Designing a Skincare Health Curriculum with a Focus on Online Health Literacy
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Abstract
Despite playing an important role in overall bodily health, skincare is rarely taught in the standard educational health curriculum. Meanwhile, skin-related content, from gua sha face sculpting routines to self-tanning tutorials, is ubiquitous on online platforms like social media. Such content has become increasingly popular among high school students, in particular, as they are often managing puberty-related skin issues and growing self-awareness about their appearance. Furthermore, as avid technology users are continuously exposed to this content, it is important for high school students to accurately assess online health information—defined as online health literacy—especially with the rampant spread of misinformation on frequently used sources like social media. Thus, the goal of this project was to create a skincare health curriculum to fill the gap in health education within high school curricula, teach adolescents about skincare, and address the pervasive issue of online misinformation by enhancing their abilities to navigate and evaluate skin health information on online platforms.

Introduction
With the Internet more accessible than ever, the traditional patient-physician relationship is transforming as more patients prefer seeking medical information online. Adolescents, in particular, frequently engage with digital platforms and often turn to them for health advice (Odgers and Jensen, 2020). Notably, there is an increasing reliance online for skin health information. A questionnaire-based study of 460 participants found that 8 in 10 dermatology patients reported obtaining medical information through sources like Google and social media, primarily before consulting their dermatologist (Gantenbein et al., 2020). Due to hormonal changes and increased susceptibility to skin issues such as acne and hyperpigmentation, adolescents may be especially impressionable to skincare trends and advice shared online (Lynn et al., 2016).

There are hundreds of skincare-related accounts on digital platforms like social media. While some skin health influencer (“skinfluencer”) accounts represent reputable brands and physicians, many belong to “self-proclaimed” skincare experts who share expertise without medical credentials yet often boast more followers (Portela, 2023). The proliferation of uncredentialed skinfluencers has contributed to a digital landscape in which dermatologic content can easily be circulated despite a lack of substantiation for accuracy, consequently promoting skincare beliefs and practices that may be harmful (Iglesias-Puzas et al., 2020). The unforeseen health risks caused by exposure to inaccurate information emphasize the importance of discerning reputable sources of skincare information from misleading content.

As significant consumers of online content, including health information, it is essential for adolescents to effectively access reliable resources. This skill is vital for making informed skincare decisions because young adults are especially vulnerable to risky health behaviors (Gwon & Jeong, 2018). Improving adolescents’ ability to navigate, evaluate, and use health information from online resources—skills that define their online health literacy—requires a multifaceted, engaging education (Guy Jr et al., 2018). Thus, this paper analyzes the influences of online resources, particularly social media, on accessing dermatologic information and
evaluates past skincare education programs to develop a skincare health curriculum that fills this educational gap by integrating content to improve high school students’ online health literacy.

**Literature Review**

**“Skinfluencers” and Online Skincare Trends**

The topic of skincare has surged as an online trend, especially during the COVID-19 pandemic when global social media usage spiked by 120% (Cho et al., 2023). Alongside this sharp increase in social media users was increased interest in skincare social media content. Notably, #skincare experienced exponential growth on apps like TikTok, accumulating 290 billion views as of December 2023—a significant increase from its initial count of 15 billion at the pandemic’s onset (Cho et al., 2023). Of the “skinfluencers” specializing in such content, board-certified dermatologists are the most highly and formally trained in skin health. They have completed at least twelve years of education and training—typically comprising a pre-medical degree, medical school, and dermatologic residency training (Torres, 2021). Meanwhile, skinfluencers who are not physicians may have a similar, if not greater online presence than their licensed counterparts despite lacking the same qualifications and having no formal education in skin conditions (Torres, 2021).

**Adolescent Impressionability on Social Media**

Adolescents are avid consumers of social media content. About two-thirds of US teenagers ages 13 to 17 use at least one of the five most popular social media apps—Youtube, TikTok, Snapchat, Instagram, and Facebook—daily, placing them at the forefront of influences propagated through these platforms (Anderson et al., 2023). Skincare trends that offer seemingly accessible solutions to common skin conditions are particularly proliferative online. In investment bank Piper Sandler’s biannual survey of American teenagers, with the 6,020 surveyed in 2023, researchers gathered that TikTok increased in basis points as the most popular social platform for entertainment and information and that their expenditure on skincare products increased by 19% (“Taking Stock,” 2023), suggesting that skinfluencers promoting the use of specific products caused an increase in teenagers buying them.

With claims about the success of skincare trends gaining traction online, more adolescents are turning to social media for skin health advice. In addition to Gantenbein and colleagues’ survey (2023), a questionnaire conducted by CharityRx, a discount pharmacy service increasing patient accessibility to over-the-counter healthcare products, identified among a group of 2,000 American participants aged 18 and under that over two-thirds turn to online influencers for dermatologic health advice due to their accessibility compared to medical professionals (“The Shifting Role,” 2022). Their overconsumption of social media leads to a greater tendency to seek health information online, primarily out of convenience and greater exposure to popular “skinfluencers” whether they prove credible or not in the information they provide (Johnson et al., 2023). Since medical credentials are not required to share skincare advice online, this poses a “risk to patients when inaccurate or low-quality information is shared” (Johnson et al., 2023).

The allure of trending skincare solutions often overshadows their potential risks. Sunscreen contouring, a practice in which sunscreen is applied to prominent planes of the face to achieve a sculpted appearance after sun exposure, is an example of a skincare trend that gained immense popularity on TikTok (Yates, 2021; Hernandez et al., 2022). However,
unnecessary ultraviolet radiation exposure increases one’s risk of developing skin cancer and causes collagen and pigmentation issues (Yates, 2021). Similarly, Melanotan is a synthetic hormone that has been purported on social media to be an alternative way to attain tanned skin, but award-winning dermatologist and dermatologic surgeon Dustin Portela warns that this unregulated drug can result in an increased risk of melanoma, facial flushing, or even rhabdomyolysis—a potentially fatal medical condition (Portela, 2023). Although these social media trends seem to promise better and faster results, there is a concerning lack of evidence to support their claims.

Despite these dangers, however, adolescents remain susceptible to the influence of social media, and the pervasive nature of non-credentialed skinfluencers further exacerbates this phenomenon. While certified physicians have considerable social media presence, content from unregulated skinfluencers often receives significantly higher public engagement. In a study published by *The Journal of Clinical and Aesthetic Dermatology* that included an analysis of posts about skincare on TikTok and Instagram, Devjani and colleagues (2023) found that bloggers’ posts had greater engagement than board-certified dermatologists on their posts, with 2.4 times more average likes (a collective mean of 31,113,226 vs. 8,241,641) and about 1.5 times more followers (833,310 vs. 555,540). In another study, Emily Pfender and Amy Bleakley (2023), social scientists at the University of Delaware whose research focuses on the influence of social media on dermatologic and contraceptive health, examined the accounts of Instagram skinfluencers and determined that while physician creators had a prominent following and frequently posted content on their social media accounts, the majority of skin-related content in this study was shared by those with “informal” medical education. As non-credentialed skinfluencers or those with more limited training comprise most of the skin health social media landscape (Pfender & Bleakley, 2023), adolescents may be more inclined to heed the health information they provide.

In addition to underqualified skincare content creators having a greater share of engagement from users, some may emulate self-proclaimed experts to enhance their credibility by intentionally shaping their online presence and visual content to attract more viewers. In a peer-reviewed study published in the *Journal of the American Academy of Dermatology*, researchers compared the visual appeal of content, which impacts audience engagement, in the Instagram posts of large-scale influencers with a mean following of 600,000 to that in the posts of board-certified dermatologists. They discovered that despite the dermatologists' posts being rich in professional and informational content, the Instagram influencers' visually stunning and aesthetically pleasing posts consistently outperformed them in terms of audience engagement (Presley et al., 2023). The influencers' use of minimalist or brighter colors, a minimal layout, and captivating photos made their content more compelling to the audience. This also diverted attention from less noticeable markers of untrustworthiness, like tagging the product brand in a sponsored post (Presley et al., 2023). These findings suggest that social media users often weigh the visual presentation of social media content more heavily than the credibility of professional expertise. This result is not limited to skincare content; design elements used on social media are often meant to capture the consumer’s eye and sway their decision-making processes toward buying the advertised product (Mahsen et al., 2020). Such marketing strategies exacerbate the challenge of preventing the dissemination of inaccurate skin health information and harmful skincare practices to impressionable adolescent social media users.

**Importance of Online Health Literacy**
With the propagation of inaccurate skincare content and skin influencers using duplicitous means to gain credibility, the importance of adolescents’ ability to carefully navigate online resources, gain accurate medical information, and practice online health literacy skills is increasingly evident. Dr. Donna Lee Ettel, a health sciences professor at the University of South Florida Honors College, and colleagues (2017) stress that adolescents should ensure they optimally navigate and apply health information from reliable online sources to their skin health practices. After surveying high school students in Tampa, Florida, they discovered that roughly 66% of students trust the information they find online without considering if the source has healthcare professionals’ oversight, and 22% make behavioral modifications according to online information they found, which may include “diet, home facial remedies, recommended medications, and lifestyle changes” (Ettel et al., 2017). Similarly, Lorena Gantenbein, a clinical professor of dermatology at the University of Basel in Switzerland, and colleagues (2020) emphasize the necessity of online health literacy because, while social media can serve as a valuable tool for qualified healthcare professionals to maximize community outreach when sharing medical information, not all information shared is credible. Thus, online health literacy skills play a significant role in how adolescents consume information online and use it to make informed decisions about skincare.

**Past Skincare Educational Programs**

While educational programs exist to teach audiences about the fundamentals of skincare and skin health, they inadequately address the challenges of accessing reliable health information online. For example, educational programs like The American Academy of Dermatology's *Good Skin Knowledge* (GSK) have been introduced to schools to help address the issue of inadequate skincare education among adolescents. Developed in collaboration with medical students at the University of Texas Health Science Center at Houston, it demonstrates a comprehensive approach to skincare education, focusing on addressing topics of skin hygiene, common dermatologic conditions, and sun safety for elementary and middle-school students (Anderson et al, 2022). However, despite informing students about these essential skin health topics and providing footnotes citing online health resources for students (Anderson et al, 2022), the learning module does not include lessons on improving the accessibility and navigation of such resources due to undeveloped online health literacy skills.

Another prominent educational program to improve adolescents’ skincare knowledge is the American Skin Association's *The Skin You’re In* program for adolescents. Addressing pertinent skincare topics such as acne, sun safety, and atopic dermatitis, the program provides foundational knowledge for promoting skin health among students (“The Skin,” n.d.). While the focus is on younger age groups, the educational strategies employed by this program hold promise for informing a comprehensive skincare health curriculum for high school students (Noll, 2023). Particularly, the emphasis on empowering individuals to care for their skin aligns with the overarching goal of fostering increased confidence and health awareness (“The Skin,” n.d.). However, while the American Skin Association’s educational skincare program is commendable for emphasizing the importance of fundamental skincare knowledge for adolescents and providing an education aligned with National Health Education Standards, it does not address the lack of curriculums teaching high school students about navigating online sources to obtain skin health information.

In addition to the specific skin health education programs described above, a more general framework that may be used to inform the development of a skin health curriculum is appearance-based education. Dr. William Tuong, a doctor of general medicine at Cedars-Sinai...
Medical Center, and Dr. April W. Armstrong, a dermatologist and the associate dean for clinical research at the University of Southern California, conducted a randomized controlled trial comparing the efficacy between health-based video education and appearance-based education in improving sun protection behaviors among elementary-school students (2021). Their application of traditional health-based education, which focused on long-term skin cancer risk, was compared to appearance-based education that emphasized the hazards of exposing skin to UV rays using videos (Tuong & Armstrong, 2014). Results indicated that the appearance-based approach significantly improved sunscreen use, with participants receiving this method of education applying sunscreen more frequently at a 6-week follow-up compared to the health-based video education group (Tuong & Armstrong, 2014). These findings highlight the potential for more engaging and relatable educational strategies to enhance skincare education and reduce the risk of skin-related health issues among youth.

Despite the effectiveness of the Good Skin Knowledge curriculum, The Skin You’re In program, and appearance-based education strategies, there is still an absence of emphasis on developing students’ online navigation skills to assess accurate skin health information. Nevertheless, the skin health education pedagogies employed by these programs may be used to inform the development of a more comprehensive skincare health curriculum. Thus, the question arises: How should a health curriculum be designed to promote high school students’ online health literacy and enhance their ability to identify inaccurate and misleading online content about skincare? To address this gap in skincare education, I developed the Derm Decoded curriculum for high school students focused on enhancing online health literacy. It seeks to educate students about skin health while equipping them with the skills to discern reliable online sources and thus make more informed decisions about their skincare practices.

### Methodology

Current skincare education fails to adequately educate youth about the correlation between skin health and online health literacy. To create a skin health curriculum that addresses this deficit, a combined quantitative and qualitative analysis of data collected via a survey distributed to students, a qualitative analysis of the five health education standards provided by the National Consensus for School Health Education, and research on the learning models and curricula content used in previous skincare educational programs were conducted. Then, those results were aligned to create a finalized skin health curriculum framework and product tailored to accentuate the necessity of online health literacy.

### Ethical Considerations

The needs-assessment survey portion of this project required human participants. Therefore, I received Institutional Review Board approval from a local community college before administering the survey. To emphasize the voluntary nature of the survey and ensure students’ informed consent, I began by asking respondents to check off a statement acknowledging their voluntary participation and that no incentives would be provided. In addition, to protect respondents’ identities, I did not collect their email addresses and solely requested their grade and gender for data categorization purposes.

### Needs-Assessment Survey

The first part of curriculum development entailed creating a needs-assessment survey using Google Forms to evaluate the extent of my high school peers’ knowledge of and interest in skincare and determine the content topics for Derm Decoded (Appendix A). According to Rie Raffing, a researcher at the Clinical Health Promotion Centre in Copenhagen, Denmark, and
colleagues (2023), a needs assessment is one of the first steps for developing a standardized curriculum because it reveals the target learners’ true needs and current levels of understanding. I also chose this method due to its scalability and ability to capture anonymous responses. These characteristics encouraged candid responses from a larger sample size while minimizing potential biases associated with face-to-face interactions. The needs-assessment survey was distributed to students across [redacted] High School through teacher announcements and emails with a link to the Google Form.

The survey was divided into five sets of questions. The first set asked respondents for demographic information such as gender and age. Then, respondents were asked about their consistent use of skincare products like cleansers and sunscreen. Next, respondents reported their confidence in their skincare knowledge, rated their belief in whether they were adequately caring for their skin, and indicated their primary sources of skincare information from a predefined list of common resources. Additionally, the survey assessed respondents’ interest in various skincare topics, including understanding product ingredients and addressing specific skin concerns.

The final set of questions evaluated respondents’ ability to identify reputable and uncredible sources of skin health information. In this section, a series of screenshots of posts from TikTok, Instagram, X, and Reddit (all of the posts were uploaded in January 2024) sharing skincare advice and displaying recommended skincare products were presented to the survey respondents. I ensured that usernames and captions were visible for each post or collection of images. Then, each respondent was asked to rate the trustworthiness of the posts on a scale of 1 (strongly untrustworthy) to 5 (strongly trustworthy) and briefly explain the reasoning behind their ratings.

In preparation for analysis, I categorized survey data according to respondents’ ages and genders in a spreadsheet layout using the QUERY function in Google Sheets (Visual 2). Next, I created a chart for each question’s responses by going to “Insert,” then “Chart,” and reformatting the chart visuals to create one cohesive color scheme.

**National Health Education Standards**

The next step of curriculum development was identifying an established set of quality standards for health education programs. Established standards help ensure that a program’s objectives, content, and activities align with the healthy behaviors it hopes to promote and allow for a more accurate measurement of the program’s success (Videto & Dake, 2019). The National Health Education Standards (NHES) 3rd Edition is a framework stipulated by the National Consensus for School Health Education for assessing the quality of a school health education program and guiding health education curricula creation (“National Health,” 2022). I analyzed five NHES standards to determine their applicability to the *Derm Decoded* curriculum, which is a method analogous to a previous AP Research paper that analyzed educational tenets and their application/relevance to their own curriculum they had designed (“Development,” 2023).

**Enhancing Health Through Functional Health Knowledge**

The first NHES standard highlights how students should be able to understand and apply functional health knowledge to promote their health (“National Health,” 2022). Functional health knowledge refers to practical information that an individual can directly apply to maintain health, such as the benefits of exercise and essential hygiene habits. In the context of skincare, the *Derm Decoded* curriculum includes interactive activities like an assessment to teach students about their specific skin type, enabling them to identify, purchase, and use appropriate skincare...
products. This functional knowledge empowers students to make informed choices about their skin health.

**Examining Influences on Health Behaviors**

The second standard of the NHES acknowledges that analyzing internal (e.g., attitudes, beliefs) and external influences (e.g., family, media) on one’s health behaviors is essential for cultivating health literacy (“National Health,” 2022). *Derm Decoded* integrates this standard by encouraging students to explore factors impacting their skin-related decisions. For example, the “Social Media Scan” activity allows students to practice identifying misleading skin-related social media content designed to influence consumers. Through this activity, they can refine their ability to critically examine societal influences on and develop a deeper awareness of their skin-related behaviors.

**Accessing Reliable Health Resources**

The next standard of the NHES is that health curricula should promote health literacy by helping students locate and access reliable health resources (“National Health,” 2022). To apply this standard, throughout *Derm Decoded*’s second unit, students learn to navigate reliable health information. They practice researching and analyzing credible sources of skincare information, identifying these sources using scholarly tools and markers of credibility on social media posts, and using the sources they find to complete research-based creative projects. These activities promote skin-related health literacy, which encourages the adoption of healthy behaviors.

**Enhancing Health through Effective Communication**

The fourth standard of the NHES highlights the significance of interpersonal communication in establishing and maintaining healthy behaviors and emphasizes effective communication of health needs (“National Health,” 2022). While the main focus of *Derm Decoded* is disseminating skincare and online health literacy knowledge, communication skills are also prioritized. For instance, the curriculum includes an activity where students learn to convey health information by designing a public health sun safety campaign. Additionally, reflective discussions with guiding questions allow students to express their skin health concerns and brainstorm ways to apply the insights gained from online resources provided in the curriculum with peers through written communication.

**Enhancing Health through Effective Decision-Making**

The final standard of the NHES underscores the pivotal role of decision-making in establishing and maintaining good health behaviors. *Derm Decoded* integrates this standard through exercises where students create personalized skincare routines and conduct extensive research on a self-selected skincare topic to learn more about their personal skin concerns. These activities enable students to utilize their skincare knowledge and online health literacy skills to make informed choices about their skin health.

**Drawing from Past Skincare Educational Programs**

In the last portion of curriculum development, I performed a qualitative analysis of the three skincare educational programs aforementioned in my literature review. A comprehensive chart that provided a structured overview of each program, including details on learning models, content areas, and data demonstrating the effectiveness of the curricula, was created (Appendix B). This chart was utilized to inspire the development of my own skin health curriculum.

**Results**
Needs-Assessment Survey Responses

A total of 50 survey responses were collected. The demographic data is summarized in Table 1.

Table 1
Needs-Assessment Survey Demographic Data

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>N = 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>15.5</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>25 (50%)</td>
</tr>
<tr>
<td>Female</td>
<td>25 (50%)</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>21 (42%)</td>
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<tr>
<td>10</td>
<td>17 (34%)</td>
</tr>
<tr>
<td>11</td>
<td>5 (10%)</td>
</tr>
<tr>
<td>12</td>
<td>7 (14%)</td>
</tr>
</tbody>
</table>

Note. Demographic data of the survey population based on their age, gender, and grade.

The following set of questions assessed skincare habits and knowledge. Notably, 50% of respondents responded either “No” or “Sometimes” to the question of using skincare products consistently, while the other half said “Yes.” Furthermore, roughly 67% of respondents gave their confidence in their current skincare knowledge a score of 5 or lower on a 1-10 scale (Figure 1).

Figure 1
Respondents’ Confidence Rating of Skincare and Skin Health Knowledge

Note. Survey data collected from high-school students who self-rated their confidence in how well they take care of their skin.
Additionally, the majority of respondents—a combined 69.4%—said either “No” or “Somewhat” when asked if they believed they were taking good care of their skin (Figure 2).

**Figure 2**
*Respondents’ Self-Assessment of Skincare Habits*

![Pie chart showing respondents' self-assessment of skincare habits.](image)

**Note.** Survey data collected from students who evaluated how well they care for their skin.

Ultimately, it appeared that, while respondents had foundational skincare knowledge and took some initiative to apply it in their daily routine, a more in-depth educational course beyond what is provided in traditional school health curriculums proved necessary to increase their confidence and enhance their current skincare habits.

Then, when inquiring about students’ use of online resources—both web-based sources and social media—to inform their skincare practices, the significant majority (89.6%) reported using social media and/or online websites, while only 22.9% sought additional advice from medical professionals. In the following open-response question asking about the forms of online resources students specifically refer to, many participants reported turning to TikTok and Instagram to obtain information. Such reliance on social media for skincare information among students emphasizes the significance of having online health literacy skills to distinguish credible sources from potentially deceptive content.

The final portion of the survey asked respondents to rate the trustworthiness of select social media posts on a scale of 1 to 5, with 1 being “not trustworthy at all” and 5 being “very trustworthy.” The first post displayed a skincare influencer overtly advertising DIY microneedling, with bolded text claiming the procedure is “safe and easy” while promoting the specific brand and product in the description. The second explained how to make an at-home lemon and baking soda face mask with a lack of credited reputable sources to support their claims that the ingredients had antioxidant properties and could detox the skin. These posts were chosen for their explicit lack of credibility. About 84% of respondents rated the first post a 2 or lower and the remainder voted a 3 for “unsure.” Yet, for the second post, despite the author of the post’s use of stock images and a lack of reputable citations for their claims, 48% of respondents provided a
rating of 2 or lower, but 30% remained unsure and 20% rated it a 4—meaning they agreed that it was more trustworthy than not. Ultimately, the data emphasizes the necessity of teaching online health literacy in Derm Decoded to effectively equip high school students with skills to discern inaccurate online skincare content.

It was more difficult for respondents to evaluate the credibility of the final two posts, as suggested by data indicating that most respondents reported they were unsure of their trustworthiness. The third post had a slightly lower mean rating (2.8) despite indicators of credibility in the post, including identity verification and the medical credentials of the authors (both of whom are board-certified dermatologists), lack of advertisements, and the posts’ focus on providing educational content rather than attracting social media users with dramatic visuals like the first two posts. However, the fourth post received a slightly higher mean rating of 3.33, which some respondents explained was due to noticing that the post’s author was a dermatologist, and it provided thorough explanations of the skincare products mentioned and did not appear as “clickbait.” Overall, respondents demonstrated an understanding of what criteria a trustworthy social media post should not include. However, there was a gap in knowledge regarding the characteristics of a credible post, emphasizing the need for improvements in the students’ online health literacy.

Research Literature Findings
In developing the curriculum, I drew insight from three skincare educational programs. The first study detailing The Skin You’re In educational program provided valuable strategies for enhancing student engagement through interactive activities such as storytelling and video-based learning (“The Skin,” n.d.). These approaches were integrated into Derm Decoded to foster active participation and comprehension among students. Additionally, the study highlighted the importance of regular assessments in gauging students’ understanding, which influenced the inclusion of guided reflections after each lesson in my curriculum.

The second program, Good Skin Knowledge, emphasized the effectiveness of diverse teaching methods in improving skincare knowledge among participants (Anderson et al, 2022). The curriculum’s activities were primarily hands-on and collaborative, (Anderson et al, 2022), and they inspired Derm Decoded’s inclusion of science experiments and group presentation projects among its activities. Furthermore, the study's findings on increased engagement following interactive sessions informed the prioritization of active learning approaches in my curriculum, including Think-Pair-Shares, games to help students retain information, collaborative activities, and research-based projects.

Finally, Tuong and Armstrong’s randomized controlled trial on the impact of health-based education versus appearance-based education provided insight into effective messaging strategies for promoting sun safety (2014). By observing the outcomes of both approaches, I tailored elements of my curriculum to balance informational content with visually engaging and interactive activities to enhance students' understanding of skincare while encouraging positive behavioral changes.

Curriculum Creation
Guided by the needs assessment survey responses, review of previous skin-related educational programs, and NHES, I created a skincare health curriculum called Derm Decoded composed of two units, each with two lessons. The contents are organized in Table 2 and Table 3 as follows:

Table 2
<table>
<thead>
<tr>
<th>Unit 1: The Fundamentals of Skincare</th>
<th>Lesson Outline</th>
<th>Significance of Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Science</td>
<td>Skin Type Assessment</td>
<td>Promotes self-awareness and personalization of curriculum, which aligns with the overall goal of empowering students to make more informed health decisions.</td>
</tr>
<tr>
<td></td>
<td>TedTalk Video + Discussion: Why Skincare is an Important Topic for Youth, Told by a High School Student</td>
<td>Utilizes findings from Tuong and Armstrong’s study on appearance-based education (2014) on the success of videos to foster collaborative thinking and discussion, aligning with the curriculum’s emphasis on enhancing health through effective communication.</td>
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<tr>
<td></td>
<td>Skincare Mastermind Challenge</td>
<td>Incorporates into the curriculum a challenging game of collaborative problem-solving to increase engagement of curriculum.</td>
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<td></td>
<td>Guiding Reflection</td>
<td>Encourages self-reflection and retention of new knowledge.</td>
</tr>
<tr>
<td>Sunscreen and Sun Safety</td>
<td>Do Now: Do you put sunscreen on everyday? Why or why not?</td>
<td>Assesses students’ sunscreen habits before the lesson.</td>
</tr>
<tr>
<td></td>
<td>Video + Questions: Importance of Sunscreen and Sun Safety, Told by a Radiologist</td>
<td>Provides expert knowledge from a health professional and prompts critical thinking with reflective questions, enhancing adolescents’ health through effective communication and improving access to reliable resources.</td>
</tr>
<tr>
<td>Science Experiment: Paper, Sunscreen, and UV Rays</td>
<td>Offers an interactive, hands-on learning experience while reinforcing key concepts about sun safety.</td>
<td></td>
</tr>
<tr>
<td>Designing a Sun Safety Campaign</td>
<td>Encourages use of creativity and advocacy skills to design informative visuals on social media, supporting students’ enhancement of health through effective communication.</td>
<td></td>
</tr>
</tbody>
</table>

### Table 3

<table>
<thead>
<tr>
<th>Unit 2: Skincare &amp; Online Health Literacy</th>
<th>Lesson Outline</th>
<th>Significance of Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Online Health Literacy</td>
<td>Do Now: How would you define online health literacy?</td>
<td>Assesses students’ perceptions of online health literacy before lessons.</td>
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<tr>
<td></td>
<td>Infographic: What is Online Health Literacy?</td>
<td>Aids comprehension and provides knowledge backed up by scientific sources, reinforcing the curriculum’s focus on reliable health resource accessibility.</td>
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<td></td>
<td>Research Report</td>
<td>Strengthens use of writing and research skills, integral for exploring factors influencing health behaviors—thereby aligning with the standards applicable to the curriculum.</td>
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<td></td>
<td>Lesson Mini-Reflection</td>
<td>Supports effective decision-making regarding skin health by encouraging students to reflect on their new understanding of skincare.</td>
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<tr>
<td>Dangers of Skincare Trends</td>
<td>Think-Pair-Share: Have you ever tried out a skincare trend you saw on social media or online in general? Did it work for your skin?</td>
<td>Encourages strong analysis and discussion as part of examining influences on health behaviors of students.</td>
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<tr>
<td></td>
<td>Article + Presentation Activity: A Dermatologist Speaks on Skincare Trends</td>
<td>Provides insight from a dermatologist who advocates against skincare trends and speaks on their increasing prevalence on social media to youth; has students use new knowledge and research skills to create presentations advocating against inaccurate information online.</td>
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<td></td>
<td>Social Media Scan Activity: Interpreting Credibility of Social Media Posts</td>
<td>Has students apply new online health literacy skills to discern the credibility of skincare information online by identifying markers of both credibility and inaccuracy.</td>
</tr>
<tr>
<td></td>
<td>Research Activity</td>
<td>Encourages students to utilize new knowledge, strengthened research skills, and understanding of how to find credible resources to produce a final research project.</td>
</tr>
</tbody>
</table>

**Conclusion**

The findings of a series of quantitative and qualitative analyses shaped the framework of a skincare health curriculum. The quantitative and qualitative analysis of a needs-assessment survey distributed to Malden High School students was conducted for the purpose of evaluating the necessity of the curriculum, confirming whether the target audience should be adolescents, and determining what learning content should be included. Then, a second qualitative analysis was performed by compiling research from several studies detailing past skincare education programs to determine the most demonstrably successful and effective learning models and curriculum content. Finally, a third qualitative analysis of current national health curriculum standards and their application to my own curriculum was completed. The results shaped the final framework for *Derm Decoded* with a focus on online health literacy.

The identified gaps in skincare education highlight the increasing reliance on online resources and the associated challenges of misinformation. Limited access to dermatologists,
coupled with the rise of "skinfluencers" on social media, accentuated the need for targeted educational intervention. Thus, crafting a comprehensive two-unit skincare health curriculum for high school students, it integrates multimedia elements and interactive activities to enhance engagement while helping to develop their online health literacy skills. In addition, it sought to address the educational gap present in previous skincare educational programs.

However, there are limitations to acknowledge. Due to the project’s time constraints, I did not distribute curriculum to teachers across local high schools to evaluate its effectiveness, which influenced the direction of the paper to focus in-depth on the curriculum's development rather than implementation. Another limitation is that not all students may have consistent access to online resources, which could affect the relevance of the curriculum’s focus on improving their online health literacy. This led to my decision to not only include the second unit of online health literacy but also the first about the fundamentals of skincare and skin health to improve the curriculum’s inclusivity. Lastly, because the needs-assessment survey was limited to local high school students, the survey population may not be as representative of high school students in general; thus, I emphasized the fact that the student body at my school is ethnically diverse to justify the inclusivity of the survey.

The current product can be improved. As aforementioned, its implementation in classrooms could have helped determine its efficacy in educating high school students about skincare and online health literacy. Secondly, lessons could have addressed potential financial barriers to accessing quality skincare information and products. This would lead to an even more inclusive curriculum. Thus, the conclusions of this paper can guide educators to have the curriculum taught to high school students and examine its effectiveness and inclusivity, then make recommendations if needed. Further studies could investigate how teaching students the topic of online health literacy impacts their skincare practices and skin health.

Ultimately, this skincare health curriculum, in addition to providing students comprehensive skincare education, seeks to empower adolescents to better manage skin health and overall quality of life by improving their online health literacy.
References


16. Mahto, A. [anjalimahto]. (2023, May 30). *This is such a common question that crops up every year once the weather warms up. The short answer is* [Photograph]. Instagram. www.instagram.com/p/Cs22vF5oUnZ/?hl=en&img_index=1.


Derm Decoded:
A Guide to Skincare and Online Health Literacy
Created by XXXX
Welcome!

This booklet contains **two units with two lessons each**.

All light beige-colored pages are materials in unit one, and all white pages in unit two. All activities are to be completed in order of what is outlined in each lesson.

Each page marked with a [_circle_image] is designed to be photocopied and/or digitally distributed to students.
Unit 1: the fundamentals of skincare
U1, Lesson 1:

the science
Outline

Skin Type Assessment
TedTalk Video + Discussion
“Skincare Mastermind Challenge”
Guided Reflection
Skin Type Assessment

1. How does your skin usually look like/feel at the end of the day?
   a. shiny and slick   b. dry and flakey
   c. oily on T zone (nose and forehead) but matte cheeks
   d. none of the above

2. After several minutes of washing your face with water, how does your skin feel?
   a. still oily   b. dry and craving moisturizer
   c. dry in some areas, slick in others
   d. calm, soft, and smooth

3. What’s generally your top skin concern?
   a. oiliness   b. dryness
   c. uneven shininess on T zone and rest of face
   d. fine lines and wrinkles
4. Do you get acne often?
   a. yes, I have frequent breakouts
   b. I get breakouts, but they can be treated quickly
   c. sometimes
   d. little to none

5. If researching skin products, what benefits would you want them to have for your skin?
   a. reduce oiliness with the right amount of plump and glow
   b. moisturize and hydrate my skin
   c. even out my complexion
   d. anything is fine for me
Assessment Results
you likely...

**MOSTLY As:** have oily skin, which produces excess sebum, leading to a shiny complexion and potentially clogged pores and increased proneness to acne.

**MOSTLY Bs:** have dry skin, which lacks sufficient moisture, often resulting in flakiness, tightness, and at times acne.

**MOSTLY Cs:** have combination skin, which exhibits characteristics of both oily and dry skin, with an oily T-zone and drier cheeks.

**MOSTLY Ds:** have normal skin with a balanced moisture level and without excessive oiliness or dryness, resulting in a smoother complexion.
Tip:
For the next activity, project the video for the class to see; or, if the students work independently, have them use the URL provided on the designated worksheet to display the video on their own device.

https://www.youtube.com/watch?v=ZMriBleKFSs
Watch a video about the correlation between skincare and public health equity, delivered by then high school senior Keenan Davis. While watching, pay attention to Keenan's personal journey with severe acne, his advocacy for inclusive skin care practices, and his proposals for addressing inequities in access to sun safety and dermatological resources.

URL: https://www.youtube.com/watch?v=ZMriBleKFSs
Video Discussion

After watching the video, have students engage in a class-wide discussion about the importance of the topic of skincare among adolescents and its incorporation into school health curricula. Here are guiding questions:

- How did Keenan's personal experience with severe acne shape his perspective on skin care and public health equity?
- What are some of the common misconceptions about skin care that Keenan addresses in his speech?
- What ways can incorporating skin care education into school curriculums help promote public health equity and reduce the prevalence of skin cancer?
- How does Keenan suggest making online resources accurate and accessible for students to access skincare information? What are the potential benefits of this approach?
Game: Skincare Mastermind Challenge

Students will play a knowledge game based on the information they retained from the skincare science mini-lecture.

materials:
- whiteboard or flip chart, index cards or sticky notes, timer

instructions:
- prepare index cards or sticky notes with questions related to skin health and skincare science. Each question should focus on one of the three key concepts.
- assign point values to each question based on difficulty (e.g., 10 points for easy questions, 20 points for medium questions, 30 points for hard questions).
- rounds (30 minutes):
  - divide the class into teams of 3-4 students each.
  - start the game with the first team, who selects a question card from the deck. They have 1 minute to discuss and formulate their answer, then present their answer to the class.
  - if the answer is correct, they earn the designated points. If incorrect, the question passes to the next team for a chance to steal the points.
  - continue rotating through the teams until all question cards have been answered.
- final round: rapid fire:
  - ask a series of rapid-fire trivia questions related to skincare science.
  - the team with the highest total points at the end of the round wins.
Guided Reflection

Write a two-paragraph reflection describing how your knowledge of skincare may have deepened as a result of this lesson. Consider the following questions:

• How has your understanding of skincare science evolved throughout this lesson?
• Reflect on your current skincare routine. What products do you use, and why?
• Have you encountered any skincare myths or misconceptions? How has learning about the science behind skincare helped dispel them?
• What changes, if any, do you plan to make to your skincare routine based on what you've learned?
• How do you think understanding skincare science can contribute to your overall skin health?
Write your reflection here:
U1, Lesson 2:
sunscreen and sun safety
Outline

Do Now

Video + Questions

Science Experiment

Designing a Sun Safety Campaign
Do Now
Do you put sunscreen on everyday? Why or why not?
Tip:
For the next activity, project the video for the class to see; or, if the students work independently, have them use the URL provided on the designated worksheet to display the video on their own device.

https://www.youtube.com/watch?v=ZSJITdsTze0
Watch a video about the importance of sunscreen and sun safety, delivered by board-certified pediatric radiologist Kevin P. Boyd. While watching, answer the following video-based questions.

URL: https://www.youtube.com/watch?v=ZSJITdsTze0

1. What are some of the positive effects of the sun mentioned in the video, and why might excessive sun exposure be harmful?

2. Describe the purpose of sunscreen as explained in the video, and what are the primary harmful effects of the sun's ultraviolet rays mentioned?
3. What are the two basic types of sunscreen blockers discussed? Explain how they differ in their purpose to protect the skin.

4. Why is it emphasized in the video that everyone, regardless of skin tone, needs to use sunscreen?

5. What are some practical tips for effective sunscreen application and sun protection—especially in outdoor situations like prolonged sun exposure or swimming?
1. What are some of the positive effects of the sun mentioned in the video, and why might excessive sun exposure be harmful?

   It is important to the plant life cycle, provides warmth, and provides enjoyable experiences like beach tanning. However, due to UV rays, excessive exposure can be harmful as it promotes sun burning, aging, and skin cancer.

2. Describe the purpose of sunscreen as explained in the video, and what are the primary harmful effects of the sun's ultraviolet rays mentioned?

   Sunscreen shields the body from the sun's harmful ultraviolet rays. The video explains that these rays are separated into types like UVA and UVB, which can cause various effects in the skin such as sunburn, aging, and even skin cancer due to the absorption patterns of substances like hemoglobin and melanin.
3. What are the two basic types of sunscreen blockers discussed, and how do they differ in their mechanism of action?

The two essential sunscreen blockers discussed are chemical and physical. Physical blockers include titanium dioxide or zinc oxide that create a barrier between the skin and UV rays, giving the skin a white cast, while chemical blockers absorb the sun's rays and appear more transparent when rubbed on the skin.

4. Why is it emphasized in the video that everyone, regardless of skin tone, needs to use sunscreen?

Sunscreen remains important because, despite the increased production of melanin on darker skin, sunburn and even cancer can occur no matter your skin tone as UV rays can cause further damage beneath the skin.

5. What are some practical tips for effective sunscreen application and sun protection—especially in outdoor situations like prolonged sun exposure or swimming?

Practical tips include putting on sunscreen 15-30 minutes before sun exposure and then every few hours in the sun; putting on shielding clothing that will cover your skin from UV rays; and avoiding being outdoors during the brightest time of the day.
Experiment Time!

To demonstrate the effects of sunscreen, we’re going to perform a mini experiment.

materials:
- SPF 30-60 sunscreen lotion
- one piece of black or dark-colored construction paper

instructions:
- taking your piece of construction paper, fold the paper in half to create two sections.
- on one section, take some sunscreen and rub it onto the paper. leave the other section blank.
- lay the entire piece of paper on a surface with direct sunlight.
- after one day of sunlight, take the piece of paper and observe any changes.
Post-Experiment

1. What happened to the section of the paper with sunscreen on it? Without sunscreen on it?

2. Now imagine doing this experiment, but instead of paper, it’s your skin. What do you think would happen? Why does it show the importance of putting on sunscreen?
1. What happened to the section of the paper with sunscreen on it? Without sunscreen on it?

The section of the paper with sunscreen changed color due to the sun’s UV rays that break chemical bonds and change the dyes in the paper, while the sunscreen side was largely unaffected.

2. Now imagine doing this experiment, but instead of paper, it’s your skin. What do you think would happen? Why does it show the importance of putting on sunscreen? (Answers may vary.)

Applying sunscreen to one area of your skin and leaving another unprotected in direct sunlight would most likely cause sunburn and skin damage to the unprotected area.
Design a Social Media Campaign

Based on what you’ve learned, create social media posts that promote sun safety behaviors. Include the topics of putting on sunscreen and shielding clothing, and preventing sun excessive exposure. Your campaign must contain 3 posts.

Use creative freedom in your campaign designs and try to convey information in a way that’s both convincing and informative!
example post:

DON'T GET SUNBURNT.
WEAR SUNSCREEN.

FOR MORE INFO ABOUT SUN SAFETY, VISIT WWW.CDC.GOV
Begin designing here:

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Grading Suggestions

Assess students’ social media campaigns based on their creativity and means of conveying information (100 pts total).

- **Content Quality and Accuracy** (30 points)
  - accuracy of information provided, clarity and conciseness in delivering message

- **Creativity and Engagement** (30 points)

- **Visual Appeal** (20 points)

- **Completion** (20 points)
Unit 2: 
skincare & online health literacy
U2, Lesson 1:
intro to online health literacy
Outline

Do Now
Infographic
Mini Research Report
Lesson Reflection
Do Now

What do you think online health literacy is?
OHL INFOGRAPHIC:
https://www.canva.com/design/DAGAGDC3Uco/nGlwt9l78o8wKcjs9v0FCw/view?
utm_content=DAGAGDC3Uco&
tutm_campaign=designshare&
tutm_medium=link&utm_source=
editor
Research Report

Using information from and sources provided by the infographic and your writing skills, complete a five-paragraph research report on what reputable sources suggest to address a skincare concern of your choice.

Key components of report:

- thesis and at least three corroborating reasons / body paragraphs
- cite health information from reputable web- and social media-based sources
- refutation paragraph—how less reputable sources claim to address the concern and why they’re wrong
- conclusion
Remember to cite sources in APA format! To refresh your memory on citation formatting, visit owl.purdue.edu.
Mini Reflection

Write a one-paragraph reflection describing how your online health literacy may have improved as a result of this lesson.
U2, Lesson 2: dangers of skincare trends
Outline

Think-Pair-Share
Article + Presentation Activity
Social Media Scan Activity
Research Activity
Think-Pair-Share:

Have you ever tried out a skincare trend you saw on social media or online in general? Did it work for your skin?
Article

Scan the QR code to read this article from board-certified dermatologist and dermatologic surgeon Dustin Portela, DO, obtained from The Dermatologic Times:
Presentation:
Fact or Fiction? Skincare Trends

In small groups, you will be assigned one skincare trend discussed in the article. Conduct research on your assigned topic—focusing on the potential risks, benefits, and scientific evidence supporting or refuting the claims made about the skincare trend (fact or fiction: whether the claims and practices associated with each skincare trend are based on scientifically-supported evidence or are unsupported and/or harmful.)

- Use visuals, statistics, and examples to support their arguments, and remind them to consider the reliability of the sources they use in their presentations!
- **Don’t just use information in the article, but other credible sources such as medical journals, dermatology websites, and government health agencies!**
- After researching, create a slide deck to present your information using any platform you’d like, such as Google Slides, Canva, or Prezi.
# Presentation Organization Template

## Skincare Trend: ________________

### Notes from Article:

<table>
<thead>
<tr>
<th>Properly cited source</th>
<th>Notes</th>
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[add more rows as needed]
Grading Suggestions

Assess students’ presentations based on their depth of research and use of reputable online sources. (100 pts total).

- **Content Accuracy and Depth** (40 points)
- **Research Quality—Use of credible sources, thoroughness** (20 points)
- **Clarity and Organization of Presentation** (15 points)
- Engagement and Presentation Skills (15 points)
- **Critical Analysis and Conclusion** (10 points)
**Presentation:**

**Teacher Instructions**

**Fact or Fiction? Research Task:**
- Divide students into small groups.
- Assign each group one skincare trend discussed in the article (DIY skincare, safe ingredient databases, hyaluron pens, or Melanotan).
- Instruct students to conduct research on their assigned topic—focusing on the potential risks, benefits, and scientific evidence supporting or refuting the claims made about the skincare trend (fact or fiction: whether the claims and practices associated with each skincare trend are based on scientifically supported evidence or are unsupported or potentially harmful).

**Presentations:**
- Each group presents their research findings either to the entire class or in smaller groups, focusing on whether the skincare trend they investigated is based on fact or fiction.

**Open Discussion:**
Afterward, you can facilitate a class discussion with probing questions such as:
- What are the potential risks associated with this skincare trend?
- Is there scientific evidence to support the claims made about this trend?
- How can consumers differentiate between reliable and unreliable skincare information on social media?
- What role can dermatologists play in educating the public about skincare safety?
Social Media Scan

Observe a series of social media posts promoting skincare trends and assess their trustworthiness. Underneath each post, examine and critique the claims made, considering factors such as scientific evidence, safety concerns, and reliability of the source.

KOREAN SKINCARE STEPS
To get Glass like Skin

1. Cleansers
2. Toner
3. Essence
4. Serum
5. Moisturiser
6. Sunscreen

image via @skinskincare on Instagram.

Potential Risks:
Misinformation:
Healthier Alternatives:
Potential Risks:

Misinformation:

Healthier Alternatives:
Potential Risks:
Misinformation:
Healthier Alternatives:
Potential Risks:
Misinformation:
Healthier Alternatives:
Key (answers may vary)

1.
**Potential Risks:** those exact ingredients may not work on all skin types and can cause further damage to the skin.
**Misinformation:** the post clearly advertises the product brands, suggesting that the content creator cannot actually attest to the products working, and it is unlikely that this routine is a one-size-fits-all for all skin types to achieve glass skin if people react differently to the products’ ingredients.
**Healthier Alternatives:** finding skincare products and ingredients tailored specifically to my skin type instead of buying every exact product in the post.

2.
**Potential Risks:** microneedling is a cosmetic procedure that’s usually done professionally and involves needles in the skin, making its DIY, at-home alternative questionable.
**Misinformation:** the post clearly advertises product brands, suggesting the monetary intentions of the creator, and claiming that microneedling completely safe encourages potentially risky DIY skincare practices without proper medical supervision or consideration of individual skin conditions.
**Healthier Alternatives:** having microneedling be done professionally, or using non-invasive skincare products containing ingredients like vitamin C and hyaluronic acid instead to improve skin texture and appearance.
3. **Potential Risks:** retinol is a strong ingredient that is generally not advised for young skin and can lead to potential damage to the skin if used without caution.

**Misinformation:** this post also clearly advertises the product brands, suggesting that the content creator cannot actually attest to the products working, and it potential skin irritation and increased sensitivity from using retinol on younger skin.

**Healthier Alternatives:** skincare products containing gentler ingredients and a simpler routine with cleansers, moisturizers, and sunscreens tailored to their specific skin concerns.

4. **Potential Risks:** it overlooks the abrasive ingredients in toothpaste which can lead to skin irritation, redness, and even chemical burns.

**Misinformation:** it promotes an abnormal and potentially harmful DIY remedy that can cause skin irritation, allergic reactions, and worsen acne.

**Healthier Alternatives:** gentle skincare products with ingredients designed specifically to treat acne.
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<thead>
<tr>
<th>Product</th>
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Bibliography

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Research Activity:
Now that you’ve learned how to better navigate online sources about skincare information and skin health, use your furthered skills to complete a mini research project.

Creating a Skincare Routine

- With a budget of $40, research skincare products and create both an AM and PM skincare routine designed for your own skin according to the results you received from the skincare assessment.
  - Include a minimum of 3 essential products in both routines.
  - For each product, explain why you chose it and, using reputable online sources, describe what specific ingredients it has that makes it beneficial for your skin type.
  - Cite information both from reputable skincare specialists on social media and skin health resources provided on the web.
Grading Suggestions

Assess students’ research projects based on their use of reputable online sources and thoroughness in explaining the intentions of choosing each product (100 pts total).

- **Product Selection and Social Media Research** (50 points)
- **Reputability of Cited Sources** (30 points)
- **Budget Allocation** (10 points)
- **Completion** (10 points)