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Universal Design for Learning (UDL) and Skills-Based Health Education

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ABSTRACT

Purpose: The purpose of the article was to demonstrate how to use the principles of Universal Design for Learning to teach skills-based health education. Using Universal Design for Learning enhances the learning of Skills-Based Health Education for all students. One strength of Skills-Based Health Education is that it engages all students in the learning. Consequently, *Multiple Means of Engagement* is consistent with current pedagogical practice. Because Skills-Based Health instruction varies according to the content and skill, students have the opportunity to learn through *Multiple Means of Representation* such as graphic organizers, charts, manipulatives, video, etc. During authentic assessment, students are challenged to demonstrate what they learned through *Multiple Means of Action and Expression* such as roleplaying, demonstrations, comparisons, analysis, and more.

Keywords: National Health Education Standards, authentic assessment, performance indicators, pedagogy

1. INTRODUCTION

Skills-based health education is based on the National Health Education Standards (NHES). There are eight content standards:

Standard 1 – Functional Health Information;
Standard 2 – Analyzing Influences;
Standard 3 – Accessing Resources;
Standard 4 – Communication Skills;
Standard 5 – Decision Making;
Standard 6 – Goal Setting;
Standard 7 – Practicing Health Behaviors;
Standard 8 – Advocacy (SHAPE, 2025).

The standards are grouped by grade span (preK-2, 3-5, 6-8, 9-12) and contain performance indicators. The verb of the performance indicator determines the assessment and instruction. Below is an example outlining how to incorporate standard 1 and standard 7 paired with skill performance indicators.

> Mr. Bikerman, a grade 5 teacher, likes that his students ride their bicycles to school. But, he is worried about their safety because many of them do not wear their helmets correctly, do not use hand signals, or follow the rules of the road. He is planning a Practicing Health Behavior unit on bicycle safety. He begins by selecting standard 1 and standard 7 performance indicators and infusing them with content.
>
> > Standard 1: 1.5.3 Explain ways to prevent or reduce risks for illnesses and *head* injuries *by wearing a bicycle helmet.*
> >
> > Standard 7: 7.5.2 Demonstrate practices and behaviors that support health and well-being of self and others *such as properly fitting a bicycle helmet.*
>
> Now, Mr. Bikerman uses the verbs of the performance indicators to design assessment and instruction (see Table 1).

Table 1

Standard, Assessment, and Instruction

NHES Standard	Assessment	Instruction
Standard 1: 1.5.3 Explain ways to prevent or reduce risks for illnesses and *head* injuries *by wearing a bicycle helmet.*	Students explain three ways a bicycle helmet protects the head.	1. Demonstrate or show a video of a melon drop with and without a helmet. 2. Explain how the structure of a bicycle helmet protects the head from injury.
Standard 7: 7.5.2 Demonstrate practices and behaviors that support health and well-being of self and others *such as properly fitting a bicycle helmet.*	Students demonstrate the steps of properly fitting a bicycle helmet.	1. Explain why it is important to know how to properly fit a bicycle helmet. 2. Teach the steps of properly fitting a bicycle helmet 3. Model how to properly fit a bicycle helmet. 4. Provide time for the students to practice properly fitting a bicycle helmet. 5. Formatively assess to provide feedback and reinforcement. 6. Provide a self-check to help students practice properly fitting the helmet.

In addition to the eight content standards, some states have adopted or modified the National Health Education Standards as their state standards, thereby institutionalizing a skills-based approach to teaching health education. Although the practice of teaching content through the skills is effective pedagogy, including the use of the Universal Design for Learning strategies enhances the teaching and learning even more.

2. UNIVERSAL DESIGN FOR LEARNING AND SKILLS-BASED HEALTH EDUCATION

Daniella is visually impaired and loves her skills-based health class. The teacher, Mr. Communicato, an 8th grade health educator, always thinks

of her when planning his lessons. The National Health Education Standards objectives for the CPR unit are:

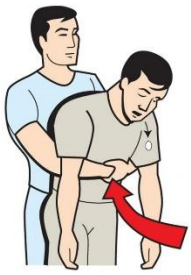
> Standard 1: 1.8.2 Analyze how practices and behaviors *such as learning CPR and First Aid* support a variety of dimensions of wellness.
>
> Standard 7: 7.8.3 Demonstrate practices and behaviors that support personal and community health and well-being, such as demonstrating how to give Heimlich (SHAPE, 2025).

The unit consists of Heimlich, rescue breathing, CPR, and first aid for sprains, broken bones, and burns.

The other day, the class was learning how to give Heimlich when a person is choking. First, he showed a short film about how to know when someone is choking and what to do if they are (see Figure 1). Although Daniella couldn't see the video, the instructions were clear. After the video was over, he put a manikin at each table so the students could practice. To begin the practice, Mr. Communicato took Daniella's hand and made it into a fist. Then he placed her other hand over the fist. Daniella then stood behind the manikin and found the right spot to place her hands and Mr. Communicato took her hands and moved them inward and upward at a certain force so she would understand what was meant by applying upward thrusts.

Figure 1

Heimlich Maneuver



At her table, her peers encouraged her and congratulated her when she was able to perform the skill. Daniella passed the performance assessment perfectly. She is very proud of herself and so grateful to Mr. Communicato for knowing how to teach her.

Mr. Communicato is also a skilled UDL planner. He provided different ways for Daniella to be engaged in the learning and used multiple means of

representation by showing a video so Daniella could hear the instruction. She listened to the video and then Mr. Communicato physically formed her hands into a fist, helped her find the right spot on the manikin, and helped her experience how hard she would have to perform the thrusts to get the object out of the windpipe. The lesson included multiple means of action and expression as evidenced by modeling how Daniella could respond to demonstrating the skill, using multimedia so Daniella could hear the directions, and planning a strategy that would enable Daniella to be successful in class, just like everyone else.

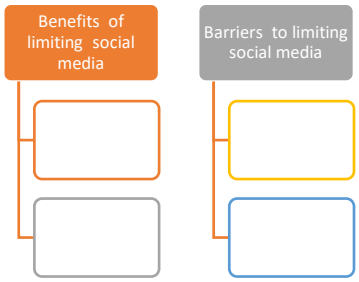
Universal Design for Learning is consistent with the pedagogical training of Skills-based Health Education educators. Skills-based Health Education is based on the National Health Education Standards. The strength of the standards are the verbs of the performance indicators because they generate the assessment and instruction (Connolly, 2020, p. 41). The following part of this paper will summarize the three components of Universal Design for Learning, with examples, as it related to Skills Based Health Education.

3. MULTIPLE MEANS OF ENGAGEMENT

Engagement of the student in learning is key to helping them learn content and reinforce skills (Universal Design for Learning Guidelines, 2023). Providing training on how to provide multiple means of engaging students is vital to becoming a proficient skills-based health/UDL instructor. When a student is asked to analyze, explain, predict, etc., the teacher may, as the student and the teacher become more comfortable and competent, provide students with a choice of how the student demonstrates the performance indicator. Examples of demonstrating proficiency in content and skill include but are not limited to using graphic organizers (Connolly, 2020, pp. 41-47), role plays, sorts, pair share, posters, public service announcements, resource pamphlets, proof of accessing websites that contain valid information, self-checks, and demonstration of healthy decision making, goal setting and using communication skills to advocate for self and others. See Figure 2 for an example graphic organizer.

Figure 2

Benefits of and Barriers to Limiting Social Media Graphic Organizer



To sustain effort and persistence, teachers post and review the objectives of the unit and lessons each day. The objectives of the lesson are the infused Standard 1 (content) performance indicator and a choice of skills performance indicators from Standards 2-8. See Figure 3 for examples of the National Health Education Standards.

Figure 3

National Health Education Standards

National Health Education Standards

Standard 1.5.3 (Content) Explain ways to prevent or reduce risks for illnesses and injuries.

Infused with content: Explain ways to prevent or reduce risks for illnesses and injuries, *such as handwashing to remove germs.*

Standard 7.5.2 (Skill) Demonstrate practices and behaviors that support health and well-being of self and others.

Infused with content: Demonstrate practices and behaviors that support health and well-being of self and others, *such as accurately demonstrating the steps of handwashing.*

To help all youth understand the effect and influence of social media on health, use a graphic organizer or a sorting exercise.

Using the following infused performance indicator, students work together to participate in filling in the graphic organizer titled: Benefits of

and Barriers to Limiting Social Media. The teacher may also design a sort where the students receive strips of paper that list the benefits of limiting social media and the barriers to limiting social media. Strips may be in print, Braille, large print, different languages, etc., to help all children participate and learn.

> 1.12.7 Analyze the benefits of and barriers to practicing a variety of health behaviors, *such as limiting use of social media (*SHAPE*,* 2025).

Each day, it is clear to the students what they are expect to know and do. The teacher provides the resources needed, provides the infrastructure to collaborate, and the practice time to demonstrate mastery. Engaging students using this pedagogical practice motivates them to want to be involved. They know exactly what they need to do and have the support of peers, the teacher, and resources to be successful (Connolly, 2020, pp. 54-56).

Self-regulation is enhanced in the skills-based pedagogy because the teacher distributes a self-check of the requirements of a challenge. Performing a self-check (Connolly, 2020, p. 716) keeps the student focused and provides an excellent formative assessment tool for the teacher when walking from desk to desk to check on student progress.

4. MULTIPLE MEANS OF REPRESENTATION

Skills-based health education is active. Students work in groups, using multiple intelligences and demonstrate what is learned through authentic assessment (Connolly, 2020, p. 99).

Figure 4

Variety of Modalities

Teachers use a variety of modalities (see Figure 4) to enhance communication between teacher and student (Universal Design for Learning Guidelines, 2023). Students demonstrate their learning through a variety of methods, including: 1) using graphic organizers to analyze and present content, 2) identifying valid and reliable online sources, 3) utilizing social media to support personal health and well-being, 4) practicing refusal and

communication skills through role-play, 5) conducting self-checks (see Figure 5), and 6) applying graphic organizers to demonstrate decision-making skills and set SMART goals (S-Specific, M-Measurable, A-Achievable, R-Relevant, T-Time bound). Additionally, students engage in skill-building activities that reinforce healthy behaviors and practice advocacy and communication techniques.

Figure 5

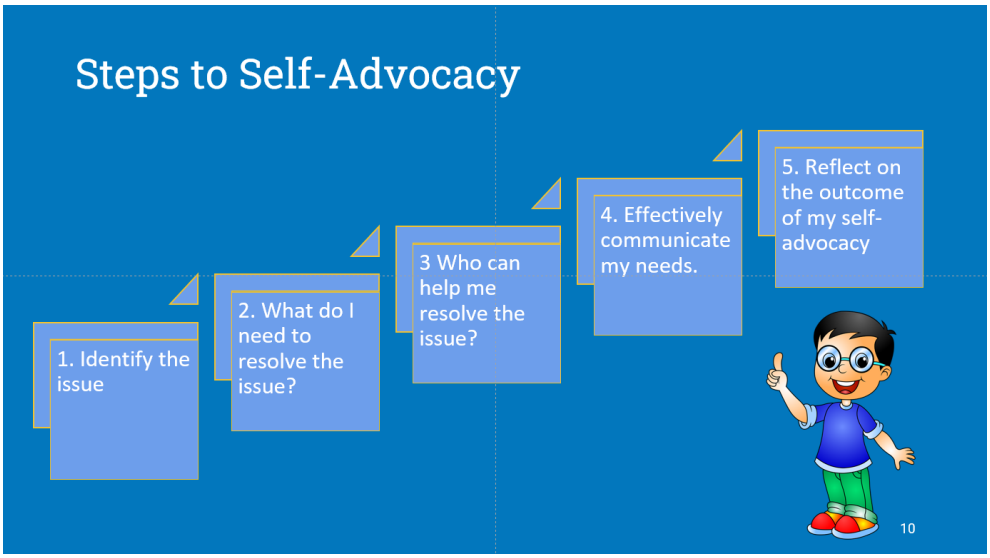
Self-Check for Decision Making Skills

DECIDE Steps	Still working on accurately demonstrating the skill.	Almost can accurately demonstrate the skill/.	I am sure I can accurately demonstrate the skill.
D-Define the decision to be made.			
E-Explore the options.			
C-Consider the consequence.			
I-Identify your values.			
D-Decide and act.			
E-Evaluate the results.			

Looking to the future, teacher training needs to include strategies to accommodate the needs of all students, including their ability to advocate for themselves. Lauren Lieberman, Ruth Childs, and Mary Connolly contributed to this journey with the publication: Infusing Self-Advocacy into Physical Education and Health Education (Childs et al., 2023). The text further describes the five steps to self-advocacy (see Figure 6) for posting on classroom walls for referencing. Advocacy is Standard 8 of the NHES and includes self-advocacy performance indicators.

Figure 6

Steps to Self-Advocacy



5. MULTIPLE MEANS OF ACTION & EXPRESSION

In skills-based health education, the assessment is authentic both during lessons and within the summative performance assessment at the end of a unit (Connolly, 2020, p. 85) Providing multiple ways for students to demonstrate their proficiency makes the summative assessment an enriching and interesting experience (Universal Design for Learning Guidelines, 2023). See Figure 7 for an example lesson assessment.

Figure 7

Example Lesson Assessments

Examples of lesson assessments include but are not limited to:

- *Kahoot or other interactive software checks prior knowledge.*
- *Emotion symbols provide time for students to express how they are feeling at the beginning, during, or after class. (Childs, 2023, p. 50)*
- *Students work in groups. If needed, students are paired with a peer who can assist with the assignment. The teacher formatively assesses as he/she walks from desk to desk to check progress.*
- *Demonstrations, based on the infused performance indicators, actively involve the students in learning and demonstrating proficiency.*

- *Graphic organizers help students visually display what they know about the lesson content.*
- *End of class review provides opportunity for content/skill/SEL review and engagement in what was taught and what was learned.*
- *Exit tickets challenge the students to determine how they can use the content/skill/SEL taught in class in their world outside of the classroom and school.*

The summative assessment challenges students to demonstrate the content and skills learned in the unit.

An area of improvement in training skills-based health educators is to be more aware of the visual, hearing, and other unique needs of the K-12 student. Providing alternatives for auditory and visual information would be an asset to teacher training and advancing adapted health education.

Students in teacher preparation programs are encouraged to define terms with their students to ensure proper understanding and accurate demonstration of the content and skills. For example, two common verbs found in the National Health Education Standards are explain and describe. What is the difference between explain and describe? The words are often used interchangeably. However, explain means to tell about something, such as explain the clock (see Figure 8). Here the student would explain seconds, minutes, hands on a clock, etc. If we ask a student to describe a clock, we get a very different response because to describe means to talk about the physical characteristics of something.

Figure 8

Clock Visual

Health educators are trained to connect the learning of the day with prior learning. For example, when starting a new lesson or unit, a pre-test is given to determine what the student already knows (Connolly, 2020, p. 79). After analyzing the results of the assessment, the teacher is much more able to choose content for the most efficient and effective use of time. The post-

test then provides an excellent formative assessment of the content and skill learned by the student and the changes needed to improve instruction.

6. CONCLUSIONS

In conclusion, with training and practice, skills-based health educators enhance their pedagogical reach to all students by using the strategies of Universal Design for Learning when planning, assessing, and instructing.

Because UDL benefits all children, it is recommended to implement a national effort to train teachers how to use the UDL Guidelines. Health Education Teacher Education (HETE) programs may benefit from adding a course or content to teach future professionals the UDL. Programs could require future professionals use the UDL guidelines (i.e., representation, action and expression, engagement) when planning units and lessons. SHAPE America, through the Health Education Council may consider position papers, videos, workshops and webinars to promote the value and use of the UDL guidelines. Districts and schools should promote the UDL by providing ongoing professional development and requiring evidence of practice.

There are limited resources available to train teachers and future professionals how to utilize the UDL into skills-based health education. The text, *Infusing self-advocacy into physical education and health education* (Childs et al., 2022) is one valuable resource for practitioners. Additionally, published articles regarding the UDL are accessible resources for health educators. Other resources may include online and in-person webinars and conference sessions focusing on the UDL. Such resources desire to enhance pedagogical practice for all teachers especially those with minimal prior knowledge and support to utilize the UDL in instruction.

Skills-Based Health Education pedagogy can be aligned with the UDL guidelines, as presented in this article. For implementation, teachers need to know their students, understand the alignment between the NHES and the UDL guidelines, be mindful of using the guidelines, seek training, and continuously try to improve practice through assessment and instruction.

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None.

7.2. Conflict of Interest

The authors have no conflicts of interest to declare.

7.3. Contribution of Authors

LL contributed foresight in the use of the Universal Design for Learning for all learners.

8. REFERENCES

Childs, R. L., Lieberman, L., & Connolly, M. (2023). *Infusing Self-Advocacy into Physical Education and Health Education.* Burlington: Jones and Bartlett Learning.

Connolly, M. (2020). *Skills-Based Health Education, second edition.* Burlington: Jones and Bartlett Learning.

SHAPE America-Society of Health and Physical Educators. (2025). *National Health Education Standards (3rd).* Champaign: Human Kinetics.

Universal Design for Learning Guidelines. (2023, June 2). Retrieved from Universal Design for Learning Guidelines: https://udlguidelines.cast.org/binaries/content/assets/udlguidelines/udlg-v2-2/udlg_graphicorganizer_v2-2_numbers-yes.pdf