RECREATIONAL USE OF LAND: UNVEILING THE MODERN FRONTIER OF OUTDOOR ADVENTURE – GEOCACHING

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Abstract
Educators play an important role (crucial) in introducing students to new outdoor adventure – Geocaching; however, educators (many) may not be aware of new outdoor adventure and/or lack the training (resource) to incorporate Geocaching into education. Because of that students miss the chance (may) to discover the modern frontier of outdoor adventure; therefore, the present study was aimed at exploring the awareness and level of involvement of students in modern frontier of outdoor adventure – Geocaching. 4-question survey (instrument) was carried out 4 months, as means of exploring the awareness and level of involvement of 1464 students in modern frontier of outdoor adventure – Geocaching. 32.04% of students know Geocaching ($p < .01$; $n = 470$) and 400 (27.32%) of students are familiar with Geocaching ($p < .01$). 56.90% of students do not know anyone who uses the app ($p < .01$; $n = 832$). In terms of lack of awareness and exposure to Geocaching in students, initiatives (efforts) should be undertaken to promote it as available and exciting outdoor adventure. By unveiling the modern frontier of outdoor adventure – Geocaching, students may discover new ways of learning, exploring, and outdoor fun.

Keywords: Awareness, educators, level of involvement, students.

Introduction

Unveiling the modern frontier of outdoor adventure – Geocaching, it attracts the adventurers of fusion of technology and recreational use of land (Battista et al., 2016). Adventurers utilize the technology (Global Positioning System – GPS) to uncover the hidden treasures (across the globe). Geocaching combines the joy of adventure and excitement of uncovering the hidden treasures, making it ideal for individuals/ groups in search of experiences in outdoors (Nemec, Adamčák 2012). It's an activity where participants use GPS coordinates to hide and seek the containers, called “Geocaches” and/or “Caches” at specific locations.

Part of what makes Geocaching so appealing is its ease of access. Anyone with GPS devices may participate, whether it's smartphones and/or dedicated GPS receivers (Referowská-Chodák, 2020). Geocaches are located in urban areas, parks, and/or underwater locations; therefore, it becomes an adaptable pursuit for adventurers (Individuals, groups) of every age and proficiency level (Nemec, Adamčák, 2012; Schlatter, Hurd, 2005). What makes Geocaching apart is the sense of discovery and opportunity to explore the nature (outdoors). Geocache (each) has its own story; finding it often involves solving (deciphering) the clues and/or navigating through challenging terrain (Hara, 2008). It's an amazing way to connect with outdoors, discover the hidden treasures in your community, and even learn about local history and culture (Ihamäki, 2012).

Educators play an important role (crucial) in introducing students to new outdoor adventure – Geocaching; however, educators (many) may not be aware of new outdoor adventure and/or lack the training (resource) to incorporate Geocaching into education. Because of that students miss the chance (may) to discover the modern frontier of outdoor adventure; therefore, the present study was aimed at exploring the awareness and level of involvement of students in modern frontier of outdoor adventure – Geocaching.

Material and methods

Regarding the study aim (see Introduction), 1 464 (100%) students participated in: (i) boys (764, 52.18%); (ii) girls (700, 47.82%), attending the 3rd year in high schools of Slovakia (Table 1). 1 464 (100%) students consisted of convenience sample, recruited by EduPage (Adamčák et al., 2023) and teachers of physical education. Recruitment (EduPage) of 1 464 (100%) was carried out 4 months – September 1 – December 31, 2023), in intervals of 2x (Mon, Thu)/ week, aimed at selective sampling; regarding gender, year of study. Exploring the awareness and level of involvement of 1 464 (100%) of students in modern frontier of out-door adventure – Geocaching (see Introduction) was carried out in accordance with ethical standards as laid down in 1964 Declaration of Helsinki and its later

amendments and/or comparable ethical standards. All subjects (1 464, 100% - survey group) provided written informed consent (Harriss et al., 2020).

Tab. 1: Demographic data of survey group (1 464, 100%)

Demographic data		
Boys	Age	16.60 ± .30 years
Girls		16.80 ± .50 years
Boys	Gender	764, 52.18%
Girls		700, 47.82%

4-question survey (instrument, self-report) was carried out 4 months, as means of exploring; in particular, analyze and/or compare, the awareness and level of involvement of 1 464 (100%) students in modern frontier of outdoor adventure – Geocaching (see Introduction). Developing the instrument (4-question survey) made it easier to explore (analyze, compare) the data, consisting of 2 sections: (i) Demographic data (age, gender, year of study) (Table 1); (ii) Survey items – questions, consisting of 4 (1 question/ 3 answers – Yes, Not sure, No) (Table 2 - 3, see Results). 4-question survey was online (available), collecting the data (Microsoft Forms, M. Office 365). 4-question survey was chosen because of its cost effectiveness, time saving, and easy access (Adamčák et al., 2023).
Available data (4-question survey) of 1 464 (100%) of students was tabulated in database design (Table 1 - 3). Incidence of responses; in particular, each item of survey (4) was analyzed and compared using the Tap3 – Gamo, B. Bystrica (Azor et al., 2023). After cleaning the data (available) of 1 464 (100%) students, descriptive statistics; in particular, measures of frequency and tendency, were used to analyze and compare the data. Chi-square test (χ^2, inferential statistics) of which the significance level (α) was .01 and .05), evaluated the differences between 1 464 (100%) students; in particular, boys (764, 52.18%) and girls (700 47.82%) (Turhan, 2020).

Results

Regarding the study aim (see Introduction), Table 2 illustrates (shows) whether 1 464 (100%) students are aware of "concept" Geocaching (Survey items – Q1) and/or are aware (know) of principles – Geocaching (Survey items – Q2). When considering the awareness of "concept" Geocaching, 32.04% (470) of students are aware of "concept" Geocaching; however, 688 (46.98%) of students are not aware of that concept (Table 2). "Not sure" about survey items – Q1 (awareness of "concept" Geocaching) is 20.98% (306) of students (1 464, 100%). Difference between 1 464 (100%) students; in particular, boys (764, 52.18%) and girls (700 47.82%) was significant (statistically; $p < .01$) ($p = 4.62$ E-05; $\chi^2_{(2)} = 18{,}96$).
When considering the awareness (know) of principles – Geocaching (Table 2), 27.32% (400) of students are aware of principles; however, 52.06% (762) (366, 40.12% of boys; 396, 56.38% of girls) are not aware of principles. "Not sure" in terms of awareness of principles – Geocaching was 302 (20.62%) of students (1 464, 100%). Difference between 1 464 (100%) students; in particular, boys (764, 52.18%) and girls (700 47.82%) was significant (statistically; $p < .01$) ($p = .001$; $\chi^2_{(2)} = 14{,}98$) (Table 2).

Tab. 2: Survey items – Questions 1-2 (1 464, 100%)

Survey Items – Question 1			
	Yes	**Not Sure**	**No**
Boys	280, 36.60%	134, 17.52%	350, 45.88%
Girls	190, 27.04%	172, 24.74%	338, 48.22%
Boys + Girls	470, 32.04%	306, 20.98%	688, 46.98%
P = 4.62 E-05; $\chi^2_{(2)} = 18{,}96$**			
Survey Items – Question 2			
	Yes	**Not Sure**	**No**
Boys	240, 31.24%	158, 20.64%	366, 40.12%
Girls	160, 23.02%	144, 20.60%	396, 56.38%
Boys + Girls	400, 27.32%	302, 20.62%	762, 52.06%
P = .001; $\chi^2_{(2)} = 14{,}98$**			

****** - $p < .01$.

Table 3 illustrates whether 1 464 (100%) students are aware of apps necessary to play Geocaching (Survey items – Q3) and/or are aware of anyone who uses apps necessary to play Geocaching (Survey items – Q4) (Table 3). "Not sure" about survey items – Q3 (awareness of apps necessary to play Geocaching) is 614 (42.02%) students; in particular, 296 (38.82%) boys and 318 (45.20%) girls.

342 (23.30%) of students (1 464, 100%) are aware of apps (any) necessary to play Geocaching; however, 508 (34.68%) students (1 464, 100%) are not aware of apps (Table 3). Difference between 1 464 (100%) students, in particular, girls (700, 47.82%) and boys (764, 52.18%) was significant (statistically, $p < .01$) ($p = .0006$; $\chi^2_{(2)} = 14.56$).
56.90% (832) of students (1 464, 100%) do not know anyone who uses apps ($p < .01$) (Table 3; Survey items – Q4). 300 (20.48%) students (1 464, 100%) are "not sure" whether someone uses apps necessary to play Geocaching. 22.62% (332) of students (1 464, 100%) know anyone who uses apps necessary to play Geocaching. Difference between 1 464 (100%) students, in particular, girls (700 , 47.82%) and boys (764, 52.18%) was significant (statistically, $p < .01$) ($p = .00\ 6$; $\chi^2_{(2)} = 10.08$).

Tab. 3: Survey items – Questions 3-4 (1 464, 100%)

Survey Items – Question 3			
	Yes	**Not Sure**	**No**
Boys	208, 27.20%	296, 38.82%	260, 33.98%
Girls	134, 19.02%	318, 45.20%	248, 35.48%
Boys + Girls	342, 23.30%	614, 42.02%	508, 34.68%
P = .0006; $\chi^2_{(2)} = 14.56$**			
Survey Items – Question 4			
	Yes	**Not Sure**	**No**
Boys	194, 25.36%	138, 18.04%	432, 56.60%
Girls	138, 19.60%	162, 23.18%	400, 57.22%
Boys + Girls	332, 22.62%	300, 20.48%	832, 56.90%
P = .006; $\chi^2_{(2)} = 10.08$**			

** - $p < .01$

Discussion
Educators play an important role (crucial) in introducing students to new outdoor adventure – Geocaching; however, educators (many) may not be aware of new outdoor adventure and/or lack the training (resource) to incorporate Geocaching into education (Čipková et al., 2024). Because many gaps remain in literature in terms of Slovak scale (to the best of authors' knowledge), the present study was aimed at exploring the awareness and level of involvement of students (1 464, 100%) in modern frontier of outdoor adventure – Geocaching.
Schools are changing how they work (Zemko et al., 2016). It was about (all) the teacher; however, now it's about the students. It means that we need new ways of teaching and looking at things to match how the students learn now (Knežek et al., 2013). There are many ways to use Geocaching in schools. It comes (all) down to how good the teachers are, what resources the schools have, and what level the students are at (Lo, 2010). Hartl (2006) described the recreational use of land of Geocaching in Environmental education. Hellgren et al. (2014) looked at how Geocaching may help with teaching/ learning Science.

Conclusion
In terms of lack of awareness and level of involvement (see Results) of students (1 464, 100%) in modern frontier of outdoor adventure – Geocaching ($p < .01$), initiatives (efforts of educators) should be undertaken to promote it as available and exciting outdoor adventure of uncovering the hidden treasures. By unveiling the modern frontier of outdoor adventure – Geocaching, students may discover new ways of learning, exploring and outdoor fun; therefore, pack your sense of curiosity and embark the modern-day treasure hunt, promising the endless fun (excitement) and experiences.

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Souhrn
Pedagogové hrají důležitou (klíčovou) roli při seznamování studentů s novým outdoorovým dobrodružstvím - Geocachingem; nicméně pedagogové (mnozí) nemusí mít povědomí o novém outdoorovém dobrodružství a/nebo jim chybí školení (zdroje) pro začlenění Geocachingu do výuky. Z tohoto důvodu studenti přicházejí o možnost (mohou) objevovat moderní hranici outdoorového dobrodružství; proto byla tato studie zaměřena na zkoumání povědomí a míry zapojení studentů do moderní hranice outdoorového dobrodružství - Geocachingu. Dotazník (nástroj) se 4 otázkami byl prováděn 4 měsíce jako prostředek zkoumání povědomí a úrovně zapojení 1464 studentů do moderní hranice outdoorového dobrodružství - Geocachingu. Geocaching zná 32,04 % studentů ($p < .01$; $n = 470$) a 400 (27,32 %) studentů je s Geocachingem obeznámeno ($p < .01$). Aplikaci nezná 56,90 % studentů, kteří ji používají ($p < .01$; $n = 832$). Z hlediska nedostatečného povědomí a seznámení se s Geocachingem u studentů by měly být podniknuty iniciativy (snahy) o jeho propagaci jako dostupného a vzrušujícího outdoorového dobrodružství. Odhalením moderní hranice outdoorového dobrodružství - Geocachingu - mohou studenti objevit nové způsoby učení, poznávání a zábavy v přírodě.

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