citizenry.

Appendix

Free Response: Purpose of Copyright

In the pre- and post-test questionnaires, participants were asked to answer an open-ended question, "Why do we have Copyright? What is its purpose?" The question was designed to determine their general understanding behind the idea of copyright. In answering the question, students gave a wide range of answers that varied from simple statements of, "I don't know", to complex explanations of the impact of copyright on creators and creativity. Responses were coded for complexity and accuracy based on themes pulled from the copyright curriculum. Analyses of these responses are presented below.

Complexity of response:

Complexity of response refers to the extent to which each response includes themes pulled from the middle school curriculum[1] for Copyright & Creativity for Ethical Digital Citizens. Themes were broken down into the following categories: legal protection, control, limitation on copying and distribution, and promotion. These themes were determined from the definitions and examples used by the curriculum to define and explain copyright. The following definitions presented in the curriculum were key sources in determining these themes:

The curriculum defines copyright as, "A **legal protection** given to artists and creators that allows them to have **significant control** over how their work is **copied and distributed**. Copyright law **gives artist/owners the right** to make copies, distribute copies, display or perform the work in public, and make derivatives (for example, making a book into a movie)" (p.1).[2]

It also claims that, "Copyright aims to give creators **enough control** to provide **good incentives** to produce work, writing, and art that takes time and labor to make. But it also allows others to draw inspiration from, build upon, and discuss or critique creative works in **appropriate ways**" (p. 1).[3]

[1] iKEEPSAFE. (2017). Copyright & creativity for ethical digital citizens. Curriculum download. Retrieved from http://archive.ikeepsafe.org/curriculum-download/
[2] iKEEPSAFE. (n.d.). Lesson 2: Acquiring content legally and ethically. Retrieved from http://archive.ikeepsafe.org/wp-content/uploads/2015/10/Lesson-2-Acquiring-Content-Legally-and-Ethically.pdf
[3] iKEEPSAFE. (n.d.). Lesson 1: Creativity in the online world: Our roles as creators and consumers. Retrieved from http://archive.ikeepsafe.org/wp-content/uploads/2015/10/Lesson-1-Our-Roles-as-Creators-and-Consumers.pdf

The curriculum cites the Constitution, in that copyright is intended, "To promote the **Progress of Science and useful Arts**, by securing for limited Times to Authors and Inventors the exclusive **Right** to their respective Writings and Discoveries."[4]

As supported by the curriculum, copyright is explained as a legal protection that gives control to content creators and puts limitations on copying and distribution on the work that they create. Through this protection, copyright is intended to promote knowledge, creativity, and progress.

Once the themes were determined from the curriculum, the open-ended responses were analyzed using emic coding and categorized into those themes. The responses were then re-coded using etic coding to determine how many of the curriculum themes were addressed within the response. This provided insight into the complexity of the response. An "Other" and "N/A" categories were added to accommodate for themes that did not fit within the curriculum themes.

Legal protection refers to the idea that copyright is a legal right given to artists and creators. It is ultimately a benefit, as it is a security and also comes with legal consequences for those who infringe on copyright laws. Themes that were categorized as "legal protection" included: "Protection" (ex: "To protect artists and their work"); "Promote fair, legal behavior" (ex: "We have copyright to protect the creative work that people do. It wouldn't be fair that some singer had his song put up on the internet for free when he worked really hard on it"); and "Benefits artists" (ex: "Copyright is important because it helps artists become more creative and make a living out of what they are doing").

Control included any theme that expressed how copyright gives artists and creators autonomy, power, and/or choice through making decisions about their work, being compensation, or receiving appropriate credit. Themes that were categorized as "Control" included: "Making money" (ex: "copyright is for creator to create more of his things and get money off of it"); "Credit" (ex: "Copyright allows movies and songs (etc.) to be sold properly and gives credit to the owner who put a lot of time into it"); and "Respect" (ex: "It's purpose is to be fair and be respectful to the artist and their creations").

Limitations on copying and distribution encompassed the ideas of taking, stealing, copying, using, or sharing someone's work, from the perspective of the consumer. Theme that were categorized as "Limitations on copying and distribution included: "Stealing" (ex: "We have copyright so people won't steal or take credit for other people's work"); "Un/authorized use" (ex: "so they don't use someone

[4] iKEEPSAFE. (n.d.). Lesson 1.3: What's up with copyright anyway – A brief (very brief) history and copyright basics [Video]. Retrieved from https://drive.google.com/file/d/0B44ApZf7tqOVTV93WlZjdC1uZTQ/view

else's work without their permission"); "Reuse/Remix" ("why we have copyright is because so we have legally purmission to reuse it").

Promotion refers to all the incentives and benefits of copyright, for example, "Creativity" (ex: "We have copyright so artists can be more creative"). Other themes that were categorized as "Promotion" included: "Economy" (ex: "We have copyright to help regulate and control the market"); "Productivity" (ex: "more ideas are created and people are not afraid to share their work"); and "Innovation" (ex: "[Without copyright] There wouldn't be any creativity and nobody would be making new things"].

Other refers to any themes that were not addressed or were irrelevant in the curriculum. Many of these themes were emotive or the idea of censoring inappropriate content (ex: "We have copyright to protect what people post and protect what people put out there so people don't get their feelings hurt or if it's something inappropriate no one wants to see it!").

N/A included any responses coded as "IDK," "INCOMPLETE," or "BLANK." "IDK" included any response in which the student wrote "I don't know". "INCOMPLETE" responses included any that were not finished, incomprehensible, or irrelevant to the prompt. "BLANK" responses were those in which the student did not respond at all.

Themes divided into categories.

Legal protection	Control	Limitations on copying and distribution	Promotion	Other	N/A
Applies to everyone Benefits artists Benefits consumer Benefits people Benefits everyone Does not include facts or ideas Equitable Fair-use Legal consequences Prevent illegal activity Promote fair, legal behavior Protection Rights Safety Security Legal issue	Comfort Compensation Control Courage Credit Making money Privacy Saving personal work Success Value Ownership Respect	Access Changing someone else's work Copying Limited time Limit content sharing Plagiarism Sharing Stealing Taking incomplete work Un/authorized use Consent Cheating Reuse/Remix	Creativity Economy Effort Productivity Innovation Promote knowledge Pursuing dreams Originality Improvement	Prevent negative feelings Feeling proud Having fun Importance Moral issue Spending money Inappropriate behaviors Following rules Disintegration Lying Promote positive feelings Prevent mistakes	IDK INCOMPLETE BLANK

Top 10 Themes.

Pre-test	Post-test
1. Credit	1. Protection
2. Stealing	2. Creativity
3. Protection	3. Productivity
4. Making money	4. Making money
5. Copying	5. Credit
6. Creativity	6. Stealing
7. Un/authorized use	7. Copying
8. Prevent illegal activity	8. Control
9. Control	9. Benefits artists
10.Access	10. Un-authorized use

Complexity Coding of Responses.

Each response was coded for the number of curriculum themes captured within the response. There were responses that would include multiple themes within a single curriculum theme; however such a response would only be coded for each curriculum theme captured in the response. For example, the following response, “we have copyright to make sure that things do not get copied and stolen,” includes two themes (“Copying” and “Stealing”) but only one curriculum theme (“Limitations on copying and distribution”). Responses were coded on a scale of 0 to 4 for complexity, with 4 representing the most complex responses including all four of the curriculum themes.

Results of Complexity Coding.

Pre-test N= 454		Post-test N= 416		Percent Difference (Post-test – Pre-test)
0	43 (9.5%)	0	25 (6.0%)	-3.5%
1	4 (.9%)	1	2 (0.5%)	-.4%
2	193 (42.5%)	2	156 (37.5%)	-5.0%
3	162 (35.7%)	3	165 (39.7%)	4%
4	52 (11.5%)	4	68 (16.3%)	5.1%

Conclusions

In analyzing the themes of the open responses, there was an increase in the post-test responses that included the theme of “Creativity” compared to pre-test responses. In the pre-test responses, “Creativity” was the sixth most common theme, captured by 43 out of 411 completed responses- about 11% of responses. However, in the post-test responses “Creativity” was the second most common theme, captured by 108 out of 390 completed responses- roughly 28%.

The copyright curriculum emphasized creativity as a core component of copyright and is repeated multiple times throughout. Responses to the open-ended questions, “What is Copyright? Why is its purpose?”, reflected the ideas that copyright helps artists maintain and grow their creativity (ex: “We have copyright to protect the creativity of artists” and “We have copyright so artists can be more creative”) as well as encourages others to be more creative in their creation of work (ex: “copyright as i've been told is a way to encourage creativity instead of copying other peoples work”).

Within the sample, post-test responses were found to be more complex on average. Compared to pre-test responses, there were fewer responses in the post-test coded as 0, 1, or 2. There were more responses in the post-test that were coded as 3, 4, or 5. About 56% of the responses in the post-test included two or more curriculum themes (not including responses coded as “BLANK”), compared to about 47% in the pre-test. All together these results support the conclusion that the curriculum increased students’ understanding of why copyright exists and the purpose it serves in our social and legal systems.