

Learners' Level Of Awareness On The Values Of Wildlife (Ecosystem Services) In Mudumu South Complex, Zambezi Region, Namibia.

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Abstract

Currently youth are the future generations of the country, their awareness on the values of wildlife is critical in determining if they will follow the footsteps of the current generation in conserving natural resources (wildlife). This study was conducted in Wuparo and Balyerwa community conservancies, to assess learners' level of awareness on wildlife-based ecosystem services. The knowledge and awareness processes that introduce information about wildlife resources and their benefits plays a critical role in shaping life-long attitudes, values, and patterns of behavior of learners toward wildlife. Questionnaires were used in data collection and the target population consisted of learners with the inclusion of teachers (control group) resulting to a sample size of 145 respondents which was randomly selected from eight indiscriminately selected schools within the two randomly selected conservancies. The results showed that learners were aware that wildlife has values (ecosystem services). Moreover, they are highly aware of tangible benefits

(provisional services) compared to other ecosystem services. There was no significant association between awareness and gender ($P = 0.259$), age ($P = 0.374$), level of education ($P = 0.129$). There was a positive correlation ($R^2 = 0.9995$) between level of awareness and level of education. The availability of wildlife related subjects, location of school, lack of environmental clubs and ignorance towards wildlife were the major factors reported to influence awareness of learners. Increased support for natural resources-focused education among the youth and improved support for environmental and wildlife clubs can be beneficial to wildlife and environmental conservation.

Keywords: *Ecosystem services; Wildlife conservation; Environmental education; Namibia*

Introduction

The range of products and services provided by wildlife resources are important to the livelihoods of local communities that are close to those resources (Chivian & Bernstein, 2008). The sustainability of wildlife-based ecosystem goods and services depends on the knowledge and concern for conservation of the local communities on these goods and services (Chardonnet *et al.*, 2002). However, local people's awareness on the importance of wildlife services to their livelihoods is limited and hence possibly hindering effective ecosystem services based conservation effort (Chan *et al.*, 2012), leading to lack of concern for wildlife conservation by these communities (Gandiwa *et al.*, 2014). Sustainability of wildlife-based goods and services on the involvement of the youth as they are the future scientists, policymakers and regulators of the environment. These gaps in knowledge calls for effective wildlife education among school students for better understanding and improved conservation of wildlife-based goods and services (Tesfai *et al.*, 2016). These should include an interaction between indigenous knowledge and knowledge from schools on wildlife values (Bitanyi *et al.*, 2012).

The basic understanding, knowledge and perceptions on ecosystem services differs widely from country to country and among different segments of population (MEA, 2005). Youth in community-based conservation areas (hereafter referred to as conservancies) are expected to know the types of wildlife values that contribute to their livelihoods. To achieve that, they need to be aware of the values (ecosystem services) wildlife. Understanding the value of wildlife, learners can develop a positive attitude towards wildlife

conservation. Currently, wildlife conservation in conservancies is not adequate, because some conservancy members are not aware of the values and contribution of wildlife to their livelihoods. Poor or lack of understanding of the ecological values of wildlife could be one of the factors contributing to poor or limited wildlife conservation measures in community conservancies (Hariohay *et al.*, 2018). Young people are the future wildlife conservationist, it is thus important to know the extent (gap in knowledge) to which they are aware of the values of wildlife.

There exist variations in learners' attitudes and behaviours towards the environment-based conservation (Thapa, 1999; Tehrani *et al.*, 2010). Learners who had improved education on environment related topics (nature conservation) had been reported to be more aware of wildlife services than those with less or without education. Thus, it is believed that environmental literacy is often linked with learners' awareness, sensitivity and understanding of changing environmental matters (Hariohay *et al.*, 2018). Learners' awareness has been reported to be influenced by many factors, including gender (Taskin, 2009; Tesfai *et al.*, 2016), environmental education (Selby, 2004; Ajiboye & Silo, 2008) and age (Tesfai *et al.*, 2016). Different results have been reported on the influence of gender on learners' awareness. Results from Taskin (2009) study in Turkey showed that female participants were more positive and show greater concern towards environmental issues than their male counterparts. On the other hand, MacDonald & Hara (1994), reported that male respondents are more sensitive to environmental disputes than female respondents. A study by Yilmaz *et al.*, (2004), found no influence of gender on the awareness of learners. According to Tuncer *et al.* (2005), there was a statistically

significant effect of gender and school type attendance towards environmental attitudes of young people in Turkey, with girls achieving higher scores than boys.

The United Nations Conference on Environment and Development (UNCED) identified education and public awareness of biodiversity as important tools in achieving biodiversity conservation (Environmental Education). In addition, Chapter 36 of the Agenda 21 is dedicated to promoting education, public awareness and training of youth (United Nations Committee, 1992). Convention on Biological Diversity (CBD) parties adopted a program of work for Communication, Education and Public Awareness (CEPA) which among others aims to communicate the scientific and technical work of the Convention in a language that is accessible to many different groups, integrate biodiversity into their education systems and raise public awareness of the importance of biodiversity to their livelihoods. The CBD Secretariat and United Nations Educational, Scientific and Cultural Organization (UNESCO) are jointly mainstreaming biodiversity through various dimensions of biodiversity education for Sustainable Development, including highlights on all the biodiversity educational initiatives that targeted children and the youth.

Namibia is signatory to various international conventions such as the CBD and UNESCO which recognize that awareness is an important aspect of ensuring the protection of Biodiversity (MEA, 2005). To fulfil this obligation, the government of Namibia, through article 95 of its constitution, emphasizes the promotion of the people's livelihoods through sustainable use of wildlife resources (Government Republic of Namibia, 1990). In 1999

the Ministry of Education (MoE), with the assistance of the Namibia Environmental Education Network (NEEN), developed a National Environmental Education that promoted the inclusion of environmental education into the formal education across all subjects (Natural and Social Sciences). Studies have been conducted to assess the inclusion of environmental education in some specific subjects and the ability and capability of teachers to teach them. However, fewer studies have been conducted to assess learners' awareness of environmental issues. This study's main objective was to assess the level of awareness of learners on the value (services) of wildlife, with three specific objectives as follows: a) To assess the level of awareness among learners on the provisional ecosystem services generated from wildlife conservation; b) To assess the level of awareness among learners on the cultural ecosystem services generated from wildlife conservation and c) To assess the level awareness among learners on the supporting/regulatory ecosystem services generated from wildlife conservation.

Methods and Materials

Study area

The study was conducted in two (2) community conservancies, Balyerwa and Wuparo conservancies within Mudumu South Complex in the Zambezi Region, Namibia (Figure 1). The target population were learners in primary, junior secondary, and senior secondary schools from Balyerwa and Wuparo community conservancies. Within the two (2) community conservancies,

eight (8) schools were selected, four (4) schools in Balyerwa community conservancy and four (4) schools in Wuparo community conservancy.

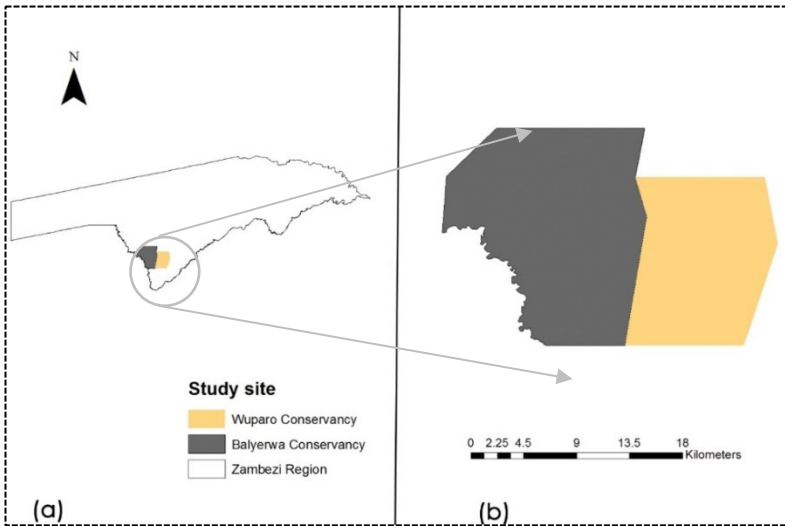


Figure 1: Map of the study area where (a) is Zambezi Region, and (b) is Wuparo and Balyerwa community conservancy.

Sampling procedure

The study population was 145 (including eight teachers) from three phases of schools (primary, junior secondary, and senior secondary). A list of all schools in two conservancies was acquired from the Ministry of Education, and random sampling method was used to select the eight (8) schools of study as follows: Sangwali Senior Secondary school, Sangwali Combined School, Samudono Primary School, and Mukurofu Primary School in Balyerwa conservancy, whereas in Wuparo conservancy, the selected

schools were Simataa Senior Secondary School, Sauzuo Combined School, Mbambazi Primary School, and Lianshulu Primary School. From each selected school, six (6) learners were randomly selected per grade on a 15% ratio (1 teacher:35 learners) making a total sample of one hundred and forty five (145) respondents. In case of many classes per single grade (for instance 6A, 6B), there was a random selection of one class among the three classrooms.

Sample size

Since the maximum number of learners allowed in every single class is 35, this led to calculations resulting in seventy two (72) learners sampled at primary level for all the conservancies, forty four (44) learners from the junior secondary level, and then twenty one (21) learners from the senior secondary level. Two (2) grades from each single primary school were sampled (grade 6 and 7), similarly applied to senior secondary level (grade 11 and 12), and from the junior secondary level three classes were sampled (grade 8, 9, and 10). Additionally, eight (8) teachers were randomly sampled from eight (8) different schools. Therefore, a total number of 137 learners were interviewed, thus N=145 (including teachers as the control group of the study and to correlate their knowledge with that of the learners) sampling population for both two conservancies.

Study design and Data collection

The study adopted a mixed method approach which employed both quantitative and qualitative methods, and utilized a range of data collection techniques. The questionnaires comprised of both open-ended and closed

ended questions with the inclusion of Likert scale questions. Data was collected through administration of questionnaires, the questionnaire was divided into five major sections i.e. personal details (demographic), and four sections of provisional services, cultural services, supporting and regulating services, and lastly general knowledge section of respondents. Unfortunately, the questionnaires were not pre-tested due to limited time allocation for conducting the thesis. This simply means that as the research was being conducted, the researcher had to attend classes at the same time. Thus, there was limited time for pre-testing.

Data analysis

Qualitative and quantitative data techniques were used in data analysis. The first step employed was to transform qualitative data into quantitative data through the use of Likert scale, and this involved cleaning, organizing and coding in Statistical Package for Social Sciences (SPSS) windows 2010 version 20 software by creating categories using numeric values. The data was then entered into spreadsheets and analysed using SPSS software windows 2010 version 20 to analyse quantitative data (including the transformed quantitative data into codes) to generate descriptive statistics such as frequencies, means, percentages and standard deviations for all the objectives.

Inferential Statistical analysis involved the use of Pearson chi-square tests to find and associate the relationships between the factors influencing the levels of awareness of wildlife values (ecosystem services) and learners' level of awareness and, thus establish the effective factors influencing learners' response and perceptions towards wildlife values. In addition, regression

correlation was used to test the significant relationship between primary, junior secondary, senior secondary school learners, and teachers by comparing the levels of awareness among the respondents, and lastly graphs (for all the objectives) were formulated using Microsoft excel 2016.

Results & Discussions

Socio-demographic profile of the respondents

Table 1: Summarized social-demographic profile of the respondents.

Parameter (N=145)	Frequency (n)	Proportion (%)
Level of education		
Primary	72	49.7
Junior	44	30.3
Senior	21	14.5
Teaches	8	5.5
Conservancy		
Balyerwa	70	48.3
Wuparo	75	51.7
Gender		
Male	78	53.8
Female	67	46.2
Age : 10 – 15 years old	71	49
 : 16 – 21 years old	62	42.8
 : 22 + years old	12	8.2

Of the 145 respondents (137 learners, 8 teachers) involved in the study, 70 (48.3%) respondents were from Balyerwa conservancy, while 75 (51.2%) were from Wuparo conservancy. In terms of gender representation, 78 (53.8%) respondents were male, while 67 (46.2%) were female, thus males were more compared to female respondents. In terms of levels of education, the majority (n=72) of respondents were primary school learners (49.7%) due to the fact that more primary schools were selected compared to other categories. 30.3 % of the respondents were from junior secondary phase, 14.5% (n=21) were from senior secondary schools and only 5.5% (n=8) of the total respondents were teachers. With the age groups, the majority (49 %) of respondents were aged between 10 to 15 years old, with 42.8% (n=62) aged between 16 to 21 years old, 4.8% (n=7) aged between 22 to 27 years old, and only 5 participants (3.4%) were aged above 28 years (Table 1).

Level of awareness of the concept wildlife among learners

When asked whether they (learners) were aware of the term wildlife without being given a definition, 81% of learners were aware of the concept “wildlife” and only 19 % of all the learners involved in the study were not aware (Table 2).

Since the results elaborated that the majority (81%) of learners attending schools in conservancies were knowledgeable and familiar with the concept “wildlife”, the possible reason for this finding is the location of schools, whereby all the schools are built in community conservancies. This gives learners high probabilities of knowing and familiarizing with the concept. A study on learners’ environmental attitudes and behaviours by Mūderrisoğlu & Altanlar (2011) supports these findings as it stated that students and

learners from rural areas have more sophisticated environmental awareness than those from urban areas, thus the place of residence can also influence learners' awareness significantly.

Table 2: The level of awareness among learners on the term "wildlife", and the association between genders, level of education with the level of awareness of the concept (wildlife).

		SA_ Question: Are you aware of the term wildlife?				P = 0.259		
		Yes	No	Proportion within gender		Total	Proportion between gender	
				Yes	No		Yes	No
Gender	Male	62	12	83.8%	16.2%	74	55.9%	46.2%
	Female	49	14	77.8%	22.2%	63	44.1%	53.8%
Total		111 (81%)	26 (19%)			N=137	100%	100%

Another factor that was reported in this study as playing a major role in the awareness of learners was the provision of wildlife related activities such as environmental clubs in some schools as this aids in environmental education through the subjects offered in schools such as Natural Science, Life Science and Biology. Thus environmental education through environmental clubs is an effective way of familiarizing learners with wildlife and its values. In relation to Woodworth *et al.* (2011), and Moseley (2000), their studies found that increased and responsible environmental actions were the end results of environmental education given to students.

From the 111 respondents who said yes, 62 (55.9%) counts were male and only 49 (44.1%) were females (Table 2). Males were found to be more knowledgeable than females. This simply means that males had access to different activities that engages them in wildlife related issues. MacDonald & Hara (1994), argue that males were more sensitive to environmental disputes than females. However, some studies argue and reported that females were more positive and showed greater concern towards environmental issues than males (Taskin, 2009).

There were no significance association between awareness and gender (Pearson chi-square value: $P = 0.259$), age ($P = 0.374$), and level of education ($P = 0.129$) among learners. In case of the teachers who were involved in the study, all males ($n = 4$, 100%) and females ($n = 4$, 100%) were knowledgeable about the concept wildlife (Table 2). In support of Yilmaz, Boone, & Andersen (2004), they found that there was no significant difference between males and females. However, Tuncer *et al.* (2005), argue that their results indicated that there was a statistically significant effect of gender and school type attendance towards environmental attitudes of young people in Turkey, with girls achieving higher scores than boys.

Association and correlation between level of awareness of the concept wildlife and level of education

There was no significant difference between learners from junior and secondary schools' awareness of wildlife and the two groups were treated as one group (Secondary school). The study denoted that 75 % of all the learners from primary schools, 88 % from secondary schools were aware of the concept wildlife (Figure 2). In contrast, all teachers in the study were aware

(100%). Ordering level of education (primary = 1, secondary = 2, and teachers = 3), there was a strong positive correlation between level of awareness and level of education (correlation: $R^2 = 0.9995$), thus the level of awareness increased with the level of education (Figure 2).

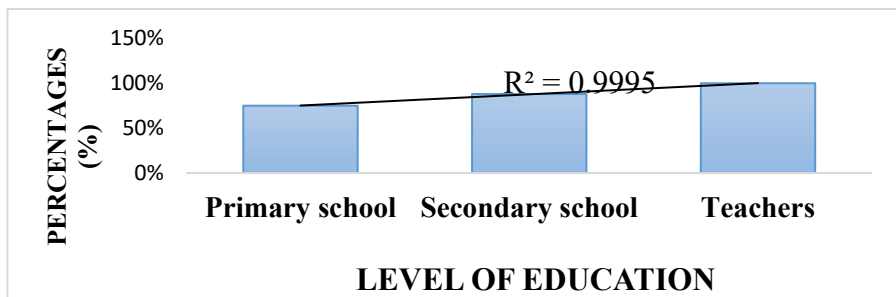


Figure 2: Association and correlation between the learners and teachers’ level of awareness of the term "wildlife" and the level of education.

Level of awareness on valuing wildlife

The levels of awareness were given in Likert scale of five levels (Highly Agree, Agree, Not Sure, Disagree and Highly Disagree) which converted data from qualitative to quantitative (use of mean scores between the levels of education) (Table 3).

Table 2: Level of awareness of respondents on wildlife as a valuable asset, using Descriptive statistics (**Key: Mean; 1 = Highly Agree; 2 = Agree; 3 = Not Sure; 4 = Disagree; 5 = Highly Disagree**).

Question: Wildlife has values? Likert scale to Descriptive statistics

Level of education	N	Mean	Std. Error	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
Primary S	72	1.58	.092	1.40	1.77
Junior S	44	1.41	.075	1.26	1.56
Senior S	21	1.67	.126	1.40	1.93
Teachers	8	1.00	.000	1.00	1.00
Average mean	145	1.51	.055	1.40	1.62

Generally, learners and teachers were aware that wildlife has values (Average Mean = 1.51) (Table 3).

The general observations of the study findings indicated that both learners and teachers were aware and had the knowledge that wildlife has values. Reasons for that were the creations of environmental clubs in schools, in this case all the schools involved in the study had environmental clubs such the Go Green Club (at Sangwali Primary School) and the Big Five Club (at Simataa Senior Secondary School). The former allows learners to learn about the importance of plants and they engages them tree planting activities, on the other hand, the latter engage learners into wildlife safari trips (game viewing) within different nearby protected areas (Mudumu National Park). Environmental clubs help provide a back ground of wildlife with its related

values. Availability of topics related to environmental aspects or wildlife related chapters such as “Types of Ecosystems” in Natural Science, Life Science, and Biology also played an important role in the level of awareness. In addition, the love learners had for nature (interest towards animals and plants) was also one of the reported factors supplementing their knowledge.

In support by Pashby & Weis (2002), they concluded that school programmes and environmental clubs had a significant impact in improving children’s environmental consciousness and their levels of awareness. Additionally, Selby (2001), stated that environmental conservation programmes attempt to stop the disconnection between nature and humans by influencing the level of knowledge and attitudes. On the other hand, some learners argued that wildlife had no values due to negative thoughts they had towards wild animal, specifically in relation to cases of human wildlife conflicts. Gender and ignorance also were reported as the major barriers affecting learners’ level of awareness.

Level of awareness on Ecosystem Services in general

This elaborated on the level of awareness on provisional (tangible benefits), cultural (benefits related to religion, leisure, or educational purposes), and supporting or regulating ecosystem services. Different themes were used to easily specify and give an overview on the main provisional (food, medicine, building materials, clothing, firewood, furniture, and crafts), cultural (income or foreign currency, tourism, job creation, and education), supporting or regulating (shelter, oxygen, pollination, seed dispersal, and soil

fertility) ecosystem services within the conserved area, they also helped in avoiding repetition of related individual benefits. Due to the fact that individual participant had chances to mention more than one benefit, the sum of all the proportions of the themes exceeds 100% (Figure 3).

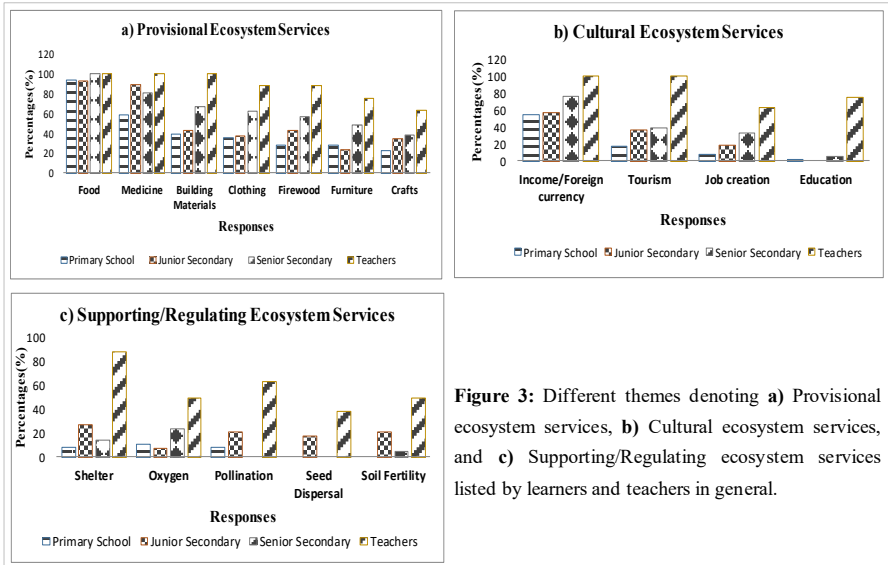


Figure 3: Different themes denoting a) Provisional ecosystem services, b) Cultural ecosystem services, and c) Supporting/Regulating ecosystem services listed by learners and teachers in general.

Level of awareness on Provisional Ecosystem Services

Learners in primary, junior secondary, and senior secondary schools were knowledgeable that food and medicine were the main tangible services generated from wildlife (all ranging more than 80% in all levels of education) (Figure 3; a)). In terms of other themes the values fluctuated below 75% for all respondents except teachers (clothing, building materials, firewood, furniture, and crafts), therefore awareness or knowledge increased with the level of education, such that senior secondary school learners were more knowledgeable compared to primary school learners, but almost equally

proportional with junior secondary learners in most cases. Additionally, teachers were highly aware in all cases (Figure 3; a).

Specifically with learners only, the study showed that a majority of the respondents were able to state food as the main provisional service generated from wildlife (n=130, 95%). It further showed that most stated that plants and animals can be used to treat sick people (n= 98, 72%), 40 respondents mentioned furniture (29%) which included chairs and doors, 39 stated that plants can be used for crafts (29%), 61 (45%) said plants were used as building materials for houses especially in local villages, 64 (47%) were confident that animal skin and other plant parts could be processed into clothes, and lastly 51 (37%) participants mentioned use of plants as firewood.

Level of awareness on Cultural Ecosystem Services

Learners in primary, junior secondary, and senior secondary schools as well as teachers were knowledgeable that wildlife generates cultural services, however the majority stated income and foreign currency as the main cultural service (figures in all levels of education ranging above 50%). In terms of tourism, job creation, and education, the result denoted that the level of awareness increased with the level of education such that senior secondary school learners were more knowledgeable compared primary and junior secondary school learners and literally the figures ranged below 50% in all cases (themes) except for teachers (Figure 3; b)).

Specifically with learners, the study denoted that a majority of the respondents (n=80, 58 %) were able to state that money (income/foreign currency) was the main cultural services. It further showed that only 19

(14%) respondents were able to state that wildlife create jobs (both for self and employed jobs), whereas 36 respondents mentioned tourism (26%), and only 2 participants (2%) were able to value wildlife on an educational basis.

Level of awareness on Supporting / Regulating Ecosystem Services

The level of awareness in some themes (shelter and oxygen) increased with the level of education (Figure 3, c)). The majority of the respondents (figures ranging below 30 % in all themes) were not aware of the supporting and regulating ecosystem services generated from wildlife such that only teachers were aware (figures ranging above 50 % in most cases). However, different learners from different levels of education valued wildlife as ecosystem supporters and regulators differently, such that learners from secondary schools had an idea and partially knowledgeable than learners in primary schools (Figure 3; c)).

Specifically with learners only, the study denoted that only 15 % of respondents possessed knowledge that wildlife provides shelter in nature (n=21). It further elaborated that 12% of the participants (n=16) valued plants as a source of oxygen (through photosynthesis), 11% (n=15) mentioned that insects were responsible for the process of pollination, 7% of learners valued wildlife as resources that adds nutrients to the soil, and only 6% (n= 8) of the respondents mentioned that animal and plant species plays an important role in the dispersal of seeds.

Overall level of awareness on Ecosystem Services

This elaborated learners' overall awareness on ecosystem services (summarised content of awareness), gave an overview of the category which were highly known and least known by learners and teachers.

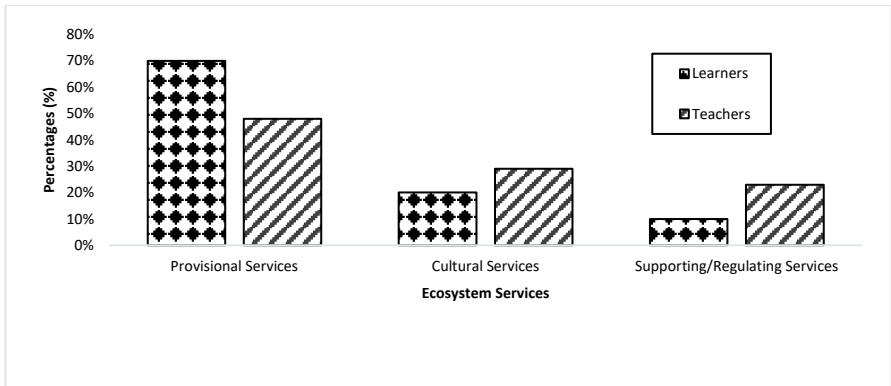


Figure 4: The overall overview of learners and teachers' level of awareness on Ecosystem Services.

The figure above indicates that among the respondents (with the exclusion of teachers), the majority were highly aware of tangible benefits (provisional ecosystem services) from wildlife (70 %). It further denoted that only 10 % of the learners were aware of supporting or regulating ecosystem services, meaning learners were least aware of these benefits compared to cultural ecosystem services (20 % of respondents) and provisional ecosystem services. In contrast, teachers were diversely and equally aware of all the ecosystem services. This basically means that learners had little or lack knowledge in terms of supporting/regulating ecosystem services compared to provisional and cultural ecosystem services.

All in one on provisional, cultural, supporting, and regulating ecosystem services, the study scientifically denoted that learners in conserved areas were aware of ecosystem services. However, they were highly aware of tangible benefits which are provisional services, and least aware of supporting ecosystem services compared to cultural (benefits that are non-tangible but regulates, controls, or supports ecosystems with its biotic and abiotic factors and process) and provisional ecosystem services. The reason behind the findings was that learners highly value wildlife in terms of direct (tangible) benefits generated rather than indirect benefits.

In support of this study, an article by Xun *et al.* (2017), on farmers' awareness of ecosystem services and the associated policy implications concluded that farmers were concerned with ecosystem service functions that directly benefit them, however they did not sufficiently understand the ecosystem's ecological security maintenance or cultural landscape functions. The results of this study also indicated that there was a positive correlation between level of education and level of awareness, such that the awareness of ecosystem services increased with the level of education. This was the case because knowledge towards wildlife in schools increased with grades and wildlife related subjects, in primary schools the available subjects that offer wildlife related topics were limited compared to secondary schools and higher institutions.

In support of this study, Thapa (1999) and Tehrani *et al.* (2010), observed the same aspects on some variations in student's attitudes and behaviours towards the environment based on their educational background. They concluded that learners who had improved education on environmental

related topics were more aware of environmental services than those with less or without education. Thus, environmental literacy was often linked with learners' awareness, sensitivity and understanding of changing environmental matters. However, some authors argued that environmentally responsible choices towards wildlife values that local members make are based on lessons learned in their youth either formally, informally and non-formally (Eagles & Demare, 1999).

Tesfai *et al.* (2016), on perceptions of secondary school students' towards environmental services argued that both educated and poor people valued forest ecosystem services more than uneducated people due to conservation education being offered in areas of residence, thus concluded that education had an influence on the level of awareness on the values of wildlife.

Effects of raising awareness in schools

Raising awareness involved the process of teaching or educating learners about the importance of wildlife through campaigns, excursion or even verbally through teaching subjects related to wildlife in schools. The results of the study showed that raising awareness in schools helps improve the understanding of learners on wildlife values. They gain knowledge about wildlife and its interactions with the ecosystem and local people, by so doing they engage themselves in the conservation of wildlife species. However, the study induced that even if raising awareness helped learners gain knowledge and engage themselves in wildlife conservation, they were not able to educate other local members in their communities, thus skills were not shared which led to increased levels of poaching among local members within conserved areas.

In support of this study findings, Eagles & Demare (1999), concluded that both formal and informal environmental conservation programs in conserved and non-conserved areas minimizes the disconnection between nature and humans.

Additionally, Navjot *et al.* (2010), stated conservation endeavors are only successful when local people are provided with alternative sustenance opportunities and basic education in addition to environmental outreach to reduce reliance on wildlife.

Since this study found that raising awareness in schools helps boost learners' level of awareness, Bitanyi *et al.* (2012) and Tesfai *et al.* (2016), supports the findings by recommending that improved education programs were needed as well as provision of alternative livelihood opportunities that may decrease dependence on wildlife resources, meaning that provision of wildlife conservation education can boost the level of awareness of local and strongly supported the need for more environmental education and awareness campaigns in schools, as well as engaging students in outdoor environmental activities.

Conclusions

The study concluded that learners were knowledgeable that wildlife has values (generates ecosystem services), however secondary school learners were highly aware of the benefits compared to primary school learners, and males were more knowledgeable than females. It further indicated that there were no significant association between gender, age, level of education with

learners' awareness of the concept wildlife and the values generated. However, there was a positive correlation between level of education and level of awareness such that the awareness of the values and the concept of wildlife increased with the level of education. In addition, the study denoted that learners were knowledgeable that wildlife generates tangible and cultural ecosystem services, and least aware of the supporting and regulating ecosystem services, the reason was that they value direct benefits of wild animals and plants than non-direct benefits. It further concludes that in these services, learners in secondary schools were knowledgeable compared to learners in primary schools, although teachers were highly aware of all the services. These people (respondents) highly valued wildlife as a source of food and medicine (provisional), income and foreign currency (cultural), and shelter (supporting).

Factors that influenced learners' level of awareness on valuing wildlife were the availability of subjects related to wildlife, level of education, environmental clubs in some schools, as well as the location of schools (in conserved areas), thus they were the major role players in boosting their awareness of wildlife values. Although they were aware, there were certain barriers that prevented some of the individuals in schools in terms of valuing wildlife. These were lack of interest in partaking in environmental clubs, negative thoughts towards wildlife (cultural factors) by having the mentality that animals leads to human wildlife conflicts. Despite this study being a by-product of another study, the study demonstrated that novel knowledge can be generated from such data.

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Disclosure Statement

No conflict of interest was reported by authors.

Notes on contributors

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Reference

Ajiboye, J., & Silo, N. (2008). Enhancing Botswana children's environmental knowledge: Attitudes and practices through the school civic clubs. *International Journal of Environmental and Science Education*, 3(3), 105–114.

. (n.d.).

Ajiboye, J., & Silo, N. (2008). Enhancing Botswana children's environmental knowledge: Attitudes and practices through the school civic clubs. *International Journal of Environmental and Science Education*, 3(3), 105–114.

Allan, F. O., James, D. N., and Karanth, K. U (Eds). (2011). *Camera Traps in Animal Ecology: Methods and Analyses*. New York City: Springer Publishing.

Amin, E. M. (2005). *Social Science Research Conception, Methodology and Anaysis* . Kampala: Makerere University Printer.

Archar, J., Childs, A., Covadu, S., & De Young, C. (2012). *Effective instruction tools or costly distribution: An examination on the effective implementation of technology in the classroom*. Manila: Manila Ox Publishers.

Archer, & Scholes. (1997). Tree-Grass Interaction in Savannah. *Annual Review of Ecology and systematic*, Vol.28, 517-544.

- Aycan,Z, Al-Hamadi.A, B., Davis.A.J, & Budwhar.P. (2007). Cultural orientations and preferences for HRM policies and practices: The case of Oman. *The International Journal of Human Resource Management* , 18(1), 11-32.
- Babbie, G. a. (2001). *The Practical of Social Research*.
- Babhin, D. (2015). A Report On The Importance Of Work-Life Balance. *International Journal of Applied Engineering Research*.
- Bai, B., Gopalan, N., Beutell, N., & Ren, F. (2021). Impact of Absolute and Relative Commute Time on Work–Family Conflict: Work Schedule Control, Child Care Hours, and Life Satisfaction. *Journal of Family and Economic Issues*, 586-600.
- Balfanz, R. &. (2012). *Chronic absenteeism: Summerising what we know from nationally available data*. Baltimore: Johns Hopkins University center for social organisation of schools.
- Balme, G. A., Hunter, L.T.B., Goodman, P., Ferguson, H., Craigie, J. & Slotow, R. (2010). An adaptive management approach to trophy hunting of leopards (*Panthera pardus*): a case study from KwaZulu-Natal, South Africa. *Biology and conservation of wild felids*. Oxford University Press, Oxford, United Kingdom, 341–352.
- Balme, G. H. (2009). Evaluating methods for counting cryptic carnivores. . *Journal of Wildlife Management* 73:, 433-441.
- Balme,G.,Slotow,R. & Hunter,L.T.B. (2010). Edge effects and the impact of non-protected areas in carnivore conservation: leopards in the PhindaMkhuze Complex, South Africa. *Animal Conservation*. 13:, 315–323.

- Bentley, T., Teo, S., McLeod, L., Tan, F., Bosua, R., & Gloet, M. (2016). The role of organisational support in teleworker wellbeing: A socio-technical systems approach. *Applied Ergonomics*, 52, 2017-215.
- Berber, M. (2012). *A Transformed Educational Institution* (2 ed.). England : Oxford University Press.
- Berstein, K. (2001). *Contributing factors of absenteeism*. Indiana Department of Education.
- Bingimlas, K. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of literature. *Eurasia Journal of Mathematics, Science & Technology Education* , 5(3), 235-245. .
- Bitanyi, S., Nesje, M., Kusiluka, L., Chenyambuga, S., & Kaltenborn, B. (2012). Awareness and perceptions of local people about wildlife hunting in western Serengeti communities. *Tropical Conservation Science*, 5(2), 208-224. Retrieved from www.tropicalconservationscience.org
- Bitanyi, S., Nesje, M., Kusiluka, L., Chenyambuga, S., & Kaltenborn, B. (2012). Awareness and Perceptionsof local people about wildlife hunting in western serengeti communities. *Tropical Conservation Science*, 5(2), 208-224. Retrieved from <http://www.tropicalconservationscience.org>
- Borchers D,L and Efford M,G. (2008). Spatially explicit maximum likelihood methods for capture-recapture studies. *Biometrics* 64, 377–385.
- Borchers, D. (2012). A non-technical overview of spatially explicit capture-recapture models. *Journal of Ornithology* 152, 435–S444.

- Bothma, J and Le Richie, E. A. N. (1984). Aspects of the ecology and the behaviour of the leopard *Panthera pardus* in the Kalahari Desert . 259-279., 259-279.
- Bothma, J. du P. & Le Richie, E. (1984). Aspects of the ecology and the behaviour of the leopard *Panthera pardus* in the Kalahari Desert. *Koedoe (Supplement)*, 259-279.
- Braun, V., & Clark, V. (2006). Using the thematic analysis in psychology. *Qualitative research in psychology*,, 3(2), 77-101.
- Braun, V., & Clark, V. (2006). Using the thematic analysis in psychology. *Qualitative research in psychology*,, 77-101.
- Britannica, T. E. (2018). *ENCYCLOPÆDIA BRITANNICA*. Retrieved from Leopard:
<https://www.britannica.com/animal/leopard#ref1247521>
- Brooks, S., Wedster, R., Smith, L., Woodlands, L., Wesly, S., & Greenberg, N. (2020). The Psychological Empact of Quarantine and how to Reduce it: Rapid Review of the Evidence. *SSRN Electronic Journal*, 395, 912 - 920. Retrieved from <http://dx.doi.org/10.2139/ssrn.3532534>
- Brough, P. (2020). *Work-Life Balance: Definitions, Causes, and Consequences*. Springer. doi:10.1007/978-3-030-05031-3_20-1
- Brough, P. T. (2014). Work-life balnce: A Longitudinatl Evaluation of a New Measure Accross Australia and Newzealand Workers. *INternational Journal of Human Resource Management*, 25(19), 2 724 - 2 744.
- C.M. Kelliher, J. R. (2019). All of work? All of life? Reconceptualizing work-life balance for the 21st century. *Human Resource Management*, 292, 97 - 112.

- Cao, X., Zhen, L., Yang, L., Long, X., Du, B., Wei, Y., & Li, F. (2011). Stakeholder perceptions of changing ecosystem services consumption in the Jinghe watershed: A household survey and PRA. *Journal of Resouce ecology*, 2, 345–352.
- Carlson, D. G. (2009). Is work-family balance more than conflict and enrichment? . *Human Relations*, 1459-1486, Vol.62 No.10.
- Chan, K., Guerry, D., Balvanera, P., Klain, S., Satterfield, T., Basurto, X., . . . Woodside, U. (2012). Where are Cultural and Social in Ecosystem Services? A Framework for Constructive Engagement. *BioScience*, 62(8), 744–756.
- Chauhan, D.S., Harihar, A., Goyal, S.P., Qureshi, Q., Lal, P., Mathur, V.B. (2005). Estimating leopard population using camera traps in Sarika Tiger Reserve. . *Wildlife Institute of India, Dehra Dun, India*. .
- Chivian, E., & Bernstein, A. (2008). *Ecosystem Services*. Retrieved August 25, 2018, from The National Wildlife Federation: <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Understanding-Conservation/Ecosystem-Services>
- Cobbinah, P. (2015). Local attitudes towards natural resources management in rural areas in Ghana. *An International Journal:Managment of Environental Quality*, 26(3), 423-436.
- Coetzee, S., & Mienie, M. (2013). South African educators’ mutually inclusive mandates to promote human rights and positive discipline. *Perspective in Education journal.co.za*.
- Consultancy, J. (2016). *NACSO (Namibian Association of CBRNM Support Organisations)*. Retrieved August 29, 2018, from NACSO: <http://www.nacso.org.na/conservancies/salambala>

- Costanza, R., Arge, R., De, G., Farber, S., Grasso, M., Hannon, B., . . .
O'Neill, R. (1997). The value of the world's ecosystem services and natural capital. *Nature*, 387, 253–260.
- Cox, M., & Abbott, C. (2005). *ICT and Attainment- A Review of Research Literature*. Coventry: Becta/London. DfES.
- Creswell, J. W. (2012). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research, 4th Ed*. Pearson Education inc.
- D, R. K. (2017). *Frequent Absences*. USA: Education World inc.
- David, B. & Rachel, F. (2010). *Spatial capture-recapture models*. Scotland: University of St Andrews & University of Auckland.
- Delecta, P. (2011, April 17). WORK LIFE BALANCE. pp. 186-189.
- Delecta.P. (2011). Work-life balance. *International Journal of Current Research*, 3(4), 186-189.
- Dhas, D. (2015). *A report on the importance of work-life balance*. Tamil Nadu, India: International Journal of Applied Engineering Research.
- Diane, P. (2003). The new Economy and the Work-Life Balance: Conceptual Explorations and a Case Study of New Media. *Gender, Work & Organization*.
- DOBE, & Policy, S. (2014). *Guidelines to ensure quality education and support in Special Schools and Special School resource Centres*. Pretoria: Department of Basic Education.

- Dorazio, R.M. & Royle, J.A. . (2003). Mixture models for estimating the size of a closed population when capture rates vary among individuals. *Biometrics*, 59, 351-364.
- Eagles, P., & Demare, R. (1999). Factors Influencing children's environmental attitudes. *Journal of Environmental Education*, 30(4), 33-37.
- Edgaonkar, A. & Chellam, R. (2002). Edgaonkar, A., Chellam, R. Food habit of the leopard, *Panthera pardus*, in the Sanjay Gandhi National Park, Maharashtra, India. *Mammalia* 66, 353–360.
- Education. (1994). *The Salamanca Statement and Frame for Action On Special Needs*. United Nations.
- Efford, M. G. (2004). Density estimation in live-trapping studies. *Oikos*106, 598–610.
- Eisenberger, R., & Stinglhamber, F. (2011). Perceived organizational support: Fostering enthusiastic and productive employees. *American Psychological Association*.
- Felstead,A, Jewson.N, & Phizacklea.A. (2006). *Opportunities to work at home in the context of work-life balance*. London: Willey.
- Flemming, N. (1995). *Attendance: Why dont they attend?* London: Macmillan press.
- Gajendran, R., & Harrison, D. (2007). The good, the bad, and the unknown about telecommuting: meta-analysis of psychological mediators and individual consequences. *Journal of Applied psychology*.
- Gandiwa, E., Gandiwa, P., Muboko, N., Libombo, E., Mashapa, C., & Gwazani, R. (2014). Local People's Knowledge and Perceptions of

Wildlife Conservation in Southeastern Zimbabwe. *Journal of Environmental Protection*, 475-481.

Goergen, J. (2013). *Assists Namibian Leopard Management*. Retrieved from SCI Foundation: <https://firstforwildlife.com/2013/04/30/sci-foundation-assists-leopard-management-in-namibia/>

government, W. a. (2011). *Strategies for schools to improve attendance and manage lateness*. United Kingdom.

Greef, M. (2011). *Information Collection: Interviewing*. In, De Vos, A. S., Strydom, H., Fouche, C. B., & Delport, C. S. L. *Research at Grassroots: For the Social Sciences and human services professions*. Pretoria: Van Shaik.

Greeff, M. (2011). *Information Collection: Interviewing*. In, De Vos, A. S., Strydom, H., Fouche, C. B., & Delport, C. S. L. *Research at Grassroots: For the Social Sciences and human services professions* . Pretoria: Van Shaick.

Grinker, R. (2007). *Unstrange Minds. Remapping the world of Autism*. . <https://www.researchgate.net>.

GRN. (1990). *The Constitution of the Republic of Namibia*. Retrieved from Government of Namibia: <http://www.namibiahc.org.uk/perch/resources/pdf/namibia-constitution-2015.pdf>

Haeger, D. &. (2014). *A trend towards work-life fusion: A multi-generational shift in technology use at work. Technological Forecasting and Social Change*. Retrieved from <https://doi.org/10.1016/j.techfore.2014.08.009> [Crossref], [Web of Science].

- Halpern, D. (2005). Psychology at the intersection of work and family: Recommendations for employers, working families, and policymakers". *American Psychology*, 397-409, Vol. 60 No. 5.
- Harihar, A., Pandav, B., Goyal, S.P. . (2009). Density of leopards (*Panthera pardus*) in the Chilla Range of Rajaji National Park, Uttarakhand, . *India Mammalia* 73, 68–71.
- Hassan, K., Abdullah, N., & Ismail, A. (2017). Work-Life Balance among Married Women Working in Public Sector. *Journal of Governance and Development*, 13(2).
- Herman. (1988, June 03). *As teraceae (Compositae)*. Retrieved October 27, 2015, from Africa Plants Corporation : www.plantzafrica.com
- Hick, P., Kershner, R., & Farrell, P. (2009). *A psychology for inclusion*. London: Routledge.
- Hoonakker, P. (2014). The impact of ICT on quality of working life. *Dordrecht: Springer*.
- Hunter, L. and Balme, G. (2007). The leopard: The world's most persecuted big cat. *Conservation in Action:Twelfth Vision Annual*, 88–94.
- Hunter, L., Balme, G., Walker, C., Pretorius, K., Rosenberg, K. (2003). The landscape ecology of leopards in northern KwaZulu-Natal, South Africa: a preliminary project report. *Ecological Journal* 5, , 24-30.
- Irish, J. (1998, May 17). *Pechuel-Loeschea leubnitziae (Kuntze 1886) O.Hoffm. in Namibia*. Retrieved September 25, 2015, from Namibia Biodiversity Database: <http://www.biodiversity.org.na/taxondisplay.php?nr=6491>
- Jacobson, A,P., Gerngross, P., Lemeris, J,R., Schoonover R,F., Anco, C., Breitenmoser-Würsten, C., Durant, S,M., Farhadinia M,S.,

Henschel, P., Kamler J.F., Laguardia, A., Rostro-García S., Stein A,B and Dollar, L. (2016). *Leopard (Panthera pardus) status, distribution, and the research efforts across its range*. Retrieved from PeerJ: <https://peerj.com/articles/1974/>

John Creswell, W. (2007). *Qualitative Inquiry and Research design. Choosing among five approaches*. London: Vicki Knight.

Joubert. (2008). A conceptual model of vegetation-dynamics in the semiarid Highland savanna of Namibia, with particular reference to-bush thickening by *Acacia mellifera*. *Journal of Arid Environments.*, 110-123.

Joubert, D., & Zimmermann, I. (2002). A crude A crude quantification of wood that is and can be harvested from bush-thickening species in Namibia. *Proceedings of the First National Forestry Research Workshop*, 56-66.

Kalliah, & Brough. (2008). 274.

Karant, K.U and Nichols, J.D. (2002). *Monitoring Tigers and Their Prey: A Manual For Researchers, Managers and Conservationists in Tropical Asia*. Bangalore, India: Centre for Wildlife Studies.

Karkoulia, S., Srour, J., & Sinan, T. (2016, May 5). A gender perspective on work-life balance, perceived stress, and locus. *Journal of Business Research*, 4918–4923.

Kearney. (2008). *Contributing factors of absenteeism*. Indiana Department of Education.

Kelly, K. (2014). The problem of school absenteeism: What you need to know. *Understood for learning and attention issues*.

- Kenny, A., & Qiang, Z. (2003). *Information and communication technologies and broad-based development. In ICT & development: Enabling the information society*. Washington, D.C: The World Bank Group.
- Keter, T. (2013). *Eneza, Absenteeism in school*. Kenya: Eneza Education Ltd.
- Killian, S. (2015, January 21). 10 proven ways to improve school attendance. *The Australian society for evidence based teaching*.
- Kirkman, K., & Tedder, M. (2012). The influence of *Pechuel-Loeschea leubnitziae* (wild sage) on grass sward and soil seed bank composition. *African Journal of Range and Forage*, 101-107.
- Klerk, J. d. (2004). *Bush encroachment in Namibia*. Windhoek: MC Millan .
- Koekemoer, E., & de Wet, W. (2016). THE INCREASED USE OF INFORMATION AND COMMUNICATION. *SAJEMS*, 19(2), 264-281.
- Krebb. (2015). Estimating abundance in animal and plant populations. 4-6.
- Krejcie, R. V. (1970). *Determining sample size for Research activation: Education and Psychological Measurement*. Sage publications.
- Kruger. (2002). *Bush Encroachment in Namibia*. Windhoek : John Meinert Printing.
- Kumar, M. (2011). *Research Methodology. A step-by-step guide for beginners*. California: Thousands Oaks.
- Kumar, R. (2011). *Research Methodology. A step-by-step guide for beginners*. . California: Thousand oaks.
- Kuntze. (1886, June 19). *Pechuel-Loeschea leubnitziae* (Kuntze 1886) *O.Hoffm. in Namibia*. Retrieved 25 September, 2015, from J. Irish,

Namibia Biodiversity Database:

<http://www.biodiversity.org.na/taxondisplay.php?nr=6491>

- Ladbrook, M. (2009). *Challenges experienced by educators in the implementation of Inclusive Education in primary school in South Africa*. Pretoria: Unisa.
- Landsberg, E., & Kruger, D. (2014). *Addressing Barriers to Learning. A South African Perspective. (2nd ed.)*. Pretoria: Van Schaik Publishers. Pretoria: Van Schaik.
- Lavlani, P. (2013). Privilege, compromise, or social justice . *Teachers conceptualizations of Inclusive Education, disability and society*, 28(1), 14-27.
- Lemmer, E., & Meier, C. (2013). *Multicultural education: A manual for the South African teacher (second edition)*. Pretoria: Van Schaik.
- Lockwood. (2003). *Work/Life Balance: Challenges and Solutions*. 2.
- Lockwood, N. R. (2003). *Work/Life Balance*. Society for Human Resource Management.
- MacDonald, W., & Hara, N. (1994). Gender difference in environmental concern among college students. *Sex Roles*. 31, 5-6.
- Mackenzie, D.I., Nichols, J.D., Royle, J.A., Pollock, K., Bailey, L, and Hines, J.E . (2006). *Occupancy Estimation and Modelling - Inferring Patterns and Dynamics of Species Occurrence*. London, UK.: Elsevier Publishing.
- Mackenzie, D.I., Nichols, J.D., Royle, J.A., Pollock, K., Bailey, L, and Hines, J.E. (2006). *Occupancy Estimation and Modelling - Inferring Patterns and Dynamics of Species Occurrence*. London, UK.: Elsevier Publishing.

- Magntorn, O., & Hellden, G. (2007). Reading New Environments: Students' ability to generalise their understanding between different ecosystems. *International Journal of Science education*, 29(1), 67-100.
- Maria, G., Christine, A., Carlo, T., & Evie, M. (2018). Systematically reviewing remote e-workers' well-being at work: a multidimensional approach. *European Journal of Work and Organizational Psychology*, 28, 1-23.
- Marlow, M., & Disney, G. (2006). Toery Hayden's lore:. *Classroom behavior management of children with emotional and behavioural disorders*, 12(3), 289-304.
- Mautu, A. (2016). *Environment: Salambala Conservancy*. Retrieved September 17, 2018, from Open Africa do travel differently: <http://www.openafrica.org/experiences/participant/2577-salambala-conservancy>
- MEA. (2005). *Environmental and Human Well-Being: Synthesis*. Washington DC: Island Press.
- Merrill, J. E., Read, J. P., & Barnett, N. P. (2013). The way one thinks affects the way one drinks: Subjective evaluations of alcohol consequences as predictors of subsequent change in drinking behavior. *Psychology of Addictive Behaviors*, 27(8) : 42–51.
- Mervile, J. (1981). *Student absenteeism: Causes, effects, and possible solutions*. USA: Thesis for the University of Indiana at South Bend.
- Ministry of Education. (2017). *Education and Training : Planning for a Learning Nation*. Pretoria: Directorate of Education.

- Mitchell, C., De Lange, N., & Thi, N. (2008). "Let's not leave this problem": exploring inclusive education in rural South Africa. *Springer Link*, 99-112.
- Mlththapala, S., Seidensticker, J. Phillips, I. G., Fernando, S. B. U. & Smallwood, J. A. (1989). Identification of individual leopards {*Panthera pardus kotiya*) using spot pattern variation. *Journal of Zoology*, 218, 527-536.
- Moseley, C. (2000). *Teaching for Environmental Literacy. Clearing House* (Vol. 74).
- Moseley, C. (2000). Teaching for Environmental Literacy. Clearing House. *Science of Education*, 74(1), 23-24.
- Müderrisođlu, H., & Altanlar, A. (2011). Attitudes and behaviour of undergraduate studentds toward environmental issues. *International Journal of Environment, Science and Technology*, 8(1), 159-168.
- Naidu, S. (2016). Investigating educators' experiences of teaching learners with barriers to learning at a public secondary school in Newlands West. . Durban: University of KwaZulu Natal.
- Navjot, S., Lee, M., Sekercioglu, C., Webb, E., Prawiradilaga, D., Lohman, D., . . . Ehrlich, R. (n.d.). *Biodiversity and Conservation* .
- Navjot, S., LeeCagan, T., Edward, S., WebbDewi, M., David, J., & Lohman, J. (2010, 04 10). Local people value environmental services provided by forested parks. *Biodiversity and Conservation*, 19(4), 1175-1188. Retrieved from <https://link.springer.com/article/10.1007/s10531-009-9745-9>
- Navjot, S., Leecagne, T., Edward, S., WebbDewi, M., Dvid, J., & Lohman, J. (2010). Local people value environmental services pprovided by

forested parks. *Biodiversity and Conservation*, 19(4), 1175-1188.
Retrieved from <https://link.springer.com/article/10.1007/s10531-009-9745-9>

Noyce, K.V., Garshelis, D.I and Coy, P.L. (2001). Differential vulnerability of black bears to trap and camera sampling and resulting biases in mark-recapture estimates. *Ursus*, 12, 211-225.

Ntefeleng, L. (2015, January). *South African National Biodiversity Institute*. Retrieved from Leopard: www.sanbi.org/creature/leopard

Oludoya, O., & Omonijo, D. (2020). WORK-LIFE BALANCE: THE RELEVANCE OF SOCIAL SUPPORT. *Academy of Strategic Management Journal*, 19(3), 1-10.

Osuu, R. A. (2014). *International Journal of Education and Research*. Vol2. No10.

Otis, D. L., Burnham, K.P., White, G.C and Anderson, D.R. (1978). Statistical inference from capture data on closed animal populations. *Wildlife Monographs* 62, 1–135.

Pallavi, S., Arjun M. Andrew J. Royle, N. Samba, K., Ullas, K., Sumanta, M, V & Dipti, B. (2011). Package 'SPACECAP'. 1-12.

Pashby, L., & Weis, J. (2002). *Planting the seeds of environmental awareness: Evaluating an environmental education program for Grade 5 students*. Toronto: Ontario: Ontario Institute for Studies in Education, University of Toronto.

Peasley, M. C., Hochstein, B., Britton, B. P., Srivastava, R. V., & Stewart, G. T. (2020). Can't leave it at home? The effects of personal stress on burnout and T salesperson performance. *Journal of Business Research*, 58-70.

- Peeters, T. (1999). *Autism: Medical and educational aspects*. New Jersey: John Wiley & Sons Inc.
- Perry, A. (2017). *Causes and Effects of Truancy*. Leaf Group Ltd.
- policy, C. o. (2012). *What can schools do to motivate students*. George Washington University.
- Ponelis, S. (2015). Using Interpretive Qualitative Case Studies for Exploratory Research in Doctoral Studies: A Case of Information Systems Research in Small and Medium Enterprises. *International Journal of Doctoral Studies*, 10, 535-550. doi:10.28945/2339
- Proffitt, K.M., Goldberg, J.F., Hebblewhite, M., Russell, R., Jimenez, B.S., Robinson, H.S., Pilgrim, K. & Schwartz, M.K. (2015). Integrating resource selection into spatial capture-recapture models for large carnivores. *Ecosphere*, 6.
- Qian, Y., & Fuller, S. (2020). COVID-19 and the Gender Employment Gap among Parents of Young Children. *Canadian Public Policy*, 46(S2), 8S89-101.
- Ray, J. Hunter, L and Zigouris, J. (2005). Setting conservation and research priorities for larger African carnivores. In J. H. Ray. New York: Wildlife Conservation Society.
- recruiting, F. (2015, June 6). How to create a positive learning environment.
- Richard, & Settersten. (2020). Understanding the effects of Covid-19 through a life course lens. *Advances in Life Course Research*.
- Roberts, K. (2007). Work-life balance - the sources of the contemporary problem and the probable outcomes. *Employee relations*.

- Rostro-García, S., Kamler, J.F., Ash, E., Clements, G.R., Gibson, L., Lynam, A.J., McEwing, R., Naing, H and Paglia, S. (2016). . Endangered leopards: range collapse of the Indochinese leopard (*Panthera pardus delacouri*) in Southeast Asia. *Biological Conservation*, (in press).
- Rothman, S. B. (2004). Getting student background factors. *A multilevel analysis International Education Journal 2(1)*, 59-68.
- Royle J.A., Nichols J.D and Kéry, M. . (2005). Modelling occurrence and abundance of species when detection is imperfect. *Oikos*110, 353–359.
- Royle, J.A. and Young, K.V. (2008). A hierarchical model for spatial capture-recapture data. *Ecology*, 89, 2281-2289. .
- Royle, J.A., Chandler, R.B., Sun, C.C. & Fuller, A.K. (2013). Integrating resource selection information with spatial capture-recapture. *Methods in Ecology and Evolution*, 4, 520-530.
- Royle, J.A., Sutherland, C., Fuller, A.K. and Sun, C.C. (2015). Likelihood analysis of spatial capture-recapture models for stratified or class structured populations. *Ecosphere*, 6, 22.
- Royle, J.A. & Converse, S.J. (2013). Hierarchical spatial capture–recapture models: modelling population density in stratified populations. *Methods in Ecology and Evolution*, 37–43.
- S.Schumacher, J. M. (2014). *Research in education. Evidence-Based Inquiry*. Boston: Pearson.
- Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research methods for business students*. Harlow, England: Financial Times/Prentice Hall. Retrieved August 20, 2018

- Schumacher, S., & McMillan, J. (2014). *Research in education. Evidence-Based Inquiry*. Boston: Pearson.
- SCI, F. (2013). *SCI Foundation Assists Namibian Leopard Management*. Retrieved from SCI Foundation: <https://firstforwildlife.com/2013/04/30/sci-foundation-assists-leopard-management-in-namibia/>
- Selby, D. (2001). The signature of the whole: Radical interconnectedness and its implications for global and environmental education. *Education for Meaning and Social Justice*, 14(4), 1-12.
- Shahzada. (2011). Causes of absenteeism from secondary level. *Mediterranean journal of social sciences* .Vol2. No2, 2001:291-298.
- Shareena, P., & Mahammad, S. (2020). it is difficult to monitor a worker's effort at home, especially when occasionally being interrupted by private responsibilities and family members. *GJRA - GLOBAL JOURNAL FOR RESEARCH ANALYSIS*, 9(5). doi:10.36106/gjra
- Sirgy, M. L. (2018). Work-life Balance: An Integrative Reiveiw. *Applied REsearch Quality Life*, 13, 229 - 254.
- Slavin, P. (2007). *Educational research in an age of accountability*. New York: Pearson. New York: Pearson.
- Slavin, P. (2007). *Educational research in an age of accountability*. New York: Pearson.
- Sleeter, C. (2005). *Un-standardizing curriculum; multicultural teaching in the standards-based classroom*. New York: Teacher College Press.
- Sleeter, C. E., & Grant, C. A. (2007). *Making choices for multicultural education*. NewYork: Wileys and Sons Inc.

- Stander, P. E. and Haden . (1997). The ecology of asociality in Namibian leopards. *Journal of Zoology*, 343-364.
- Stander, P. E. and Haden, P. J. (1997). The ecology of asociality in Namibian leopards. *Journal of Zoology*, 343-364.
- Stander, P.E., Haden, P.J and and Kagece, G. (1997). The ecology of asociality in Namibian leopards. *Journal of Zoology* 242, 343-364.
- Stein, A, B and Hayssen, V. (2013, June 12). *Panthera pardus (Carnivora: Felidae)*. Retrieved from Mammalian Species:
<https://academic.oup.com/mspecies/article/45/900/30/2643006>
- Stein, A.B., Athreya, V., Gerngross, P., Balme, G., Henschel, P., Karanth, U., Miquelle, D., Rostro-Garcia, S., Kamler, J.F., Laguardia, A., Khorozyan, I. & Ghoddousi, A. (2018, 01 22). *The IUCN Red List of Threatened Species*. Retrieved from Panthera pardus:
<http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T15954A50659089.en>.
- Stein, A.B., Athreya, V., Gerngross, P., Balme, G., Henschel, P., Karanth, U., Miquelle, D., Rostro-Garcia, S., Kamler, J.F., Laguardia, A., Khorozyan, I. & Ghoddousi, A. (2016, 01 22). Retrieved from The IUCN Red List of Threatened Species.
- Stein, A.B., Todd K.F, Stephen D, Marker L.L. (2011). Leopard population and home range estimates in north-central Namibia. *African Journal of Ecology*, 1-5.
- Sulaiman, Bakhi, & Rahaman. (2011). The Level of Cognitive Ability among Learning Disabilities Children in Malacca Malaysia. *International Journal of Psychological Studies*, 3(1).
- Sutherland, C and Royle, J. A. ((2016). Estimating abundance. *ResearchGate*, 388-401.

- Sutherland, C., Royle, J.A. & Linden, D.W. (2016). oSCR: Multi-Session Sex-Structured Spatial Capture-Recapture Models. R package version 0.30.1.
- Swanepoel, L.H. Somers, M.J. van Hoven, W. Schiess-Meier, M. Owen, C. Snyman, A. Martins, Q. Senekel, C. Camacho, G. Boshoff, W. Dalerum, F. (2015). Survival rates and causes of mortality of leopards *Panthera pardus* in Southern Africa. *Oryx* 49 (4), 595-603.
- Taskin, O. (2009). The environmental attitudes of Turkish senior high school students in the context of post materialism and the new environmental paradigm. *International Journal of Science Education*, 31, 481-502.
- Teasley, M. L. (2004). Absenteeism and Truancy. *Children and schools*, 33:351-370.
- teens, T. (2017). Problems with skipping schools. *Turning winds academic institute*.
- Tesfai, M., Nagothu, U., Simek, J., & Fucik, P. (2016). Perceptions of secondary students' towards environmental services: A case study from Czechia. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL AND SCIENCE EDUCATION*, 11(12), 5533-5553.
- Turnbull-Kemp, P. (1967). *The leopard*. London: Bailey Brothers and Swinfen.
- Venter, M. (2007). Are we ready yet? The inclusion debate. *Naptosa insight*(1), 6-9.
- Verner, S. (2007). Top 10 ways on how to motivate students. *Busy teacher*.
- Vos, A. D. (2002). *Intervention Research at Grass Roots: For the Social Sciences and Human Service Professions*. Pretoria: Van Schaik.

- Vos, A. D. (2002). *Intervention Research at Grass Roots: For the Social Sciences and Human Service Professions*. Pretoria: Van Shaik.
- Voydanoff. (1988). Work role characteristics, family structure demands, and work. *Journal of Marriage and the Family*, 50(3), 749-761.
- Wadesango, N. &. (2011). Causes and Structural Effects of Student Absenteeism. *A case study of three South African Universities*, Vol26 (2), 89-97.
- Walter. (1971). *Ecology of Tropical and Subtropical Vegetation*. New York: MC Millan.
- Walter. (2000). *Ecology of Tropical and Subtropical Vegetation*. New York: Cambridge University Press.
- Wastaff, C. (2000). *Factors contributing to absenteeism*. Indiana Department of Education.
- Waterhouse, S. (2000). *A positive approach to autism*. Philadelphia: Jessica Kingsley.
- Wessel, D. (2008). *Inclusive Education: Barriers to Learning. (Module 2 Workbook)*. Durban: Embury Institute for Teacher Education.
- Wessel, D. (2008). *Inclusive Education: Barriers to Learning. (Module 2 Workbook)*. Durban: Embury Institute for Teacher Education.
- Westwood, P. (2007). *Common sense methods for children with special needs*. London: Routledge.
- Wiegand, K. S. (2005). *Perspectives in Plant Ecology, Evolution and Systematics*. London: Taylor and Francis.
- Wielligh von, M. (2005). *An overview of trophy hunting in South Africa, Master's Thesis*. Spain: International University of Andalucia.

- Wikihow. (2017). How to motivate high school students . *Classroom management and student conduct*.
- William, L. L. (2000). Student Absenteeism and Truancy: Technology and Interventions to reduce Chronic problems among school-age children. *Journal of children, 7*:23-34.
- Woiters. (2004). Land Degradation Monitoring in Namibia. *Environmental Monitoring and Assessment, 5*-21.
- Woodward, B., & Hogenboom, M. (2001). *Autism: A holistic approach*. Amazon.
- Woodworth, B., Steen-Adams, M., & Mittal, P. (2011). Role of Environmental Studies course on the formation of environmental worldviews. *Journal of Environmental Studies and Sciences, 1*(2), 126-137.
- XOBNI. (2010). There is no such as aday off for Americans and Brits.
- Xun, F., Hu, Y., Ling, L., & Tong, J. (2017). Farmers' Awareness of Ecosystem Services and the Associated Policy Implications. *International Journal of Sustainability, 1612*, 1-13.
doi:doi:10.3390/su9091612
- Yilmaz, O., Boone, J., & Andersen, O. (2004). Views of elementary and middle school Turkish students toward environmental issues. *International Journal of Science Education, 26*, 1527-1546.