Best Instructional Practices For Outdoor Laboratories: Reducing Sexual Harassment Risk[1]

Carolyn A. Copenheaver[2] and T. Adam Coates[3]
Virginia Tech
Blacksburg, VA

Adam K. Downing[4]
Virginia Tech
Madison, VA

Saskia L. van de Gevel[5]
Appalachian State University
Boone, NC

Abstract

We wanted to identify best practices and policies which may be used to prevent sexual harassment from occurring in outdoor field laboratories in agriculture and natural resources higher education degree programs. We organized a focus group with ten experienced faculty members from American colleges and universities and asked participants to identify, discuss, and rate best policies and practices. The focus group participants deemed these items to be essential: (1) Enforce Title IX policies; (2) Set clear expectations for faculty and student behavior and enforce consequences for faculty and students who violate these expectations; (3) Establish a laboratory code of conduct which includes information about sexual harassment; (4) Create a laboratory climate with both open communication and zero tolerance for sexual harassment. It will take effort and self-education from faculty members to apply these recommendations to specific agriculture or natural resources laboratories, but implementation should reduce the risk of sexual harassment and create more inclusive learning spaces for all students.

Introduction

Successful agriculture and natural resources undergraduate degree programs provide students with a combination of foundational content taught in traditional classrooms and applied skills taught in outdoor laboratories. During outdoor laboratories, instructors delineate educational spaces for their students, e.g., a hydrology course holds its weekly laboratory at a campus lake (Dripps, 2019); a woody plants course meets at the arboretum (Pederson, 1986); and an equine management laboratory meets in the university's horse barn (Adams-Pope et al., 2016). Outdoor laboratories increase student learning (Honeyman and Miller, 1998) and alumni report the importance of laboratories in preparing students for employment (Nippo, 1983). However, teaching in non-traditional environments may increase safety risks. Providing students with safety training and personal protective equipment is a normal part of agriculture and natural resource laboratories (Bekkum and Hoerner, 1990). Recently, research within the discipline of forestry, has highlighted another safety risk associated with outdoor laboratories: a high level of sexual harassment experienced predominantly by female students (Grubbstrom and Powell, 2020).

The informal structure of outdoor laboratories may facilitate the frequency of sexual harassment experienced

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[2] Associate Professor, Department of Forest Resources and Environmental Conservation, 24061. Email: ccopenhe@vt.edu
[3] Assistant Professor, Department of Forest Resources and Environmental Conservation, 24061. Email: acoates4@vt.edu
[4] Senior Extension Agent, Virginia Cooperative Extension, 22902. Email: adowning@vt.edu
[5] Professor and Chair, Department of Geography and Planning, 28608. Email: gevelsv@appstate.edu

by female students. Among students and researchers working at remote field sites in the discipline of biological anthropology, 70% of females and 40% of males reported experiencing some form of sexual harassment from colleagues or supervisors (Clancy et al., 2014). Classmates typically work in small groups without direct supervision and behavior is often modeled by student peers rather than faculty or graduate teaching assistants. When a male student behaves in a sexist manner or tells sexist jokes, other male students in the group are more likely to exhibit sexist behavior toward their female peers (Angelone et al., 2005). White females, within male-dominated disciplines are the most common victims of sexual harassment, with reported behaviors including: sexual jokes, sexual remarks, being sent sexual images, and receiving unwanted sexual advances (Klein and Martin, 2019). Agriculture and natural resources faculty members have a legal obligation to address the problem of sexual harassment in field laboratories because Title IX within the United States Department of Education's Office for Civil Rights 1972 Federal Education Amendments requires universities to provide an environment for students which is free from sexual harassment (n.b., Title IX is limited to the United States and does not apply in other countries).

The objective of this research was to gather information from experienced faculty members to identify the best teaching practices and policies to prevent sexual harassment during outdoor laboratories. As agriculture and natural resource programs attempt to recruit and retain more female students (Rouleau et al., 2017), we must recognize that students who are victims of sexual harassment are more likely to be late for or miss class and turn in lower quality academic work because of their experiences within a hostile classroom environment (Witze, 2018). Students are our future professionals and the behaviors they learn in the classroom will be transferred into the workplace. Currently women employed in agriculture and natural resources experience high levels of workplace sexual harassment (Johansson et al., 2018; Saunders and Easteal, 2013) and we are hopeful that the results of this study will benefit current students and also contribute to improved future workforce behavior.

Materials and Methods

Recruitment of Focus Group Participants

We sent recruitment emails to 20 faculty members who had experience teaching outdoor laboratories in natural resources and environmental science at higher education programs in the United States. The recruitment email communicated the study objective and format, time, and date of the focus group and asked potential participants about their availability and willingness to participate. Ten faculty members agreed to participate, seven declined, and three did not respond. This resulted in a sample size of 10 participants within the focus group, which is the median number of participants for focus groups within the natural resources discipline (Nyumba et al., 2018). The focus group included participants from eight states representing 2-year colleges (n = 3), private colleges/universities (n = 2), and land-grant universities (n = 5). Females (n = 5) and males (n = 5) were equally represented in the focus group and four of the participants had administrative responsibilities as department or unit chairs/heads in addition to teaching responsibilities.

Focus Group Format

The focus group took place on two consecutive afternoons in a video-conference format and used nominal group technique (Anonymous, 2018) to identify policies and best practices to prevent sexual harassment during outdoor laboratories. The first three-hour session opened with introductions by organizers and participants and an overview of existing data about sexual harassment in scientific disciplines. One of the organizers led a self-reflection exercise with participants to facilitate community and trust among participants (Kamberelis and Dimitriais, 2013). Afterward, each participant shared several best practices or policies to reduce the risk of sexual harassment during outdoor laboratories based on their own teaching experience from working with students. The focus group participants identified a total of 64 items. Each participant provided a preliminary rating of all items using an on-line survey tool to rate the importance of each item. Items were rated with the following scale: 1 (essential), 2 (very important), 3 (somewhat important), 4 (optional), or 5 (not needed). All participants were provided the average rating for each of the 64 items in advance of the second three-hour focus group session. During this second session, focus group organizers facilitated a group discussion as participants combined items, deleted items, or added new items. After this process, the focus group had created a final list of 47 best practices or policies to prevent sexual harassment during outdoor laboratories. At the close of the focus group, all participants provided a final rating of each item using the same scale as before.

Data Analysis

We reviewed the ratings of the 47 final items contributed during the focus group and items which received an average rating of ≥ 2 were removed from further analysis. This left 15 items which the focus group identified as essential (< 2) for preventing sexual harassment in outdoor field laboratories (Table 1). Several of the 15 items followed similar themes. For example, four items focused on following federal Title IX requirements: "Follow university Title IX guidelines" (rated = 1.2); "Violations of sexual harassment or assault must be reported by faculty to the Title IX office" (rated = 1.4); "Make sure students are clear about lines of communication about reporting misconduct" (rated 1.6), and "Clearly communicate the purpose and process for reporting conduct violations to the university Title IX office" (rated = 1.8). Therefore, we organized the 15 essential items into broader thematic categories to develop a list of four themes with associated policies and best practices which may be implemented by faculty members in agriculture and natural resources to reduce the risk of sexual harassment in outdoor laboratories.

Table 1. Fifteen items were identified by focus group participants as essential best practices or policies for reducing the risk of sexual harassment in outdoor laboratories in agriculture and natural resources

Item	Average Rating
It is essential to set the tone of zero tolerance for sexual harassment at the beginning of the course and to monitor class interactions throughout the semester. An appropriate response to misconduct should be made in a timely manner	1
Following university Title IX guidelines or similar guidelines if available, provide expectations in the syllabus for all participants to provide safe learning environments and safeguard against any type of social discrimination or sexual misconduct.	1.2
Instructors should consider professional and personal boundaries when engaging in out-of-class interactions and communications with students.	1.3
Violations of sexual harassment or assault must be reported by faculty to the Title IX office.	1.4
Be prepared to act when a student breaks the code of conduct. It is not tolerated and you have to act.	1.4
Encourage students to adhere to professional behavior by providing examples of appropriate and inappropriate behaviors at the beginning of class.	1.5
"Professionalism" is a big term - we expect them to be professionals. School is the beginning of a professional career and that should set the tone for both the faculty and student expectations	1.5
If a professor says something inappropriate in class, the university must have consequences for appropriate behavior.	1.5
Make sure students are clear about lines of communication about reporting of misconduct.	1.6
Be thoughtful when constructing groups in order to avoid misconduct and to promote professionalism and safety as appropriate for learning goals, logistics, and situations.	1.6
Teacher has an open atmosphere for all students to address issues with the professor as needed.	1.7
Students will say things that are inappropriate and a faculty member must create an environment of letting students know what is unacceptable in the classroom.	1.7
Instructors follow through with statements in the syllabus about appropriate behavior.	1.7
Clearly communicate the purpose and process for reporting conduct violations to the university Title IX office or equivalent, official, reporting office. This may include providing contact emails, link to the reporting form, and information about responsible individual(s).	1.8
Need to identify the consequences of inappropriate behavior at the beginning of class.	1.9

Results and Discussion

The best teaching practices and policies to reduce the risk of sexual harassment during outdoor laboratories identified by experienced faculty members fit into four thematic areas: enforcement of Title IX, faculty behavior, code of conduct, and laboratory climate (Table 2).

Enforcement of Title IX

All participants recognized the importance of following Title IX requirements (Table 2). The U.S. Department of Education's Office for Civil Rights Title IX of the Education Amendments of 1972 states, "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." All universities and colleges receiving Federal funding have Title IX reporting offices and faculty members complete training and are classified as mandatory reporters who are legally required to report suspected violations of Title IX through their reporting system. The legal standing of Title IX should make this the most effective method for preventing sexual harassment in outdoor laboratories. However, during the focus group most participants revealed some level of discomfort in differentiating between sexual discrimination and slightly off-color joking amongst students. The challenge described by participants was not unexpected. Humor is a common disguise for sexual harassment and discrimination because it strengthens the sense of belonging among male members of the group, while amplifying a woman's status as an outsider (Thomae and Pina, 2015). It is important to recognize that identifying sexual harassment can be challenging for some faculty members and students because of the frequency with which it is hidden within humor (Rawlings, 2019). During the focus group some individuals felt uncomfortable saying "sexual misconduct" or "sexual harassment" and used more general language such as "professional behavior" or "appropriate behavior" (Table 1) to avoid having to say the word "sexual." This led to some miscommunication about whether the policies and best practices should be targeted to "promote professionalism" or "prevent sexual harassment." This discomfort with explicit language is common; however, avoidance of the correct terminology for sexual harassment minimizes the impact of the harassing behavior and normalizes it (Cantalupo and Kidder, 2018). Based on the honest reservations expressed by focus group participants about when and where to "call out" sexual harassment, we would caution against relying exclusively upon the existence of Title IX to prevent sexual harassment in outdoor laboratories and recommend that Title IX be one of several instructional tools.

Table 2. The policies and best practices identified by experienced faculty members as effective in reducing the risk of sexual harassment during outdoor field laboratories in agriculture and natural resources fit into four thematic categories.

Theme	Policies and Best Practices
Title IX	**Policy:** Enforce Title IX of the Educational Amendment Law. **Best Practice:** Include Title IX requirements and reporting process in syllabus.
Instructor Behavior	**Policy:** Follow university guidelines for professional responsibility and conduct and enforce consequences for faculty violations. **Best Practice:** Faculty must set professional and personal boundaries during in-class and out-of-class interactions and communication with students.
Code of Conduct	**Best Practice:** Place a code of conduct in the syllabus detailing acceptable laboratory behavior and identify consequences of inappropriate behavior. Review the code of conduct at the beginning of the semester and be prepared to enforce the consequences if a student breaks the code of conduct.
Laboratory climate	**Best Practice:** Set a tone of zero tolerance for sexual harassment at the beginning of the course; monitor class interactions throughout the semester; and respond appropriately and in a timely manner to misconduct. **Best Practice:** Create an open atmosphere for communication so that all students feel welcome reporting concerns to the instructor. **Best Practice:** Be thoughtful when constructing laboratory groups. Consider: learning goals, safety, logistics, situation, and promoting professional behavior among students.

Faculty behavior

Eliminating instructor-perpetrated sexual harassment is essential in outdoor laboratories (Table 2). When faculty members sexually harass students, the victims are unlikely to report the violation because of the power imbalance between their positions (Aguilar and Baek, 2020). One solution may be to shift the responsibility of reporting sexual harassment from the victim to bystanders. When faculty, staff, and students have bystander training they are more aware of sexual harassment and are more willing to intervene when they witness sexual harassment or violence against women (Fenton and Mott, 2018). One of the focus group participants identified the importance of "having more eyes and ears in the field lab" and bystander training achieves having the entire class working together to create a safe learning space. Another focus group participant referenced their experiences working within the Green Dot active bystander intervention training program, which allows students to recognize when victims are being targeted; provides a suite of active intervention techniques; and trains students to identify the best intervention technique to safely employ for a given situation (Coker et al., 2011). Another essential aspect of preventing sexual harassment of students by instructors is setting clear boundaries for instructors about acceptable and unacceptable communication and interactions with students (Table 1), a best practice to apply in all classroom settings and not only outdoor laboratories. One of the topics discussed was how to prevent the faculty professional boundaries from being crossed with social media communication, e.g., having a policy that faculty may not connect with students through social media. The power differences that exist between faculty and students have caused many colleges and universities to prohibit faculty and student sexual consensual relationships (Richards and Nystrom, 2020). We agree and applaud this as an important step in reducing the risk of students being sexually harassed by faculty members.

Code of Conduct

A laboratory code of conduct typically includes expectations for student behavior across a variety of topics. The focus group recommended including content on sexual harassment (Table 1). Writing a code of conduct requires the instructor to determine who will be affected, what will be the reporting structure, how will confidentiality be maintained, and what will be consistent outcomes for violations (Hardy, 2016). Several focus group participants expressed regret because they were caught off-guard by a student's sexually inappropriate comment and failed to correct inappropriate behavior in the moment. The experience of writing a code of conduct on sexual harassment provides an opportunity for self-education and may improve appropriate reactions when a violation occurs in an outdoor laboratory. The focus group emphasized that faculty members must "act" when a violation occurs; this was conveyed by the repetition of the word "act" in their statement: "Be prepared to act when a student breaks the code of conduct. It is not tolerated and you have to act" (rated = 1.4, Table 1).

Laboratory Climate

One item was rated as essential by all ten members of the focus group: "It is essential to set a tone of zero tolerance for sexual harassment at the beginning of the course and to monitor class interactions throughout the semester. An appropriate response to misconduct should be made in a timely manner" (rated = 1.0; Table 1). Reducing the risk of sexual harassment is a long process and faculty members can create a laboratory climate where sexual harassment is not tolerated by: educating themselves about sexual harassment; using non-sexist and non-sexual language and jokes; candidly speaking about sexual harassment with students; and incorporating professional development opportunities into class and laboratory activities (Knaub et al., 2020). Creating a climate where all students feel comfortable with bringing their concerns to the instructor was rated as essential by the focus group.

Outdoor laboratories typically require students to work together in assigned groups. Focus group participants noted and valued the strong friendships which may form among laboratory partners. However, they also acknowledged that members of laboratory groups can be a source of sexual harassment, particularly for female students in male-dominated classes. There was much discussion, but no consensus about best practices for forming laboratory groups; however, most participants agreed that it was important to form mixed-sex laboratory groups. Research on females who are assigned male laboratory partners, in male-dominated disciplines, has found no evidence that working with males causes females to perform more poorly on examinations (Fairlie et al., 2020). However, it is a good practice for instructors to watch mixed-sex laboratory groups more closely because there is a documented tendency for female students to be assigned a specific task by their male peers, e.g. recording data, which means female students may not be learning the hands-on methodologies and a gentle reminder from a faculty member or faculty assigning rotating student roles can overcome this tendency (Doucette et al., 2020).

Summary

Sexual harassment seldom involves a single perpetrator because the harasser has the passive support of bystanders who are student peers and instructors and an academic institution that is not trusted by the victim to respond to a complaint (Aguilar and Baek, 2020; Namie and Lutgen-Sandvik, 2010). The informal structure of outdoor field laboratories, common to agriculture and natural resources undergraduate classes, are recognized as instructional spaces with a higher risk for sexual harassment compared to a traditional classroom-based environment. Experienced educators have identified four policies and best practices which academic programs can implement to reduce the likelihood of sexual harassment occurring during outdoor laboratories: (1) Enforce Title IX policies; (2) Set clear expectations for faculty and student behavior and enforce consequences for faculty and students who violate these expectations; (3) Establish a classroom code of conduct for students which includes information about sexual harassment; (4) Create a laboratory climate with both open communication and zero tolerance for sexual harassment. These recommendations would be implemented within a semester at different times (Figure 1). The focus group participants were not homogeneous in their opinions about how to prevent sexual harassment; however, all expressed that they valued participating in the focus group because it provided them an opportunity to discuss sexual harassment, a topic often considered taboo, in an environment where they felt safe to ask questions and share their experiences.

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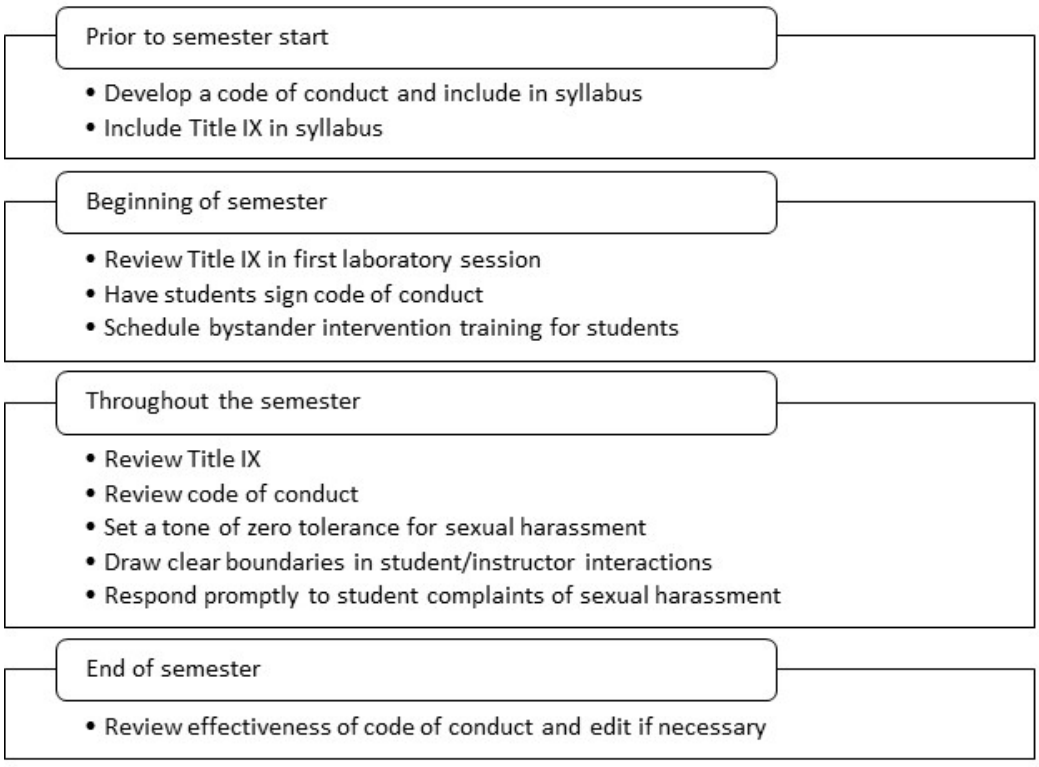

Figure 1. Semester timeline for implementing recommendations to redcuce the risk of sexual harassment during outdoor laboratories.

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