The Attitudes, Beliefs, and Norms Framework: A Tool for Selecting Student-Centered, Theory-Informed Affective Learning Objectives in Health Education

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ABSTRACT

Purpose: *According to the Centers for Disease Control and Prevention, effective health education curricula feature instructional strategies and learning experiences built on theoretical approaches that have effectively influenced health-related behaviors among youth. The attitudes, beliefs and norms (ABN) domain is proposed as an alternative to Krathwohl's taxonomy of the affective domain, which is of limited utility in planning health education.* ***Methods:*** *The ABN framework, based upon the ABN domain, provides a blue print for selecting theory-informed affective learning objectives.* ***Conclusions:*** *Use of the ABN framework facilitates the identification of rigorous and measurable learning objectives based upon the constructs of health behavior theory.*

Key words: Affective domain, attitudes, beliefs and norms; Krathwohl's taxonomy

INTRODUCTION

A brief history of the affective domain in health education

Scholars with Centers for Disease Control and Prevention (CDC), through an extensive review of evaluation research and best practices literature in health education, concluded that state-of-the-art health education curricula address student attitudes, beliefs and norms *in addition to* addressing knowledge and skill. Fostering the development of attitudes and personal and normative beliefs that support a healthy lifestyle and facilitate healthy behavior is the goal of affective education in health education and an essential feature of effective health education curricula (for reference, the characteristics of effective health education curricula that address affective learning outcomes are presented in Table 4. Learning objectives that deal with student attitudes, personal and normative beliefs and values fall within the affective domain.

The importance of identifying affective learning objectives in health education is well recognized. Nearly 50 years ago, the *Journal of School Health* published an essay written by Rosser (1971) in which health educators were chastised for continuing to rely on information-only approaches, even though the approaches often failed to deliver on promises to affect health behavior. Rosser argued that students would not change their behavior in response to what they were learning in class until they had assimilated the new information into their own system of beliefs and values. Consequently, Rosser reasoned that facilitating the development of values that support healthy lifestyles was the key to moving students beyond simply amassing ever greater amounts of information to using the information they had acquired to make healthier decisions.

Krathwohl's taxonomy of the affective domain

In his essay, Rosser (1971) recommended the work of Krathwohl, Bloom, and Masia (1964) as a guide to understanding the influence of learning on the formation of attitudes and values (definitions of the affective domain and other key terms used throughout this document are in Table 2). Krathwohl and colleagues (Krathwohl et al., 1964) published the taxonomy of the affective domain ("Krathwohl's taxonomy") several years after the publication of Bloom's Taxonomy of Educational Objectives (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956) to address the emotional or affective aspects of learning. Krathwohl's taxonomy depicts learning in the affective domain as progressing through five stages marked by the degree to which students have internalized a concept or recommended behavior into their personal system of beliefs and values. The authors described the first stage of the taxonomy, *receiving*, as the student's willingness to acknowledge and attend to information about a new concept. The second stage, *responding*, was characterized by the student's active participation in the lesson and motivation to learn about the concept. The third level of the affective domain, *valuing*, was described as the point when the student has formed a favorable opinion toward the concept and an appreciation for the information as being personally meaningful and useful (i.e., as valuable). Also during this phase, the student has begun to voluntarily behave in a manner that is consistent with the concept (Krathwohl et al., 1964). At the fourth level, *organization*, the student has

integrated the concept into his or her existing system of beliefs and begins to make comparisons and judgements regarding which attitudes and behaviors are consistent with those beliefs (Krathwohl et al., 1964). At the fifth and final stage, *characterization*, the student has fully internalized the concept into his or her value system and will automatically think and behave in ways that are governed by and consistent with the value (Krathwohl et al., 1964).

Health education and Krathwohl's taxonomy

Although several taxonomies of the affective domain have been proposed, Krathwohl's taxonomy is the tool teachers have used most frequently to inform their selection of affective learning objectives and the planning of instruction (Gano-Phillips, 2009; Miller, 2005; Myers & Goodboy, 2015; Pierre & Oughton, 2007). The ways in which Krathwohl's taxonomy has been applied to the attitudinal and emotional aspects of learning and instruction can be divided into two areas (Birbeck & Andre, 2009; Main, 1992). The first application utilizes the receiving and responding levels of Krathwohl's taxonomy and addresses the feelings and attitudes that students have toward a topic, their interest in learning about the topic, and the emotions they experience during the learning process (Gano-Phillips, 2009; Krathwohl et al., 1964; Main, 1992). The purpose of instruction in this application is to heighten the interest students feel toward the topic and foster their motivation to learn about it (Birbeck & Andre, 2009; Main, 1992). Learning objectives in this context often identify the affective state (e.g. fear, curiosity) or emotional reaction (e.g. outrage, approval) the teacher seeks to elicit from students in response to a specific cue, such as a video clip or testimonial. (Birbeck & Andre, 2009; Main, 1992).

The second application of the affective domain addresses the valuing, organization and characterization levels of Krathwohl's taxonomy and the process through which learning is internalized and values are formed (Gano-Phillips, 2009; Krathwohl et al., 1964; Main, 1992). Instructional goals in this context focus on changing student attitudes, beliefs and values (Gano-Phillips, 2009; Krathwohl et al., 1964; Main, 1992). In their learning objectives, therefore, teachers might stipulate a level of commitment to a particular ideal or to behaving in a prescribed manner.

Despite the wide application of Krathwohl's taxonomy and affective domain across academic disciplines and school levels, the utility and applicability of the taxonomy is limited in health education for several reasons. One limitation is inherent in the challenges associated with assessing affect. Assessment of learning objectives at the receiving and responding levels of the affective domain can be assessed in the classroom through direct observation. In contrast, learning objectives at the valuing, organizing, and characterization levels address changes in attitudes, beliefs, and other internal states that cannot be observed directly. Teachers must identify an action or behavior associated with the internal state to serve as evidence of how the student feels or believes (Gano-Phillips, 2009). The validity and reliability of the assessment, therefore, is dependent upon the strength of the correlation between the action or behavior under observation and the internal state it was chosen to represent (Eiss & Harbeck, 1969). Identifying an observable behavior that will accurately represent an affective learning outcome and an assessment strategy or performance task that will elicit the behavior is often difficult. Making these planning decisions even more challenging when the goal of affective instruction is instilling in students the value of *not* engaging in a behavior, such as to value the benefits abstaining from tobacco use (Savickiene, 2010; Tharp, Gould, & Potter, 2010). These assessment challenges represent a significant limitation of Krathwohl's taxonomy and cited by teachers as why they might avoid including affective learning goals in their lessons and curricula (Gano-Phillips, 2009; Martin & Briggs, 1986; Shephard, 2008).

A second limitation Krathwohl's affective domain can also be traced back to the valuing, organizing and characterization levels of the taxonomy. These levels are used to plan instruction intended to pivot student attitudes, beliefs and values in a particular direction. For many years, a significant source of the opposition to education in the affective domain has come from parents who feared the goal of the instruction was to instill in their children beliefs and values that conflicted with their own (Governali, 1995; Shephard, 2008). Consequently, in a practice that continues today, some teachers and school officials have elected to avoid the accusations of indoctrination by dropping affective learning goals from their curricula (Diegmeuller, 1993; Governali, 1995; Shephard, 2008).

According to Krathwohl et al, learning objectives based upon the taxonomy emphasize a "feeling tone, an emotion, or a degree of acceptance or rejection" toward instructional content and included constructs such as "…feelings, values, appreciation, enthusiasms, motivations, and attitudes" (Krathwohl et al., 1964, p. 7). By comparison, scholars in health education regard as a best practice providing students with opportunities to explore and evaluate how their health behavior is influenced by their attitudes, perceptions, self-efficacy and normative beliefs (CDC, 2012; Kirby, Coyle, Alton, Rolleri, & Robin, 2011). Consequently, the narrow focus of Krathwohl's taxonomy on the emotional aspects of learning and affective constructs associated with the internalization of instructional content, rather than on the constructs known to influence health behavior, has rendered the taxonomy ineffective as a tool for planning theory-informed health instruction.

Affective education and theory-informed health instruction

Fostering the development of attitudes and personal and normative beliefs that support a healthy lifestyle and facilitate healthy behavior is the goal of affective education in health education. Although Krathwohl's five-stage taxonomy of the affective domain is well-suited for helping teachers identify the levels of emotional engagement and internalization of course themes that they want to observe in their students, the taxonomy provides little guidance to teachers regarding which attitudes and personal and normative beliefs have the greatest impact on a given health behavior and in what ways. Unlike the cognitive and psychomotor learning domains for which functional knowledge expectations and skills performance indicators have already been identified in resources such as the National Health Education Standards (Joint Committee on National Health Education Standards, 2007), no similar resource exists to assist teachers in identifying suitable expectations for affective learning in health education. This conclusion is consistent with work by Ferguson (2006) and by Bolin, Khramtsova and Saarnio (2005) who found no consensus existed among scholars regarding how education in the affective domain should be defined, which affective constructs should be addressed, or how success should be

determined. In the absence of such a resource, the CDC recommends that teachers use health behavior theory to inform their planning decisions (CDC, 2012). Health behavior theories help teachers understand which affective constructs are known to influence a given health-related behavior and in what ways as well as to determine the most relevant instructional content and suitable instructional strategies (Glanz, Rimer, & Viswanath, 2015).

Introducing the *attitudes, beliefs and norms domain*

The *attitudes, beliefs and norms (ABN) domain* proposed in this paper brings together the affective and psychological constructs known to influence the health behavior of youth, including health-related attitudes, perceptions, personal and normative beliefs, expectations, and self-efficacy beliefs. These constructs have been drawn from health behavior change theories and models including, but not limited to health belief model, the theory of planned behavior, and the social cognitive theory. Using health behavior theory as the foundation for planning health instruction aligns with the best practices recommendation that health education curricula be built on theoretical approaches that have effectively influenced health-related behaviors among youth (CDC, 2012).

TEACHING METHOD

The ABN framework (depicted in Table 2) was developed to provide teachers with a blueprint for implementing the best practice recommendation that health education curricula be based upon or informed by effective theoretical while avoiding the accusations of indoctrination and poor compliance with best practice recommendations that have plagued the affective domain. Also, the use of the ABN framework facilitates the identification of rigorous and measurable learning objectives based upon the constructs of health behavior theory while avoiding the challenges associated with attempting to assess states that cannot be directly observed.

Completing the learning tasks of the ABN framework engages students in both the development and understanding of their own motivations, expectations, self-efficacy, attitudes, beliefs, and values in terms of their health behavior. Consequently, objectives created from the ABN framework are always student-centered

and relevant because student's own attitudes, beliefs and norms are the central focus of the analysis. The learning outcome of interest in the ABN domain is the affective construct from the health behavior theory upon which the lesson is based. For example, are students able to articulate, analyze, or evaluate how physically dangerous they believe personally engaging in texting while driving could be?

As teachers develop learning objectives based upon the framework, an important distinction between cognitive objectives and ABN objectives can be useful in determining if the objective is appropriate for the ABN domain or if the objective should be considered a cognitive learning objective. Unlike the assessment of cognitive objectives which can be assessed as being either right or wrong, an individual's attitudes, beliefs, or values are never "wrong" (Pierre & Oughton, 2007, p. 3). Consequently, if information obtained from the student could be judged as correct or incorrect, then the objective likely addresses learning in the cognitive domain rather than learning in the ABN domain. A second indication that the learning objective addresses the cognitive domain rather that the ABN domain is determined by whose perspective is being sought. For example, asking students to identify three common reasons why teenagers in the United States chose not to use tobacco products is an example of a cognitive objective. Asking students to identify three reasons why they personally would chose not to use tobacco product, however, shifts the focus onto each student to consider the affective construct from his/her own perspective (e.g. "Identify three reasons why *you* would choose not to use tobacco products" or "Compare two reasons why *you* would choose not to use tobacco with two reasons that someone might have given 50 years ago").

TEACHING PROCEDURE

The ABN framework outlines four student-centered learning tasks that involve the critical examination of their health-related attitudes and personal and normative beliefs toward a health behavior or practice using the higher-order thinking skills of Bloom's revised taxonomy of the cognitive domain (Anderson et al., 2001). The ABN framework uses several levels of the cognitive domain (understanding, applying, analyzing, and evaluating), resulting a natural,

upward progression in complexity or cognitive demand as students move though completion of the framework from Task 1 through Task 4. Note, however, that the tasks may be independent of each other, depending on the needs of the students and the goals of the lesson. Task 1 of the framework involves describing and analyzing one's attitudes, personal and normative beliefs, and values (e.g. *The student will describe three assumptions they have made regarding how tobacco use would affect their health*). Task 2 involves analyzing and evaluating the origins and the influence of sources on the development of one's attitudes, personal and normative beliefs, and values (e.g. *The student will describe three ways that their attitudes toward tobacco smokers have evolved as they have gotten older*). Task 3 involves comparing one's attitudes, personal and normative beliefs, and values with attitudes and beliefs held by others (e.g. *The student will explain three ways in which their attitudes toward tobacco smokers differ from those of their parents*). Task 4, the final task, compels students to validate (or invalidate) their attitudes, perceptions, or personal and normative beliefs by comparing them against current scientific evidence or reliable data sources (e.g. *The student will create a table depicting a comparison of their perceptions the prevalence of tobacco use in the county compared to County health data*).

Table 3, titled, *Theoretical constructs and applied examples for a 9th-12th grade tobacco unit*, provides examples of learning assessment activities for high school tobacco curriculum based upon theoretical constructs for each of the four learning tasks of the ABN framework. The health behavior models and theories featured in the table, the health belief model [HBM] (Rosenstock, 1974), the theory of planned behavior [TPB] (Fishbein & Ajzen, 1975), the integrated behavioral model [IBM] (Montano & Kasprzyk, 2015), and the social cognitive theory [SCT] (Bandura, 1986), were selected for inclusion because these theories and models are among the most widely used in health education to explain and predict health behavior change (Glanz et al., 2015). Descriptions of the affective constructs, adapted from Glanz et al (2015), are listed by model or theory and in alphabetical order. To broaden the applicability of the table, assessment criteria by which to determine adequate performance have been omitted. In keeping with the tenets of developmentally appropriate practice, teachers are encouraged to consider the cognitive development, emotional maturity, and life experiences of their students when identifying performance expectations and assessment criteria for the ABN objectives (CDC, 2012). Although the ABN framework does not make specific recommendations regarding suitable teaching strategies or learning experiences, Table 4, *Characteristics of an effective health education curriculum associated with ABN learning outcomes,* provides examples of best practices for integrating the ABN domain into teaching and learning experiences.

CONCLUSION

Best practice recommendations for curricular and instructional planning from the CDC (2012) stressed the importance of addressing attitudes, beliefs and norms that support healthy behavior in addition to addressing knowledge and skill development. Historically, Krathwohl's taxonomy of the affective domain has been the most common tool used by teachers to plan education in the affective domain (Gano-Phillips, 2009). The ABN domain and framework described in this paper are not new interpretations of Krathwohl's taxonomy or novel applications of the affective domain, but represent instead an entirely different approach to affective learning in health education. The ABN domain and framework are tools with which to translate best practice recommendations for theory-informed, student-centered instruction and assessment of affective learning in health education while avoiding the challenges with assessment and accusations of indoctrination that have plagued Krathwohl's taxonomy of the affective domain.

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Table 1: Key Terms

TERM	DEFINITION
Affective domain	The *Affective domain*, in this paper, refers to the traditional interpretation of the domain posited by Krathwohl et al (1964) which addressed students' attitudes, emotions, interests, motivation, self-efficacy, and values. Educational objectives and learning experiences were intended to produce awareness and growth in feelings, interests, attitudes, and beliefs. Krathwohl's taxonomy of the affective domain outlined five stages of development according to increasing levels of commitment and internalization beginning with simple awareness of a phenomenon or principle and ending with integration of the value to the extent that behaving in a manner consistent with the value becomes automatic (Krathwohl et al., 1964).
Attitudes	*Attitudes* are tendencies to react favorably or unfavorably to something (e.g., person, place, object, event, or behavior) (Allen et al., 2009). In the context of health behavior and the theory of planned behavior, *attitudes* refer to an individual's evaluation of a behavior or outcome of the behavior (desirable or undesirable, favorable or unfavorable, pleasant or unpleasant, wise or foolish, etc.) (Ajzen & Fishbein, 1980). Attitudes arise, in part, from one's beliefs and values. Attitudes are typically believed to be more subject to change than more deeply-held values or beliefs and are subject to change based on new information, life experiences, or other learning processes. *Opinions* are verbal expressions of one's attitude.
Attitudes, beliefs and norms [ABN] domain	The *attitudes*, *beliefs and norms domain* encompasses the affective and psychological constructs known to influence health-related behavior and behavioral intentions, including feelings, attitudes, perceptions, expectations, self-efficacy and normative beliefs, among others. The constructs are derived from health behavior change theories and models, including but not limited to the health belief model, the theory of planned behavior, the social cognitive theory, and the social norms theory.
Attitudes, beliefs and norms domain framework	*The attitudes, beliefs and norms domain framework* is based on the ABN domain and outlines four learning tasks that involve the exploration, clarification, analysis and evaluation of one's attitudes, personal and normative beliefs, expectations and intentions that support a healthy lifestyle and facilitate healthy behavior.
Norms and normative beliefs	*Norms* is collective term used to refer to the implied agreement or understanding about standards of acceptable behavior within a community or peer group (Perkins & Berkowitz, 1986). *Normative beliefs* are the beliefs and assumptions that individuals have about members of his or her peer group think he or she should behave in a given situation (Conner & Norman, 2005, p. 10). Normative beliefs are also known as injunctive norms or social expectations (Glanz et al., 2015). Social norm theory and social norms approaches are predicated on the assertion that people look to others for guidance regarding how to behave in a given situation or context (Perkins & Berkowitz, 1986).
Personal beliefs	*Personal beliefs* are "statements or propositions about health, health behaviors or practices, or oneself that are accepted as being true" (Stanford Center for Assessment Learning and Equity, 2013, p. 42) Individuals may ascribe to a belief even if other people disagree and despite the fact that the belief may be based solely on supposition or even false information. The term, *perceptions*, such as perceptions of risk, is often used interchangeably with health beliefs.
Values	Rokeach (1973, Ch. 3) defined *values* as "core conceptions of the desirable within every individual or society." He stated that values "serve as standards or criteria to guide not only action but also judgment, choice, attitude, evaluation, argument, exhortation, rationalization and one might add attribution of causality."

Table 2: The attitudes, beliefs and norms (ABN) framework

Health instruction focused on the attitudes, beliefs and norms domain aims to foster the development of attitudes and personal and normative beliefs that support a healthy lifestyle and facilitate healthy behavior by creating learning activities designed around four groups of tasks:

TASK 1. Analyze the development one's attitudes, beliefs and values toward a judgment, action, or decision one makes about a health issue or problem or its associated benefits/consequences (i.e., over one's lifetime, global versus situation or contextual, public vs. private, moral vs. ethical vs. legal, etc.)

TASK 2. Evaluate sources of influence on one's attitudes, personal and normative beliefs, and values related to a judgment, action, or decision one makes about a health issue or problem (i.e., friends, same-age peers, family, culture, religion, politics, media, social determinants, personal experiences, etc.)

TASK 3. Compare one's attitudes, personal and normative beliefs, and values related to a judgment, action, or decision one makes about a health issue or problem with those of other individuals (i.e., friends, same-age peers, family, different cultures, across age groups and gender, etc.)

TASK 4. Compare personal and normative beliefs WITH EVIDENCE-BASED INFORMATION (Risk behavior data sets, historical documents, news accounts, professional literature, etc.)

Table 3: Theoretical constructs and applied examples for a 9th-12th grade tobacco unit

Affective Construct [Theory]	Definition / Description*	Sample Assessment Activities			
		TASK 1 *Students will…*	**TASK 2** *Students will…*	**TASK 3** *Students will…*	**TASK 4** *Students will…*
Perceived susceptibility [HBM]	*Belief about the chances of experiencing a risk or getting a condition or disease.*	explain reasons why they are not likely to get hooked on tobacco.	describe the points of view about tobacco use of three important people in their lives.	compare attitudes toward tobacco use to the attitudes of influential peers/close friends.	compare assumptions about the prevalence of tobacco-related illness to county-level data.
Perceived severity [HBM]	*Belief about how serious a condition and long-term consequences are.*	rank order from least to most severe consequences they associate with tobacco use.	describe experiences that have shaped their perceptions regarding the severity of tobacco use.	compare perceptions about the dangerousness of tobacco use against perceptions of friends.	confirm the accuracy of their perceptions using reliable primary resources.
Perceived benefits [HBM]	*Belief in efficacy of the advised action to reduce risk or seriousness of impact.*	describe immediate benefits they expect to enjoy by remaining tobacco-free.	describe recent experiences that have contributed to their beliefs about the benefits to being tobacco-free.	compare beliefs about the benefits of being tobacco-free to the beliefs of peers.	confirm the accuracy of their benefits of each belief using reliable primary resources.
Perceived barriers [HBM]	*Belief about the tangible and psychological costs of the advised action.*	predict challenges they will encounter when refraining from tobacco use.	point out sources that impact their ability to remain tobacco-free.	compare barriers they are confronted with to barriers they believe their peers face.	identify reliable information that justifies each of perceived barriers to abstaining from tobacco use.

Affective Construct [Theory]	Definition / Description*	Sample Assessment Activities			
		TASK 1 *Students will…*	**TASK 2** *Students will…*	**TASK 3** *Students will…*	**TASK 4** *Students will…*
Cues to action [HBM]	*Strategies to activate "readiness."*	identify cues in their immediate environment that remind them of the value a tobacco-free lifestyle.	describe the source of each cue that supports their values regarding tobacco use.	contrast cues they value regarding the absence of tobacco to the cues valued by their peers.	refer to educational resources to validate cues they recognize as meaningful reminders to refrain from tobacco use.
Experiential attitude [IBM]	*Belief that performing the behavior is associated with positive or negative feelings.*	describe ways their feelings about using tobacco have changed since they were in elementary school.	explain how images of smoking depicted in the media have influenced their feelings toward choosing to use tobacco.	compare assumptions about the difficulty of quitting tobacco with the stories of three long-term smokers.	compare assumptions about quitting smoking against data on quitting success rates.
Instrumental attitude [IBM]	*Belief that behavioral performance is associated with certain attributes or outcomes. Value attached to a behavioral outcome or attribute.*	describe experiences they believe to have impacted the prevention of tobacco use and/or cessation.	identify individuals in their community that value and promote behavioral performance to abstain from tobacco use.	compare of their valued outcomes contributing to being tobacco-free with three family members that are also tobacco-free.	validate the importance of outcomes they associated with tobacco-free behaviors as benefits towards a healthy lifestyle by accessing evidence-based resources.
Injunctive norm [IBM]	*Belief about whether most people in an individual's peer group approve or disapprove of the behavior. Motivation to do what each referent thinks.*	identify five people they respect and believe are likely to disapprove of them using tobacco.	identify influential sources, with similar opinions as their own, approving of their motivation to be tobacco-free.	compare responses they received from friends/relatives about whether they approved of tobacco use with the responses received by their peers.	compare their estimates of approval/disapproval rates against data from local, state and national surveys about tobacco-free behaviors as a motivator for a healthy lifestyle.
Descriptive norm [IBM]	*Belief about whether most people perform the behavior*	report the percentage of peers in their social network they presume to be using tobacco.	describe messages from social media that influenced their beliefs about the prevalence of tobacco use.	Compare their assumptions about the prevalence of tobacco use against the assumptions of their peers.	compare their estimates of smoking rates with actual rates reported in local, state and national surveys.
Perceived behavioral control [IBM]	*Perceived likelihood of occurrence of each facilitating or constraining*	predict the difficulty of resisting pressure to use tobacco across	describe situations they expect to encounter that will make	exchange incidences when they successfully overcame peer	confirm their beliefs about tobacco absence by accessing

Affective Construct [Theory]	Definition / Description*	Sample Assessment Activities			
		TASK 1 *Students will…*	TASK 2 *Students will…*	TASK 3 *Students will…*	TASK 4 *Students will…*
	condition. Perceived effect of each condition in making behavioral performance difficult or easy.	a variety of social situations.	resisting peer pressure to use tobacco unusually difficult for them.	pressure to use tobacco.	credible tobacco cessation information.
Reciprocal determinism [SCT]	*Environmental factors influence individuals and groups, but individuals and groups can also influence their environments and regulate their own behavior.*	describe reciprocal relationships that exist between themselves, tobacco use, and the people around them.	describe instances when they changed their opinion about tobacco use in response to something someone said.	discuss with peers their beliefs regarding the impact of anti-smoking public service announcements on personal smoking	investigate the ways tobacco regulations have influenced the interaction between the behavior, themselves, and the environment.
Outcome expectations [SCT]	*Beliefs and judgements about the likely consequences of behavioral choices.*	describe immediate consequences they expect to experience if they use tobacco.	determine the origin for why tobacco use is safe and/or dangerous.	summarize the similarities/ differences between their beliefs regarding the consequences of tobacco use to those of their friends, family, trusted adults.	support personal beliefs about long-term consequences of tobacco with statistics from evidence-based resources.
Collective efficacy [SCT]	*Beliefs about the ability of a group to perform concerted actions that bring desired outcomes.*	evaluate their circle of friends' ability to agree upon tobacco-free guidelines they can consistently follow.	identify each source connected to their groups intentional actions to be tobacco-free.	debate the likeliness of the school population adopting behaviors to be a tobacco-free campus.	create tobacco-free scenarios they can then validate against evidence-based sources.
Observational learning [SCT]	*Learning to perform new behaviors by exposure to interpersonal or media displays of them, particularly through peer modeling.*	identify qualities they value in a role model who demonstrates positive actions to be tobacco-free.	describe instances they observed in their community, where tobacco absence was modeled.	contrast observations of tobacco use in their community against what they would have occurred 50 years ago.	evaluate tobacco-free role models based on various educational resources.
Incentive motivation [SCT]	*The use and misuse of rewards and punishments to modify behavior.*	determine if each reward to remain tobacco-free motivates their action to be tobacco-free.	examine tobacco-free rewards and determine if the source of the reward is trustworthy.	rank rewards, according to personal appeal, in a group activity, that incentivize a tobacco-free lifestyle.	review incentives connected to being tobacco-free to validate their feasibility using evidence-based sources.

Affective Construct [Theory]	Definition / Description*	Sample Assessment Activities			
		TASK 1 *Students will…*	TASK 2 *Students will…*	TASK 3 *Students will…*	TASK 4 *Students will…*
Facilitation [SCT]	*Providing tools, resources, or environmental changes that make new behaviors easier to perform.*	identify factors at each ecological level that would make remaining tobacco-free easier for them.	describe recent changes in the community that will support their efforts to remain tobacco-free.	compare personal preferences of tobacco cessation modalities with other demographic groups	validate personal beliefs about the effectiveness of tobacco cessation modalities using evidence-based sources.
Self-regulation [SCT]	*Controlling oneself through self-monitoring, goal-setting, feedback, self-reward, self-instruction, and enlistment of social support.*	predict incentives they value for adolescence, early adulthood, and adulthood to maintain a tobacco-free lifestyle.	assess incentives from a .gov website they believe will help them maintain a tobacco-free lifestyle.	compare their preferred incentives to those of their peers that sustain a tobacco-free lifestyle.	explain the association between each incentive to be tobacco-free, with incentives documented in evidence-based sources.
Self-efficacy [SCT]	*Beliefs about personal ability to perform behaviors that bring desired outcomes [SCT].*	identify challenges they feel might make remaining tobacco-free difficult.	describe reasons why they feel remaining tobacco-free might be difficult.	suggest reasons why they are likely to have an easier time remaining tobacco-free that someone might have 50 years ago.	cite science-based sources that support the actions they have taken to be tobacco-free.
Moral disengagement [SCT]	*Ways of thinking about harmful behaviors and the people who are harmed that make infliction of suffering acceptable by disengaging self-regulatory moral standards.*	describe situations or contexts they feel justify their use of tobacco.	explain the origins of their beliefs regarding contexts in which they feel tobacco use is acceptable.	compare their contexts for tobacco use from most acceptable to least acceptable with those of their peers.	evaluate the validity of their assumptions about the benefits of tobacco use against medical evidence.

*(adapted from Glanz et al., 2015)

Table 4: Characteristics of effective health education curricula associated with ABN learning outcomes (CDC, 2012, pp. 4 - 6)

CHARACTERISTIC	DESCRIPTION
Addresses individual values, attitudes, and beliefs. [C]	An effective curriculum fosters attitudes, values, and beliefs that support positive health behaviors. It provides instructional strategies and learning experiences that motivate students to critically examine personal perspectives, thoughtfully consider new arguments that support health-promoting personal attitudes and values, and generate positive perceptions about protective behaviors and negative perceptions about risk behaviors.
Addresses individual and group norms that support health-enhancing behaviors. [D]	An effective curriculum provides instructional strategies and learning experiences to help students accurately assess the level of risk-taking behavior among their peers (for example, how many of their peers use illegal drugs), corrects misperceptions of peer and social norms, emphasizes the value of good health, and reinforces health-enhancing attitudes and beliefs.
Focuses on reinforcing protective factors and increasing perceptions of personal risk and harmfulness of engaging in specific unhealthy practices and behaviors. [E]	An effective curriculum provides opportunities for students to validate positive health-promoting beliefs, intentions, and behaviors. It provides opportunities for students to assess their vulnerability to health problems, actual risk of engaging in harmful health behaviors, and exposure to unhealthy situations.
Addresses social pressures and influences. [F]	An effective curriculum provides opportunities for students to analyze personal and social pressures to engage in risky behaviors, such as media influence, peer pressure, and social barriers.
Provides functional health knowledge that is basic, accurate, and directly contributes to health-promoting decisions and behaviors. [H]	An effective curriculum provides accurate, reliable, and credible information for usable purposes so students can assess risk, clarify attitudes and beliefs, correct misperceptions about social norms, identify ways to avoid or minimize risky situations, examine internal and external influences, make behaviorally relevant decisions, and build personal and social competence. A curriculum that provides information for the sole purpose of improving knowledge of factual information will not change behavior.