WEEDS IN THE CONTEXT OF EXPERIENTIAL EDUCATION: SUPPORTING THE EDUCATION AND RECREATION OF SENIORS

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Abstract

Weed vegetation represents a specific group of plants that has long accompanied human civilization and evokes numerous memories associated with past activities. Weeds are a common component of gardens, agricultural land, and urban environments, and most older adults have encountered them repeatedly throughout their lives. The aim of this study was to evaluate the potential of using the topic of weeds in senior education within the framework of experiential pedagogy. A specialized course was implemented at the University of the Third Age of Mendel University in Brno in the form of traditional lectures supplemented with extensive demonstrations of individual weed species. The results of a questionnaire survey indicated that older adults recall 26 weed species from childhood, while an additional 7 species are recognized but their names cannot be retrieved now. The most frequently reported species include *Convolvulus arvensis*, *Elymus repens*, *Taraxacum* sect. *Taraxacum*, *Matricaria chamomilla*, *Aegopodium podagraria*, *Urtica dioica*, and *Papaver rhoeas*. The findings further demonstrate that older adults best remember those weed species associated with specific personal experiences. The topic of weeds therefore appears to be suitable for recreational use of leisure time combined with the education of older adults.

Key words: ethnobotany, University of the Third Age, vegetation, older adults

Introduction

Humans and nature are closely interconnected, which is reflected in the affective and emotional responses of individuals and ultimately in the way the environment is perceived (Speake et al., 2013). Traditional knowledge associated with cultural context and plant heritage forms the basis of ethnobotany, a branch of botany focused on the study of interactions between humans and plant biodiversity (Morales et al., 2011). Research to date shows that ethnobotany is a highly motivating tool for students with the potential to promote sustainability while enriching the scientific dimension of education (Gutiérrez-García et al., 2020). Vegetation thus not only fulfills key ecosystem functions, but also provides important cultural services (Fagerholm et al., 2016).

Weeds are one of the most common and well-known plant groups. Their importance and role in agroecosystems can be viewed from different perspectives. On the one hand, weeds are traditionally perceived negatively, as they compete with cultivated crops for nutrients, water and light (Oerke, 2006). However, weed science also includes fundamental questions of plant ecology and evolution within agroecosystems (Neve et al., 2018). Therefore, a deeper understanding of the relationships between changes in weed properties, climate change, the development of cultivation technologies and changes in the agricultural landscape at both global and local levels is crucial (Gaba et al., 2017). In the field of education of older adults, various teaching formats can be used, but they must respect the specific limitations of this target group (Schirmer et al., 2023). Ferreira et al. (2016) point out that seniors require different inclusion strategies than younger learners. According to Gutiérrez-García et al. (2020) informal educational activities implemented within a standard academic environment have a positive effect on the acquisition of botanical and ethnobotanical knowledge. The aim of this work was to verify the possibilities of using the topic of weeds in the education of seniors.

Materials and methods

The course entitled "Weeds and their secrets" was implemented within the Institute of Lifelong Learning MENDELU in the winter semester 2024/2025. The course focused on the most important types of weeds. The students were introduced to their ecosystem functions and negative impacts, and attention was also paid to the possibilities of weed control.

In the last lesson, the participants were presented with a questionnaire to fill out. Based on the answers, information was obtained about the students' education, specifically about its level and focus. The answers to open-ended questions, in which the students gave the names of the weed species, served to verify the knowledge gained from the course. A total of 30 completed questionnaires were submitted.

Results

The answers to the question “Which types of weeds do you remember from childhood” in the course “Weeds and their secrets” show that the students recall a total of 26 types of weeds from the lesson, while in 7 cases they remember the species but cannot recall its name.

The most frequently mentioned species *include field bindweed (Convolvulus arvensis), creeping fescue (Elymus repens*), dandelion (*Taraxacum* sect. *Taraxacum*), common chamomile (*Matricaria chamomilla*), goitre (*Aegopodium podagraria*), stinging nettle (*Urtica dioica*) and poppy (*Papaver rhoeas*). The number of answers for each species is shown in Figure 1.

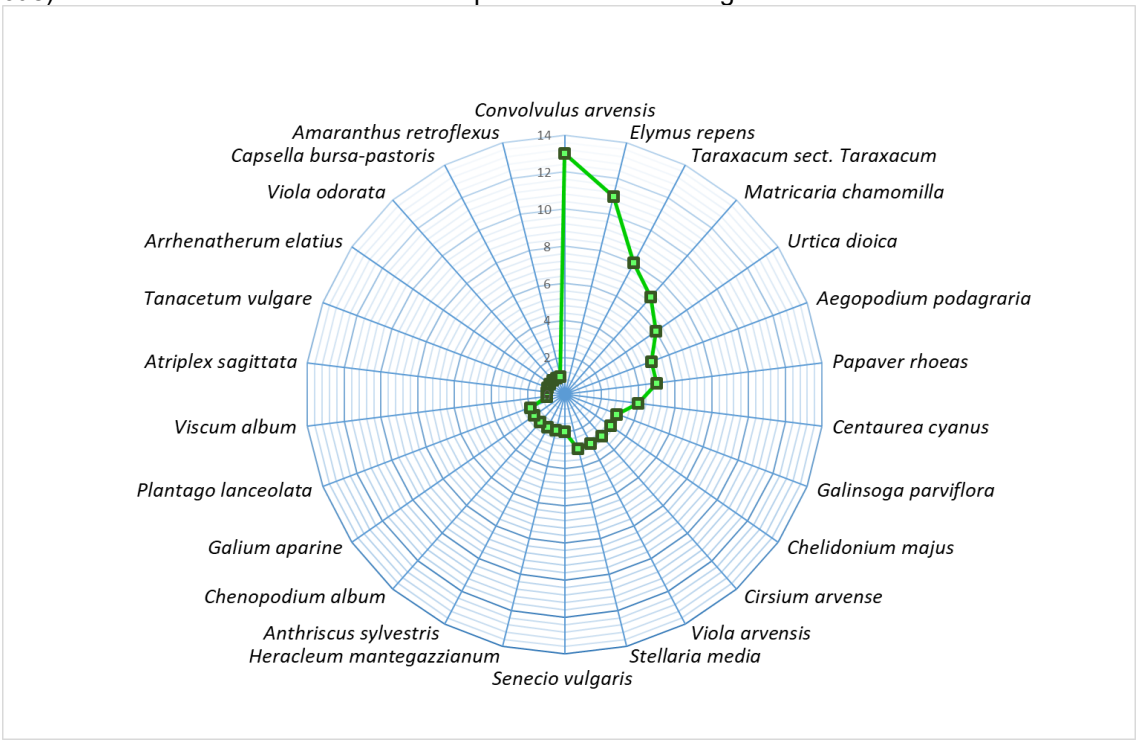

Fig. 1: Number of responses that mention specific weed species.

Discussion

Education in the field of plant species identification requires time, patience and also professional guidance that ensures adequate feedback (Pearson et al., 2011). The acquisition of knowledge about plants should have a higher priority, especially in the context of global biodiversity loss (Pernat et al., 2023). This also places increased demands on educators providing education on ethnobotanical topics.

From the perspective of seniors, physical activity, sensory perception and personal experience play an important role in learning, which together support memory and evoke memories. Multifaceted stimulation – including sight, touch and smell – contributes to better memorization of new information. Learning about plant species, including weeds, can thus lead to diverse interactions that are very beneficial for the education of seniors.

At the same time, this topic has significant recreational potential. Activities related to learning about plants in their natural environment combine education with exercise in the fresh air, thereby contributing to the overall mental and physical well-being of seniors. The combination of low-intensity

physical activity, cognitive stimulation, and social interaction represents a suitable form of leisure time that supports active aging and increases the quality of life of older adults.

Conclusion

The course "Weeds and Their Secrets" is an example of a successful connection of university experts from various fields, especially agronomy and pedagogy. An interesting benefit is also the feedback from seniors, which lecturers can use when teaching university students.

The findings also show that older adults remember best those types of weeds that are associated with specific personal experience. The topic of weeds therefore seems to be suitable not only for education, but also for meaningful recreational spending of seniors' free time, which naturally connects learning, movement and sharing of experiences.

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Souhrn

Vegetace plevelů představuje specifickou skupinu rostlin, která dlouhodobě provází lidskou civilizaci a vyvolává četné vzpomínky spojené s minulými aktivitami. Plevele jsou běžnou součástí zahrad, zemědělské půdy i městského prostředí a většina starších dospělých se s nimi během života opakovaně setkala. Cílem této studie bylo zhodnotit potenciál využití tématu plevelů ve vzdělávání seniorů v rámci zážitkové pedagogiky. Specializovaný kurz byl realizován na Univerzitě třetího věku Mendelovy univerzity v Brně formou tradičních přednášek doplněných rozsáhlými ukázkami jednotlivých druhů plevelů. Výsledky dotazníkového šetření ukázaly, že starší dospělí si z dětství vybavují 26 druhů plevelů, zatímco dalších 7 druhů sice poznají, ale jejich názvy si již nedokážou vybavit. Mezi nejčastěji uváděné druhy patří svlačec rolní (*Convolvulus arvensis*), pýr plazivý (*Elymus repens*), pampeliška (*Taraxacum* sect. *Taraxacum*), heřmánek pravý (*Matricaria chamomilla*), bršlice kozí noha (*Aegopodium podagraria*), kopřiva dvoudomá (*Urtica dioica*) a vlčí mák (*Papaver rhoeas*). Zjištění dále ukazují, že starší dospělí si nejlépe pamatují ty druhy plevelů, které jsou spojeny s

konkrétní osobní zkušeností. Téma plevelů se proto jeví jako vhodné pro rekreační využití volného času spojené se vzděláváním starších dospělých.

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