



## Strategies

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# **Enhancing Health Literacy through Technology-Enriched Participatory Methods:**

## **Five Strategies for Skills-Based Health Education**

By Jongho Moon , Teamin Ha , and Jenna R. Fisher

**P**articipatory methods are crucial in K–12 skills-based health education, as emphasized by the 2024 SHAPE America National Health Education Standards (Benes & Alperin, 2022; SHAPE America – Society of Health and Physical Educators, 2024). These methods align with the principles of value-driven learning (DiSalvo et al., 2017) and help transform students from passive learners to active participants in their educational process by engaging students in the observation and demonstration of skills and promoting social interaction surrounding learning (Benes & Alperin, 2019). Participatory methods foster active engagement, enhance retention and comprehension of health skills, and cultivate core values, including responsibility, empathy, and integrity. Because students are more engaged while implementing these methods, they are more likely to remember and apply the health skills taught (Elliott et al., 2017; Herbert & Lohrmann, 2011).

Participatory methods also cultivate critical-thinking and problem-solving skills crucial for making informed health decisions by involving students in interactive and practical activities. Moreover, such involvement improves personal investment and motivation, both of which are critical in adopting healthy behaviors. Social collaborative work should be accentuated within participatory settings because it bolsters communication skills essential for effective health advocacy and peer support. Participatory methods ensure inclusivity by accommodating diverse learning styles and cultural backgrounds, rendering health education relevant and accessible to all students. Ultimately, participatory methods in health education are vital in enriching the educational experience and instilling lifelong skills that enable students to become more proactive and health-literate individuals within their communities (Cahill et al., 2014).

Previous evidence-based approaches consistently indicate the effectiveness of participatory methods in K–12 health education. Midford et al. (2014) highlighted the efficacy of participatory methods in junior secondary school health education in the context of alcohol prevention. Their research demonstrated that students involved in a two-year harm minimization program focused on delivering participatory methods enhanced students' comprehension of alcohol-related issues and improved communication with parents. This program resulted in reduced alcohol use and associated risks among the participating students. These positive outcomes imply that involving students actively in health education encourages informed decision making and fosters positive behavioral changes, highlighting the vitality of participatory strategies to enhance health outcomes within educational milieus. Similarly, Strobl et al. (2020) reported that participatory planning of health education lessons can improve students' health-related knowledge and understanding. In a different study, Baron-Epel et al. (2004) focused on developing quality assurance tools for health education programs employing a participatory process that involved health educators. This effort resulted in the establishment of standards and criteria for assessing program

quality. Simovska (2007) expanded the scope of research beyond the curriculum to encompass personal exploration and cross-cultural collaboration through diverse activities such as open-ended inquiry and collaborative group work. By highlighting the significance of participatory methods in K–12 health education, Simovska (2007) aligns with the National Health Education Standards, underscoring the essential nature of incorporating a skills-based health education approach delivered via participatory methods.

Even though their effectiveness has been proven, participatory methods are often underutilized due to a bias toward teacher-centric strategies in general education. Despite the concerning trend, a strong link between the fidelity of program delivery (i.e., participatory methods) and positive health outcomes is evident (Cahill et al., 2014). The effectiveness of these strategies heavily depends on the role of teachers, impacted by their grasp of educational principles, confidence in classroom management, and relationships with students. Consequently, providing professional training and strategic resources emphasizing participatory learning strategies that address the educational rationale and relationship dynamic is critical for enhancing the success of health education programs.

While many of these participatory strategies have a history of use in educational settings, their integration in health education remains essential as advancing technologies continue to reshape student engagement. Organizations such as CUE.org have long supported educators by offering professional development in technology integration. However, one ongoing challenge in K–12 health education is encouraging seasoned educators to embrace these technology-enriched strategies and model lifelong learning. Research highlights the need for targeted in-service professional development to help experienced teachers adopt these methods, addressing challenges specific to health education teacher preparation (Mann & Lohrmann, 2019; Smith et al., 2005; Tsarkos, 2024). Such a commitment to continuous learning by experienced educators fosters a culture of innovation and adaptability, critical for meeting the needs of today's students.



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To broaden the scope and impact of participatory learning for the success of health education programs, integrating technology into participatory methods can be a promising approach. The current generation of K–12 students is exposed to a wide range of technologies, which makes it an innovative platform for student collaboration and engagement in educational environments. To cultivate vital life skills, such as decision making, accessing information, advocacy, problem solving, analyzing influences, communication, and self-management, it is important to use different types of technologies in the right places. This can eventually lead to enhancing both teaching and learning in health education programs. Therefore, the aim of this article is to provide strategies for skills-based health education to enhance health literacy through technology-enriched participatory methods.

## Grasping the Impact of Participatory Methods

Engaging in health education through participatory methods is pivotal because the methods are anchored in the philosophy that students learn most effectively through active involvement. These methods can be delineated as follows (Benes & Alperin, 2022):

1. *Modeling and observation*: Fostering student learning by observing peers while instructors facilitate the practical applications of health-related behaviors in real-world scenarios.
2. *Social interaction*: Facilitating student dialog, debate, and collaborative learning, nurturing a sense of community and shared responsibility for health education.
3. *Student-centered learning*: Transitioning from teacher-led instruction to student-driven exploration, empowering students to assume responsibility for their learning process and to apply their knowledge in practical settings and situations relevant to their lives and experiences.
4. *Active learning approach*: Creating tasks and exercises that demand active involvement, ensuring that students are not passive recipients of information but active participants in the learning process.
5. *Health literacy development*: Facilitating active participation to assist students in developing critical thinking and problem-solving skills, ultimately empowering them to make informed decisions about their health in their daily lives.
6. *Conscious student effort*: Acknowledging that meaningful learning necessitates students' conscious effort and active participation, creating a learning process that is both challenging and rewarding.

Thus, these participatory methods underscore the importance of a learning environment that promotes critical thinking and long-term retention of essential related knowledge and skills. In pursuit of this objective, engagement with media and technology facilitates the concurrent

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development of digital literacy and health literacy. This educational approach could potentially support and facilitate students' engagement with digital health information, enabling them to become proficient navigators and contributors within the health information ecosystem beyond traditional knowledge-based methods. By integrating e-health literacy through social media and technology use, students develop essential skills to evaluate health information critically and utilize it responsibly in real-life contexts (Norman & Skinner, 2006; Ruin & Giese, 2024). Based on these characteristics, the following sections outline five strategies for technology-enriched participatory methods that can be customized to address diverse health topics and align with the developmental stages of various age groups within the K–12 spectrum. These interactive methods aim to make health education more engaging and relevant to real-life situations, ultimately promoting a deeper understanding and long-lasting retention of health-related knowledge and skills.

### **Strategy #1: Interactivity**

Social interaction between students regarding health topics is a hallmark of participatory methods. Workshops, for instance, can convert passive learning into a hands-on educational experience by directly engaging students. These sessions might encompass activities like cooking demonstrations to grasp nutritional values, interactive discussions on interpreting nutrition labels, or safe sex education featuring role-playing exercises designed to simulate decision-making abilities. Virtual interactive whiteboard software (e.g., Jamboard, Lucidspark, Menti-meter, Padlet) is a useful tool to encourage active participation among students during instruction. The software enables students and instructors to collaborate in real time by adding texts and images on a web browser or mobile app. Such

workshops using a virtual interactive whiteboard help students actively engage with the content, bridging the gap between theoretical knowledge and practical skills. Further, engaging students in discussions and debates can improve their understanding of health issues by giving them the opportunity to interact through sharing their thoughts and listening to their peers. This method encourages interactive dialog, allowing students to explore and challenge diverse perspectives on critical health topics.

Beyond in-person health education classrooms, students can also engage in discussions or debates online by using learning management systems. Popular options for such systems include ClassDojo and Google Classroom, which allow educators to interact with students and their families outside of the classroom. Teachers can create forums in the systems for discussions or debates where students can freely express and share their views on various health-related topics. Depending on the need, teachers can set up the forum in a way that allows students to share their thoughts anonymously or use their real names. Facilitating both in-person and virtual discussions can be beneficial because every student is unique; some students may feel more comfortable participating in discussions virtually or with an anonymous option on certain topics.

### ***Strategy #2: Collaboration***

Collaborative initiatives necessitate students working together, frequently in groups, to produce something relevant to the health topic being examined, such as a public health campaign, a video illustrating health practices, or a community health fair. A group might conceptualize a mental health awareness campaign, requiring students to conduct research, devise a plan, and execute the project, fostering teamwork and a comprehensive grasp of the subject matter. Additionally, students may use technology tools, such as mind mapping (MindMeister, virtual conceptual maps) and presentation software (Canva, PowerPoint, Prezi), to enhance their projects, especially in developing advocacy skills. Further, students may work together to educate one another using methods like the Jigsaw Strategy. By harnessing the power of peer dynamics in health education, peer education activities capitalize on student-to-student communication. For instance, peer educators could lead collaborative sessions where students work together to address topics such as stress management, navigating consent and relationships, and substance abuse. In these sessions, specially trained students and their peers assume active roles as co-educators, presenting health information and guiding activities in a mutually supportive environment. This approach allows students to share knowledge with one another, facilitate discussions, and build collective understanding on topics ranging from nutrition to mental health.

Similar to Strategy 1, interactive whiteboard software is a great option for teachers to provide student educators with space to create and lead sessions on related topics in a real-time collaborative web platform. To enhance engagement further among students for collaborative work, video

discussions can be facilitated using web and mobile apps (e.g., Padlet or Kami), which are video discussion tools that can be integrated within learning management systems. These apps allow users to create groups and facilitate collaborative work by sharing ideas through text or audio messages with each other or among invited users. This approach facilitates learning, creating a relatable and often more impactful learning environment by leveraging the influence and relatability inherent in peer interactions. Participating in collaborative projects enriches students' understanding of specific health issues and cultivates various interpersonal skills, including communication, negotiation, and project management. These experiences equip students to function adeptly in teams and contribute meaningfully to community health initiatives.

### ***Strategy #3: Firsthand experience***

Experiential learning allows students to connect theoretical health concepts with practical, community-oriented applications, providing relevant experiences in the health field. This approach provides a dynamic and interactive means to foster students' practical application of health knowledge. Within the classroom, teachers can incorporate role playing and simulation, where students find themselves in mock situations mirroring real-life challenges, such as responding to emergencies, resisting peer pressure concerning substance use, or navigating social conflicts. This method cultivates critical thinking and problem-solving skills within a risk-free setting, allowing students to rehearse and internalize the health-related decision-making processes. To maximize the benefits of experiential learning, teachers can use various technology tools. For instance, recording videos of classroom activities (e.g., role playing) can help students reflect on their practices and responses to given situations. In addition to that, video discussion apps can facilitate the sharing of videos with the inclusion of texts or comments on necessary scenes in the recorded video. During the activity, teachers can also employ audience response systems, such as iClikers (with remote control) and the mobile app Plickers (with voting cards), to check for students' understanding of specific situations, manners, or cases. This way, teachers and students can reflect on how the health knowledge they learn can be applied to real-life scenarios in their future professions and life events.

Outside of the classroom, activities such as creating virtual gardens using tools like Garden Planner, the GrowIt app, or the Terraria app; attending virtual tours of gardens, health centers, and grocery stores; volunteering at health clinics; developing public health service announcements; creating podcasts; or recording video interviews with fellow students enable students to apply their knowledge actively in real-world settings. This approach fosters a sense of social responsibility and nurtures a passion for community well-being. When students participate in activities outside the classroom, it is important for them to track and save what they learn and reflect on their experiences during and after these activities. As mentioned in Strategy 1, a learning management system (or blended learning platform) can be

used to improve the quality of interactions between peers as well as between teachers and students. For instance, using Google Classroom, teachers can create an online bulletin board for students to keep a record of their activities and share their experiences with the class. Social media can serve as a supplementary platform for conversation outside the classroom, providing an engaging way for students to share and reflect on their learning. Teachers might create a private group on Facebook or use a unique hashtag (e.g., #TIGERHEALTHCLASS707) on Instagram, allowing designated students to post activity-related content. While social media enhances peer connection and creative expression, it can also pose mental health risks, particularly among youth. Social media should be emphasized as merely an option where students who already are active on social media can integrate it with their learning experiences versus

viewing it as wholly separate. Regardless, teachers should emphasize responsible usage and monitor its impact on well-being. Integrating such technologies, with attention to both benefits and limitations, enables students to engage with real-world issues and develop a nuanced understanding of others' perspectives in innovative and accessible ways.

**Strategy #4: Self-directed expression**

Self-directed expression empowers students to assume the responsibility of their educational journey by choosing and exploring health topics resonating with their interests and learning at their own pace. By focusing on their desires, students are able to express themselves more openly and thoroughly. In self-directed learning, the teacher provides guidance and resources, facilitating a learning environment conducive to students' independent exploration of the health subjects. This

**Table 1. Overview of Technology-Enriched Strategies for Skills-Based Health Education**

Strategy	Grade Level	Sample Activity	Technology Tool	Usage in health education
Interactivity	Elementary	Nutrition-label reading and discussion	Mentimeter, Padlet	Interactive Q&A sessions for understanding nutritional values
	Middle	Role playing in safe sex education	Jamboard, Lucidspark	Virtual whiteboard for anonymous responses and discussions
	High	Debate on social health topics	ClassDojo, Google Classroom	Online forums to explore perspectives on critical health topics
Collaboration	Elementary	Group project on hygiene practices	MindMeister, Prezi	Collaborative concept maps and presentations on health practices
	Middle	Peer-led sessions on mental health awareness	Padlet, Kami	Video discussions led by peer educators
	High	Creating a public health campaign	PowerPoint, Canva	Campaigns focused on community health topics
Firsthand experience	Elementary	Virtual field trip to a local health clinic	Garden Planner, GrowIt app	Community health setting experiences and discussion
	Middle	Simulation of emergency response	Plickers, iClickers	Audience response systems to practice decision making in scenarios
	High	Role play in substance abuse resistance	Video recording	Role-playing scenarios with video feedback for reflection
Self-directed expression	Elementary	Blogging about personal hygiene	Kidblog, ClassDojo	Blogs as journals to reflect on health practices
	Middle	Creating a video journal on nutrition	Private YouTube channel	Video logs for tracking personal health goals
	High	Podcast interview about health careers	Anchor, Audacity	Podcasts to discuss health topics
Gamification	Elementary	Scavenger hunt on physical activities	Kahoot!, Gimkit	Interactive games to reinforce learning about physical wellness
	Middle	Jeopardy quiz on mental health	Quizizz, Kahoot!	Competitive quizzes to test understanding of mental health concepts
	High	Role-playing board game on healthy decision making	Gametize, AhaSlides	Gamified learning for practical application of health skills

provision might involve having students select the health topic they are passionate about, examine it deeply, and present their findings, thus fostering autonomy and a personalized learning experience. Creating a blog can be a great way for students to report and present their knowledge gained from health education classes. Students can articulate their insights, reflections, and findings on their chosen health topics through blog posts. This articulation reinforces their understanding of the subject matter and allows them to develop crucial communication skills. Furthermore, presenting their research through blogs provides a digital space for collaboration and feedback, facilitating a dynamic and interactive learning community.

Students can create a simple blog with time-stamped entries or a more elaborate one with images and graphics to showcase their learning related to health topics. Additionally, students can utilize platforms such as private YouTube channels, online journal software, or vlogs to document and share their health education experiences. Furthermore, students often enjoy creating podcasts where they interview each other about health content and skills, enhancing their understanding through peer interaction and discussion. Allowing students to create multimedia work fosters autonomy, self-reflection, and a tailored educational experience through independent projects, establishing personal health plans, or reflective journaling. To engage with health initiatives further, students can integrate artistic and cultural mediums using tools like Storyboard That for scripting and illustrating plays that capture the challenges and resilience of individuals with chronic illnesses. Collaborative writing tools like Google Docs can be used for script development, allowing multiple students to contribute simultaneously. For digital murals, students can use digital art software such as Adobe Illustrator or Procreate to create visually compelling artwork or collaborate on group mural designs using online whiteboard tools like Google Jamboard or Miro to emphasize the importance of communal healthcare efforts. These creative projects enhance the understanding of health-related issues and enable students to express their thoughts and emotions artistically. Overall, this learning method fosters a personal and emotional connection with the material, rendering the educational experience more engaging and meaningful. The absorption of health knowledge becomes more impactful and relatable, enhancing the overall learning journey for students by incorporating personal expression.

### ***Strategy #5: Gamification***

The concept of gamification and game-based learning can transform health education into an engaging, compelling, competitive, and enjoyable student experience. Gamification involves integrating game elements into an educational setting, while game-based learning is designed to facilitate learning outcomes through playing an actual game (Brooks & McMullen, 2021). A variety of games (e.g., board games, Jeopardy, and scavenger hunts) can be used to teach health topics, including nutrition, physical activity, and general wellness, in a more



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captivating way. Besides, online game-based learning platforms (e.g., Gametize, Gimkit, and Kahoot!) are excellent tools that allow teachers to create and facilitate quizzes and interactive activities between students or between students and a teacher by incorporating various game elements, including badge systems and individual/team competition settings. Utilizing these platforms for gamification or game-based learning in health education can help students actively engage with the material, apply their knowledge practically, and retain the information longer by tapping into their inherent motivation. This transforms the acquisition of health literacy skills into a more enjoyable and memorable process.

Table 1 provides a structured overview that enables health educators to see how each strategy can be implemented across different grade levels, with specific technology recommendations and usage examples for skills-based health education that can be adjusted based on the needs of each class.

### **Conclusion**

This article highlights the transformative impact of technology-enriched participatory methods within the domain of K–12 skills-based health education, accentuating student engagement to enhance the overall learning experience. Adopting interactive workshops, collaborative projects, and incorporating digital media can assist students in enhancing learning skills and instill core values such as life skills, responsibility, and empathy. The article also suggests the critical role of teacher facilitation and

technology integration in alignment with the National Health Education Standards to empower students as well-informed and health and digitally literate community members. Ultimately, the article advocates for the wider adoption of these methods to elevate the overall efficacy of health education programs.

The authors highlight the importance of incorporating teacher facilitation and technology integration in health education. These methodologies hold enormous potential to empower students, enhance their learning experiences, and prepare them for active participation in community health. To that end, the interactive nature of these approaches can effectively impart knowledge and promote a sense of responsibility and readiness among students. Therefore, this contribution can modify the already developing landscape of health and well-being and underscores the need for improved incorporation of participatory methods in K–12 health education.

## Disclosure Statement

No potential conflict of interest was reported by the author(s).

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## References

- Baron-Epel, O., Levin-Zamir, D., Satran-Argaman, C., Livny, N., & Amit, N. (2004). A participatory process for developing quality assurance tools for health education programs. *Patient Education and Counseling*, 54(2), 213–219. [https://doi.org/10.1016/S0738-3991\(03\)00206-4](https://doi.org/10.1016/S0738-3991(03)00206-4)
- Benes, S., & Alperin, H. (2019). Health education in the 21st century: A skills-based approach. *Journal of Physical Education, Recreation & Dance*, 90(7), 29–37. <https://doi.org/10.1080/07303084.2019.1637306>
- Benes, S., & Alperin, H. (2022). *The essentials of teaching health education: Curriculum, instruction, and assessment*. Human Kinetics.
- Brooks, C., & McMullen, J. (2021). Level up: Strategies to increase student engagement using gamification in physical education. *Strategies*, 34(6), 3–10. <https://doi.org/10.1080/08924562.2021.1977749>
- Cahill, H., Coffey, J., Lester, L., Midford, R., Ramsden, R., & Venning, L. (2014). Influences on teachers' use of participatory learning strategies in health education classes. *Health Education Journal*, 73(6), 702–713. <https://doi.org/10.1177/0017896913513892>
- DiSalvo, B., Yip, J., Bonsignore, E., & DiSalvo, C. (2017). Participatory design for learning. In B. Di Salvo, J. Yip, E. Bonsignore, & C. Di Salvo (Eds.), *Participatory design for learning* (pp. 3–6). Routledge.
- Elliott, S., Combs, S., Huelskamp, A., & Hritz, N. (2017). Engaging students in large health classes with active learning strategies. *Journal of Physical Education, Recreation & Dance*, 88(6), 38–43. <https://doi.org/10.1080/07303084.2017.1330163>
- Herbert, P. C., & Lohrmann, D. K. (2011). It's all in the delivery! An analysis of instructional strategies from effective health education curricula. *The Journal of School Health*, 81(5), 258–264. <https://doi.org/10.1111/j.1746-1561.2011.00586.x>
- Mann, M. J., & Lohrmann, D. K. (2019). Addressing challenges to the reliable, large-scale implementation of effective school health education. *Health Promotion Practice*, 20(6), 834–844. <https://doi.org/10.1177/1524839919870196>
- Midford, R., Ramsden, R., Lester, L., Cahill, H., Mitchell, J., Foxcroft, D. R., & Venning, L. (2014). Alcohol prevention and school students: Findings from an Australian 2-year trial of integrated harm minimization school drug education. *Journal of Drug Education*, 44(3–4), 71–94. <https://doi.org/10.1177/0047237915579886>
- Norman, C. D., & Skinner, H. A. (2006). eHEALS: The eHealth Literacy Scale. *Journal of Medical Internet Research*, 8(4), e27. <https://doi.org/10.2196/jmir.8.4.e27>
- Ruin, S., & Giese, M. (2024). Experiencing being objectified? A critical investigation of basic pedagogical categories in digital health education. *Health Education Journal*, 83(4), 371–382. <https://doi.org/10.1177/00178969231212290>
- SHAPE America – Society of Health and Physical Educators. (2024). *National health education standards*. Human Kinetics.
- Simovska, V. (2007). The changing meanings of participation in school-based health education and health promotion: The participants' voices. *Health Education Research*, 22(6), 864–878. <https://doi.org/10.1093/her/cym023>
- Smith, B. J., Potts-Datema, W., & Nolte, A. E. (2005). Challenges in teacher for school health education and promotion. *Promotion & Education*, 12(3–4), 162–164. <https://doi.org/10.1177/10253823050120030116>
- Strobl, H., Ptack, K., Töpfer, C., Sygusch, R., & Tittlbach, S. (2020). Effects of a participatory school-based intervention on students' health-related knowledge and understanding. *Frontiers in Public Health*, 8, 122. <https://doi.org/10.3389/fpubh.2020.00122>
- Tsarkos, A. (2024). Benefits and challenges of reskilling in-service teachers and leaders in K–12 education: Navigating the transformation of education in the digital age. In O. Meçik (Ed.), *Reskilling the workforce for technological advancement* (pp. 179–202). IGI Global. 

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