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# Empowering Older Adults in Underserved Communities—An Innovative Approach to Increase Public Health Capacity for Fall Prevention

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**Abstract:** Although evidence-based programs have been effective for fall prevention in many communities, older adults living in underserved areas cannot access these services due to the shortage of providers and trainers. In this cross-sectional study, a multi-agency approach was adopted for integrating an evidence-based program, A Matter of Balance (AMOB), into the public health curriculum at a rural university. We assessed student learning as well as the community benefits of fall prevention among those who participated in the AMOB program. Eighty-four percent of the students reported intentions of using AMOB training in their future careers. The average of the items for the effectiveness of “Classroom Training” and “Community Training” provided by the students ( $n = 25$ ) ranged from 3.52 to 4.32 and 3.48 to 4.36, on a Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), respectively. Older adults who participated in the fall prevention community workshops showed increased confidence in reducing falls, protecting themselves from falling, and becoming steadier on their feet after the training ( $p < 0.05$ ). Our study demonstrates the value of integrating evidence-based programs such as AMOB in a university curriculum to address rural health disparities related to falls.

**Keywords:** experiential learning; health promotion; fall prevention; older adults; rural health; curricular modification



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## 1. Introduction

Falls are the leading cause of injury and injury-related death among older adults, whom the American Medical Association defines as those over 65 years and older [1]. Nearly three million older adults are treated for fall-related injuries annually in emergency departments [2,3], demonstrating a growing national public health burden and the urgency to reduce national healthcare expenditure [4,5]. In 2015, an estimated USD 50 billion was spent on medical costs related to falls (fatal and non-fatal) in the United States [5]. Falling is an unintentional event that causes a person to end up on the ground or at a lower level [6,7]. Annually, nearly 30% of older adults experience falls [5,8,9], but with the population of older adults rising [10], the incidence of falls and associated costs are projected to increase substantially over the next 20 years [4,5,10–12]. The increased susceptibility of older adults to falls includes factors such as prolonged life expectancy, the presence of chronic illnesses, and the use of medications [5,13].

Around 46 million older Americans live in the U.S. today, but by the year 2050, this number is expected to rise to 90 million, posing significant challenges with the policy

and programs to protect their health [14,15]. In addition to the phenomenon known as “The Graying of America” [10], there has been a demographic shift concerning older adults, as retirees increasingly prefer rural living. They are drawn to the many scenic and leisure outlets that rural living offers. Currently, nearly twenty percent (one in five) of individuals living in rural (non-metro) areas comprises older adults compared to only 15% in metro areas [16]. According to the Health Resources and Services Administration, rural areas are either the micro areas (urban core 10,000–49,000 people), or counties outside of the metro (urban core of 50,000 or more people) or other micro areas [17]. While aging increases vulnerabilities in various aspects, such as chronic health problems, disabilities, and functional needs [5,13], rural aging presents unique challenges, as these locations lack the capacity to address the disparities of rural aging [4,16], such as healthcare access, contributing to the overall higher rates of premature mortality in these areas [4,18]. Further, the average older adults living in rural areas tend to be older and sicker than their urban counterparts [15]. As such, effective interventions must be developed to increase capacity in underserved areas, as falls and associated injuries are projected to increase among older adults residing in rural America [4,19].

Fortunately, most of these falls are preventable [3]. Evidence-based programs already exist to help individuals become more aware of their fall risks and incorporate regular exercise regimes to improve strength and flexibility. These programs also teach older adults how to modify their thoughts, environments, and actions to reduce falls [20,21]. While these programs have been proven effective, rural communities are often underserved due to the lack of trained program facilitators—another growing public health concern. This can further exacerbate rural health disparities, since geographical and socioeconomic barriers already challenge receiving timely and effective care for individuals living in these communities [22–24]. Furthermore, with long distances between emergency facilities, critical care units, and other healthcare services, those living in rural areas are more susceptible to premature death from unintentional injuries than their urban counterparts [25].

The program curriculum for AMOB was developed in 1990 by the Roybal Center for Enhancement of Late-Life Function at Boston University with grant funds provided by the National Institute on Aging [26]. The original model utilized healthcare professionals to deliver the program. In 2003, using funds from the Administration on Aging, MaineHealth and its partners adapted the AMOB model, allowing lay volunteer—leaders instead of healthcare professionals to deliver the AMOB class to reduce the delivery cost. MaineHealth’s AMOB program is a nationally recognized evidence-based program that seeks to provide its participants with coping strategies to (I) reduce the fear of falling, (II) set realistic goals for increasing activity, and (III) modify their environment to reduce fall risks. Evidence suggests that for those who participate in the program, the great majority (over 95%) feel at ease discussing the fear of falling, demonstrate a willingness to increase their physical activity, and have plans to continue exercising. These factors are highly correlated with improving awareness of falls and self-management of fall risk [21].

Considering the demand for rural health trainers in underserved communities for fall prevention, the AMOB program was chosen for curricular integration due to its national recognition as an evidence-based program by MaineHealth (2022) [27]. Furthermore, AMOB has been known for its success in alleviating morbidity and mortality associated with falls among older adults for several years [28–31]. As such, the idea for this study was to produce a consistent stream of trainers through the university to sustain the number of trainers that can effectively deliver AMOB in underserved communities. Except for typical internships, to our knowledge, no other design modifications for AMOB training and implementation have actively incorporated the experiential learning design within university courses to target the unmet health education needs for preventing falls among the aging population in underserved communities.

The specific aims of our pilot project were to:

1. Assess the effectiveness of integrating AMOB in an undergraduate course where the students become volunteer leaders after receiving training from the Master Trainers and obtaining certifications.
2. Assess the students' confidence and teamwork value in delivering the AMOB program in underserved communities in conjunction with the Master Trainers.
3. Assess the effectiveness of the AMOB program for potentially reducing the frequency of falls among community members in underserved areas.

## 2. Materials and Methods

### 2.1. Partnerships and Resources

The pilot program was a strategic collaboration among Tarleton State University (TSU), Texas Health Resources, and the North Central Texas Area Agency on Aging (NCTAAA). Each entity played a unique role in the project:

1. NCTAAA worked with Texas Health Resources to secure site locations, provide Master Trainers for certification training and site supervision, and ensure the fidelity of the AMOB program and supervision of student volunteers. They provided the Master Trainers with leader manuals (a requirement of the AMOB program) and handouts necessary to promote certification training and site supervision of students in the field.
2. Public Health Program faculty at the university modified the curriculum for a public health course to incorporate AMOB workshops, AMOB coach certification training, and program implementation. Furthermore, the faculty served as the primary point of contact for student-related concerns and provided classrooms and times for certification training and follow-up presentations. The instructor had communicated about the AMOB training to the entire class at the beginning of the semester. They were allowed to withdraw from the research component of the study without having implications on their academic standing.
3. Community-based organizations acted as host locations for the AMOB workshops. In addition to providing the space for the workshops, they assisted in promoting educational opportunities and recruiting participants who might benefit from the content. The flyers for the workshop were distributed via local churches, libraries, businesses, and the Texas Health Resources' website.
4. All partnering agencies collaborated in the project's planning, development, promotion, and implementation phases, including completing the necessary legal documents and compliance training to meet Health Insurance Portability and Accountability Act (HIPPA) standards.

### 2.2. Developmental Steps of the Project

The key developmental steps of the project included acquiring approval from Maine-Health (2022) to modify the AMOB curriculum protocols, confirming legal documents necessary for student volunteers, ensuring confidentiality and HIPPA training as part of the student curriculum, confirming and posting the syllabus with a clear explanation of course expectations to serve the community, notifying and receiving approval from the university for student travel outside of a 25-mile radius from the main campus, and designing strategic assignments using data from all collaborating partners. The curriculum modification included converting eight two-hour sessions (one per week) or four two-hour courses (twice per week) [32] to three-hour lessons for three weeks. The expectation was to complete the curriculum (AMOB Lay Leader Model) [26] before the midterm examination without deviating too much from the program's original structure. The Master Trainers successfully completed the training per the manual instructions before the midterm examination week.

### 2.3. Implementation Phases of the Project

The project was implemented in two phases in the fall of 2019.

Phase I: This phase commenced at the beginning of the semester. The AMOB training program was incorporated into a public health course (see above). Texas Health Resources and the NCTAAA provided the Master Trainers with leader manuals and handouts necessary to promote certification training for all students ( $n = 37$ ) who agreed to participate and complete the training. The training was delivered in English.

Phase II: This phase commenced after the midterm examination. At this time, the students had become certified lay volunteer leaders. They facilitated fall prevention workshops for older adults at various community-based organizations, such as libraries and churches. Texas Health Resources and the NCTAAA staff acted as site supervisors and co-facilitators to ensure the program was implemented successfully at the community level.

#### 2.4. Target Population and Survey

##### 2.4.1. Target Population 1 (Students): Survey and Inclusion Criteria

A cross-sectional survey was utilized after completing the in-class training and community workshops. The inclusion criteria for the students were that they had to be 18 years or older and provide verbal consent to participate in the study. The instructor designed and disseminated the survey in the classroom at the end of the semester to assess students' experiences with the in-class training and co-leading the AMOB workshops at different community locations.

**Quantitative Data Collection:** The first section of the survey had demographic questions related to age, race/ethnicity, gender, classification, major, and employment. The second section of the survey had questions about the AMOB training. It inquired about their previous experiences and knowledge with programs such as AMOB and whether the students thought the skills garnered from the exercise would be useful in their future careers. This section also had questions about the classroom training on a Likert-type scale (1 = Strongly Agree to 5 = Strongly Disagree). These questions assessed the quality of trainers and their knowledge, the classroom learning environment, the duration and pace of the training, and whether self-study of the manual was necessary for an effective leader to conduct AMOB training in communities. Lastly, the third section of the survey entailed questions such as their improved confidence and group dynamics after the workshop, also on a Likert-type scale (1 = Strongly Agree to 5 = Strongly Disagree). Some examples of the items are below.

**Qualitative Data Collection:** We also collected qualitative data through student feedback surveys to complement the quantitative measures used to evaluate the effectiveness of classroom and community training programs. The inclusion of open-ended questions allowed students to express their views on the program's strengths, challenges, and potential areas of improvement. Thematic analysis was employed to explore patterns in the data collected from these open-ended responses related to specific types of questions (see below). In addition, the students were asked to provide their overall recommendations about the program to their fellow students. This inquiry elicited their general recommendations about whether such exercises hold potential value for degree-conferring programs, such as public health. One of the investigators (Ms. Bashir) performed the qualitative thematic analysis using an inductive method [33].

Both the student and community surveys can be found as Supplementary Materials: File S1: Surveys 1 and 2.

##### 2.4.2. Target Population 2 (Community Members)

The NCTAA constructed both pre- and post-assessment surveys that had certain items from the Behavioral Risk Factor Surveillance System Questionnaire [34] and the evaluation tools developed by the Self-Management Research Center [35], in addition to the incorporation of other self-efficacy questions. The surveys were administered to adults who participated in the community workshops. The students and the Master Trainers hosting AMOB workshops at different communities administered the surveys before and after

implementing the workshops. To be eligible for the study, older adults must meet specific criteria: being at least 60 years of age, having a past record or apprehension of falling, and expressing agreement to participate in the research. The program was implemented for community members in the English language only. The questionnaire was designed to assess the study participants' level of confidence and self-efficacy regarding fall prevention in the future. Furthermore, we evaluated the occurrence of emergency department visits and hospitalizations within the 90-day period before and following the intervention.

All the data were obtained using questionnaires for both the target populations (students and community members) and were self-reported.

2.5. Data Analysis

Data from the paper surveys were inputted using the SPSS software version 26 (SPSS Inc., Chicago, IL, USA) for further analyses. Descriptive statistics regarding the student population and adults participating in community workshops, such as frequencies, percentages, and averages, were calculated for variables of interest. A series of Wilcoxon signed-rank tests was used to summarize data for the pre- and post-experiences of older adults with the AMOB program, specifically for the Likert-type scales. Statistically significant differences between pre- and post-scores were assessed using  $\alpha = 0.05$ .

3. Results

3.1. Student Demographics and Experiences

This project trained a cohort of 37 students for the AMOB training, but only 25 (67%) students opted to partake in the survey. Of the study participants, a great majority of the students (92%) were between the ages of 18 and 24, female (96%), white (52%), public health majors (80%) with a junior classification (52%), and with no prior history of working in health-related fields (84%) at the time of data collection. Only two students (8%) reported having previous experience with the AMOB program, and only four (16%) reported having knowledge of evidence-based programs such as AMOB. The evaluation of the effectiveness of in-class training for students is displayed in Table 1.

Table 1. Student Responses to the "Classroom Training" Portion of the AMOB Program (n = 25).

Items of Quantitative Survey for Classroom Training	Minimum	Maximum	Mean	Median	Mode	Standard Deviation
The trainers were confident and prepared.	2.00	5.00	3.96	4.00	4.00	0.98
The trainers were knowledgeable about the topic.	1.00	5.00	4.32	4.00	5.00	0.90
The room set up was appropriate for the training.	2.00	5.00	4.00	4.00	5.00	1.12
The duration of the training was right for me.	1.00	5.00	3.68	4.00	5.00	1.49
The pace of the training was effective for me.	1.00	5.00	3.52	4.00	5.00	1.58
The training covered the materials I expected.	1.00	5.00	3.68	4.00	4.00	1.35

Averages pertaining to the class effectiveness ranged from 3.52 to 4.24 for the items assessed on a Likert-type scale. Students were mostly satisfied with the trainers' knowledge of the AMOB curriculum ( $4.32 \pm 0.90$ ) and regarded the usage of the AMOB manual as necessary to be effective instructors ( $4.24 \pm 1.16$ ). They were least satisfied by the pace of the training ( $3.52 \pm 1.58$ ), the coverage of appropriate materials ( $3.68 \pm 1.35$ ), and the duration of training ( $3.68 \pm 1.49$ ), respectively. There was a high degree of internal consistency reliability for the items associated with the "Classroom Training" (six items;  $\alpha = 0.87$ ).

When the effectiveness of the community portion of the training for students was evaluated, the averages for the items ranged from 3.48 to 4.20 on a Likert-type scale (1 = Agree to 5 = Strongly Agree), as demonstrated in Table 2. Most of the students felt confident to train older adults on AMOB after self-studying the manual ( $4.00 \pm 1.15$ ) and classroom training ( $3.48 \pm 1.36$ ). Many reported increased leadership skills for presenting lessons ( $4.32 \pm 0.99$ ) and the ability to work as a team ( $4.36 \pm 0.70$ ). There was a high degree of internal consistency reliability for the items associated with the “Community Training” (six items;  $\alpha = 0.87$ ).

**Table 2.** Student Responses to the “Community Training” Portion of the AMOB Program ( $n = 25$ ).

Items of Quantitative Survey for Community Training	Minimum	Maximum	Mean	Median	Mode	Standard Deviation
I was confident to train the community members after my classroom training.	1.00	5.00	3.48	4.00	4.00	1.36
I was prepared to train the community members after my additional self-study of the manual.	1.00	5.00	4.00	4.00	4.00	1.15
I experienced improvement in my leadership skills when delivering community lessons.	1.00	5.00	4.32	5.00	5.00	0.99
I experienced improvement in my social skills when delivering community lessons.	1.00	5.00	4.20	5.00	5.00	1.22
I experienced improvement in my marketing abilities to increase recruitment for community training.	1.00	5.00	3.48	4.00	3.00	1.23
I experienced improvement in my ability to work in a team.	2.00	5.00	4.36	4.00	4.00	0.70
My group was able to able to maintain excitement when delivering lessons.	2.00	5.00	4.20	4.00	5.00	0.87
I will be able to conduct such trainings at a community level in the future.	1.00	5.00	4.04	4.00	4.00	1.10
I received adequate help from the program managers/course leaders to conduct the community training.	1.00	5.00	4.20	4.00	5.00	1.04

### 3.2. Community Participation and Experiences

Six workshops were facilitated by groups of two to four student co-leaders, averaging approximately ten community participants per AMOB workshop. Five of the six workshops were conducted within rural communities, and four of the six locations were first-time host sites for the AMOB programs, demonstrating increased access to the targeted, underserved communities. The data for demographic and other variables of interest are demonstrated in Table 3. The data for the pre- and post-surveys that assessed fall measures from the validated questionnaire from MaineHealth [36] are shown in Table 4. All measures were self-reported.

**Table 3.** Demographic, Behavioral, and Physical Health Characteristics of the Community Members that Completed the Pre- and Post-Surveys ( $n = 22$ ).

Variable Name	Frequency	Percent
Age group		
40–49	1	4.5
50–59	2	9.1
60–69	6	27.3
70–79	7	31.8
80–89	5	22.7
Missing	1	4.5
Gender		
Male	2	9.1
Female	20	90.9
County		
Erath	9	40.9
Parker	7	31.8
Tarrant	6	27.3
Marital status		
Divorced	2	9.1
Married	9	40.9
Single	2	9.1
Widowed	9	40.9
Insurance status		
Medicare	17	77.3
Other	5	22.7
Primary care physician		
Yes	20	90.9
No	2	9.1
Walking or exercising efforts		
I am doing moderate exercise less than 3 times per week	3	13.6
I do not exercise or walk regularly, but I have been thinking of starting	1	4.5
I have been doing moderate exercise 3 or more times per week	7	31.8
I have exercised or walked infrequently for over a month	7	31.8
I am trying to start to exercise or walk	3	13.6
Missing	1	4.5
Hospitalization in the last 30 days		
Yes	0	0
No	22	100
Live alone		
Yes	9	40.9
No	13	59.1
Hispanic origin		
Yes	0	0
No	22	100
Race		
White	20	90.9
Other	2	9.1

**Table 3.** *Cont.*

Variable Name	Frequency	Percent
Educational level		
College graduate or higher	5	22.7
High school graduate or GED	6	27.3
Some college or vocational school	11	50.0
Chronic conditions		
Arthritis/bone diseases	11	50.0
Breathing/lung disease	5	22.7
Cancer	7	31.8
Depression	6	27.3
Diabetes	3	13.6
Heart/blood/circulation	6	27.3
High blood pressure/hypertension	11	50
Glaucoma/other eye problems	6	27.3
Osteoporosis	4	18.2
Overall general health		
Excellent	1	4.5
Fair	2	9.1
Good	12	54.5
Very good	7	31.8
Times fallen in the last 3 months		
0	15	68.2
1	3	13.6
2	2	9.1
3	1	4.5
6	1	4.5
Fallen indoors		
Yes	5	22.7
No	17	77.3
Fallen outdoors		
Yes	4	18.2
No	18	81.8
Went to the emergency room after fall, admitted to the hospital, or saw primary care provider		
Yes	0	0
No	22	100

Table 3 illustrates the demographic, behavioral, and physical health characteristics of the older adults who completed the pre- and post-intervention surveys ( $n = 22$ ). A large majority of older adults were above 60 years of age (82%), female (91%), white (91%), single, widowed, or divorced (59%), had Medicare as their primary form of insurance (77%), and were under the care of a primary care physician (91%). Out of the thirty-two percent of adults who had fallen in the past three months (22% with indoor falls and 18.2% with outdoor falls), none reported visiting the emergency room after the fall occurred.

**Table 4.** Measures of Falls Among Community Members Before and After the AMOB Training.

Community Members' Feedback on AMOB Training	Pre-Test Values	Post-Test Values	Wilcoxon Signed Rank Test	p-Value
	<i>n</i> (%)	<i>n</i> (%)	Z-value	
How fearful are you of falling?				
Not at all (1)	2 (9.1)	5 (22.7)		
Somewhat (2)	9 (40.9)	6 (27.3)		
A little (3)	8 (36.4)	11 (50)	-0.866	0.386
A lot (4)	1 (4.5)	0 (0)		



**Table 4.** *Cont.*

Community Members' Feedback on AMOB Training	Pre-Test Values	Post-Test Values	Wilcoxon Signed Rank Test	p-Value
Did not answer	2 (9.1)	0 (0)		
How sure are you that you can find a way to get up if you fall?				
Not at all sure (1)	1 (4.5)	1 (4.5)		
Somewhat sure (2)	4 (18.2)	6 (27.3)	-0.711	0.477
Sure (3)	10 (45.5)	3 (13.6)		
Very sure (4)	7 (31.8)	12 (54.5)		
How sure are you that you can find a way to reduce falls?				
Not at all sure (1)	2 (9.1)	1 (4.5)		
Somewhat sure (2)	6 (27.3)	1 (4.5)	-2.658	0.008 *
Sure (3)	7 (31.8)	6 (27.3)		
Very sure (4)	7 (31.8)	14 (63.6)		
How sure are you that you can protect yourself from falling?				
Not at all sure (1)	4 (18.2)	0 (0)		
Somewhat sure (2)	11 (50.0)	5 (22.7)	-3.250	0.001 *
Sure (3)	4 (18.2)	7 (31.8)		
Very sure (4)	3 (13.6)	10 (45.5)		
How sure are you that you can increase your physical strength?				
Not at all sure (1)	3 (13.6)	0 (0)		
Somewhat sure (2)	2 (9.1)	1 (4.5)	-1.833	0.067
Sure (3)	7 (31.8)	8 (36.4)		
Very sure (4)	10 (45.5)	13 (59.1)		
How sure are you that you can become steadier on your feet?				
Not at all sure (1)	3 (13.6)	0 (0)		
Somewhat sure (2)	4 (18.2)	3 (13.6)	-2.543	0.011 *
Sure (3)	9 (40.9)	6 (27.3)		
Very sure (4)	6 (27.3)	13 (59.1)		

Note. \*  $p < 0.05$ .

The measures of falls with respect to confidence, knowledge, and self-efficacy among older adults before and after the AMOB training are displayed in Table 4. There was a shift of percentages in the positive direction for most of the categories measured in a Likert-type scale (1 = Not sure at all to 4 = Very sure or 1 = Not at all to 4 = A lot), demonstrating improvement in the measured constructs. Of the six categorical questions asked pertaining to falls, the following items had significant associations ( $p < 0.05$ ), as follows:

- (I) How sure are you that you can find a way to reduce falls?
- (II) How sure are you that you can protect yourself from falling?
- (III) How sure are you that you can become steadier on your feet?

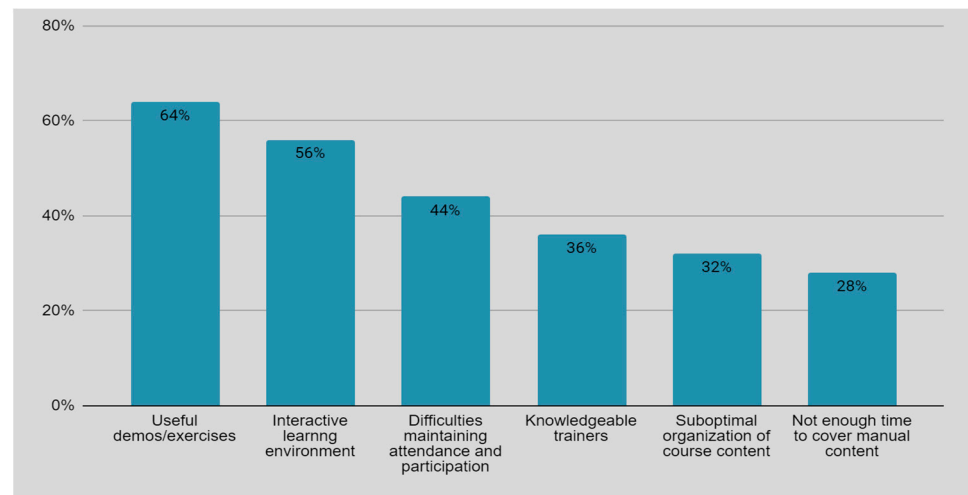
Of the 57 older adults who participated in these workshops, 36 graduated (63%). However, this graduation rate falls in the lower range of the 2019 Texas Health-AAA graduation rates for standard peer-led programs (56–85%), as reported by our partnering agencies.

### 3.3. Qualitative Data Analysis

Some, but not all, students who participated in AMOB training provided qualitative feedback for the in-class and community part of the training, in addition to taking part in the quantitative survey.

In their qualitative responses, sixteen students reported that the in-class exercises and demonstrations were helpful in learning the AMOB curriculum, and fourteen expressed

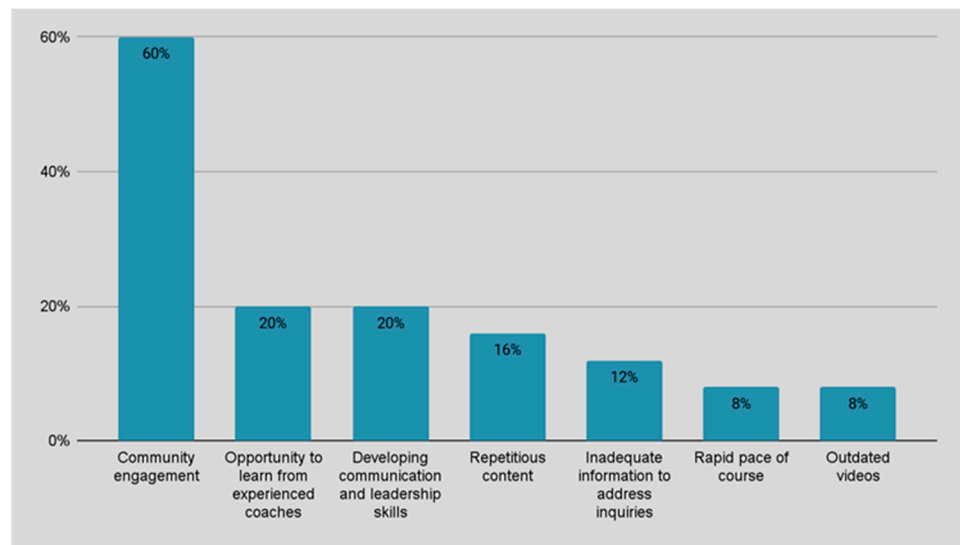
that in-class training provided them with an interactive learning environment. Eleven students had difficulties maintaining attendance and participating actively in class. On the other hand, nine students explicitly reported enjoying learning from the expert trainers. A few students ( $n = 8$ ) reported facing difficulty with the course organization and the fast pace of lessons ( $n = 7$ ). The breakdown of the in-class exercise feedback is provided in Figure 1.



**Figure 1.** Qualitative Feedback of Students for Classroom Training. Note: the students may have provided responses in more than one category.

Students also provided qualitative responses for the community part of the training. Fifteen students expressed enjoyment of the program's community engagement component through the workshops, and five explicitly highlighted the opportunity to learn from experienced coaches. Five students reported that the training was helpful in developing communication and leadership skills for community engagement. On the other hand, four students reported that the curriculum information was repetitious, and three thought there was inadequate information to address inquiries. Only two students said the course delivery was fast-paced and the videos used in the curriculum were outdated. The breakdown of the community feedback is provided in Figure 2.

In response to the question of whether they would recommend the class or experience to fellow students, the majority of respondents (80%) offered a positive response explaining that the program was helpful in their learning process, although some (30%) in this response category suggested communicating expectations ahead of time would optimize the learning process. A marginal proportion of participants (16%) expressed reluctance to recommend the course or activity in its current format and suggested improved planning for future cohorts. One student (4%) did not provide any response to this question.



**Figure 2.** Qualitative Feedback of Students for Community Training. Note: the students may have provided responses in more than one category.

#### 4. Discussion

Interventions to address health inequities in rural communities face significant challenges due to funding sources and award processes. Many grant programs merely provide services to older adults without requiring strategic planning to target specific issues such as fall prevention. These grants often do not provide enough funding to sustain program activities beyond the funding period, and the focus on increasing numbers served incentivizes providers to remain in urban communities, further perpetuating healthcare inequities in rural areas. To address these challenges, an innovative multiagency strategic collaboration was initiated among universities, a hospital system, and Area Agencies on Aging. The program was designed to increase capacity by building a pool of certified volunteer leaders to address fall risk using the AMOB curriculum in underserved areas. Our strategy was to demonstrate that by having students enrolled in the classroom year after year, we can maintain a steady workforce supply for underserved communities. This means that as long as students continue to enroll in the course, these communities will have a consistent stream of volunteer leaders. Therefore, the purpose of this study was to determine if integrating evidence programs such as AMOB into a classroom setting was possible if students benefited from direct coaching by Master Trainers to improve their leadership skills and experiential learning and, ultimately, if community members gained fall prevention knowledge and reduced fall incidents in underserved areas.

##### 4.1. Strengths

The effectiveness of initiatives such as the AMOB program hinges on the willingness of the community to work closely with organizations on various levels. Having pre-existing connections with the local community-based partners facilitated a more seamless program implementation where students could optimize learning. As such, the assessment of the in-class and community training demonstrated the significance of these activities in enhancing student learning, communication, and leadership skills.

##### 4.1.1. Benefits to Students

In addition to addressing the needs of underserved populations, the program provided experiential learning opportunities for students who may not have gained such experiences through traditional didactic methods. To the best of our knowledge, this is the first program that has offered an experiential learning opportunity for public health students by integrating the AMOB curriculum into their coursework. In the past, these students did not engage in activities that went beyond classroom learning, except for their internship

experience. Not only did the participating students better understand the importance of theory-to-practice implications, but they also gained confidence in implementing evidence-based programs in diverse, underserved communities. Furthermore, these students were able to acquire communication skills that are specific to the field of public health and improve their comprehension of their duty as future healthcare professionals.

The modification of the training protocols, which allows for the incorporation of the AMOB certification training within the university classroom setting and includes the requirement of co-leading a community-based workshop within the course syllabus, is an example of experiential learning. With this type of learning, students further enhance their public health literacy skills by applying knowledge garnered from in-class, didactic methods to immediate and suitable community settings [37,38]. The use of social and economic determinants of health indices within community health needs assessments to help identify health inequities and target high-risk communities is well established within research [39]. Obtaining certification in evidence-based programs such as AMOB has improved the students' professional skills and boosted their *curricula vitae*, thereby enhancing prospects for future employment.

The utility of curricular integration of the AMOB program was demonstrated through this study. Most students expressed satisfaction with the trainers and the training pace assessed via quantitative analysis. Additionally, most students found AMOB useful through exercises and demonstrations via qualitative responses. Similarly, students demonstrated satisfaction with the effectiveness of the community portion of the training. Most students felt confident in delivering the AMOB program at the community level and reported the experience being helpful in enhancing their leadership skills and improving team dynamics, both qualitatively and quantitatively.

#### 4.1.2. Benefits for Older Adults

Several previous studies have demonstrated the efficacy of the AMOB program in preventing falls among older adults [28,40–44]. Consistent with these findings, we observed significant enhancements in fall efficacy and balance after interventions among the community participants. Of particular note is the improvement in balance, given that 50% of the community participants had either arthritis or other bone diseases, and 27% had glaucoma or other eye problems—factors that could increase fall risk. We anticipate that the AMOB program would have reduced the likelihood of falls among these individuals after the intervention.

Previous research has demonstrated that a heightened fear of falling is associated with an increased risk of falls among older adults [36–38]. Among the community participants, 22% reported having experienced an indoor fall, and 18.2% had experienced an outdoor fall in the past, yet none sought emergency medical attention. Corroborating the positive outcomes noted in the literature, post-intervention, 50% of the study participants reported experiencing only a slight fear of falling, which represents an increase from the pre-intervention rate of 36%. Furthermore, 23% of participants reported no fear of falling at all after the intervention, which is an improvement over the pre-intervention period of 9%.

#### 4.2. Limitations

A major challenge with creating this type of community-based cohort of volunteers is that while the large number of student co-leaders can serve multiple locations, travel distances and time constraints can increase the risk of oversaturating the market within the short timeframe of a single semester. Creating more innovative agreements between universities and partnering agencies to overcome challenges with student scheduling could be beneficial. Both the students and community workshop participants (i.e., older adults) in our study self-selected themselves. Additionally, there was a loss of data from the students and older adults who responded to the surveys for the community intervention, so the survey responses may not accurately reflect the participants' overall experience. However, this study assessed the effectiveness and value of embedding evidence-based

programs in a classroom to build local capacity and allowed us to identify measures to decrease attrition in future studies. Even though the inclusion criteria for community-based workshop participants were that they had to be 65 years or older, we included all who agreed to participate in this study due to the small sample size. Therefore, the community members' reported benefits for engaging in the AMOB may underestimate the benefits reported in various categories. Further, the selection of our study populations (students and community participants) was not random, as convenience samples were used. We also had small sample sizes for both the students and older adults. Both factors could compromise the generalizability of our findings [42].

Regarding the community-oriented training program for older adults, students generally had a favorable experience. Nonetheless, a small number of students expressed concerns regarding the fast-paced nature of the program while simultaneously indicating that the curriculum was repetitious. It is possible that MaineHealth designed the curriculum to be repetitive as a means of reinforcing knowledge retention among community members.

Other limitations entail the generalizability aspect of this study, as we had small sample sizes both for students and community members. Further, the demographic breakdown of other populations may differ from our study's participants: students and community members. Nonetheless, our study demonstrates the utility of implementing AMOB, an evidence-based program through an academic setting, which could provide a model for implementing other evidence-based programs to build capacity in various underserved areas. A few students had difficulty with the course organization and the fast pace of the lessons. However, some students also reported the content/concepts being repetitious. The trainers frequently stopped to ensure students understood the concepts in the curriculum. We also discovered during the training that some students did not complete the assigned readings before coming to class.

## 5. Conclusions

Modifying the AMOB certification training protocols and the requirement for co-leading community-based workshops within the course syllabus allowed students to apply theoretical knowledge in practical settings and develop vital communication and leadership skills. Similarly, those participating in the community workshops increased their confidence to reduce the risk of future falls. Overall, this collaborative program represents a promising model for promoting public health literacy among students and empowering rural communities to address health inequities through academia.

**Supplementary Materials:** The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/jal3040019/s1>, File S1: Survey 1: Classroom Survey and Survey 2 Community Survey (pre and post).

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