The nature and scope of outdoor education in Western Australian secondary schools

Duncan Picknoll
Chapter 3: Methodology

3.1 Introduction

This research project was conducted in three phases, primarily using survey methodology. Phase 1 involved the development and piloting of the main survey, which was implemented in Phase 2 (in 2007) to investigate the nature and scope of OE in secondary schools in WA. This design was based on a positivism paradigm. “Positivism attempts to apply theory to the research context to assess how applicable these are – that is, to compare an often idealised model in theory with reality. This implies that research should focus on the observable and the measurable, whether in absolute terms or via the perceptions of relevant individuals or groups of individuals.” (Brundrett & Rhodes, 2014, p.14). This paradigm limits the role of the researcher to data collection and the interpretation of results and emphasizes an objectivist approach to studying social phenomena with a focus on the nature of causality. Positivism focusses primarily on quantitative analysis including the measuring of variables and the formations of concepts which can be obtained using survey methodology (Cohen, Manion & Morrison, 2011).

The survey questions were designed to identify where OE was being taught in the school sectors, by whom (including position title, academic and skill-based qualifications), the diversity of programmes offered, the desired outcomes and the barriers to, and enablers for, programme delivery. Comparisons were made between school sectors and significant differences were identified. Where appropriate, some questions included an other category or an opportunity to add additional comments allowing the participants to expand on their response (See Appendix E). These responses were tagged, coded and grouped according to common themes. If a
common theme was evident, an individual response was selected to provide a greater depth of understanding and to inform the interpretation of the quantitative responses. These comments were particularly useful when considering differences between school sectors.

In Phase 3, longitudinal data on participation in the WACE Outdoor Education course were obtained from the SCSA from 2008 to 2013. The schools that participated in the 2007 survey were separated from the total sample and termed *Study schools*, which allowed for the actual delivery of WACE Outdoor Education course to be compared to the initial intention to deliver that was recorded in 2007. Data were grouped according to school sector and the delivery of all WACE Outdoor Education courses, allowing trends and comparisons to be made. This comparison was also undertaken between *Study schools* and *All schools* that had taught OE in this format since its introduction in 2008.

### 3.2 Research Design

A survey design was used, similar to previous Australian studies on the nature and scope of OE (Lugg & Martin, 2001; Polley & Pickett, 2003). According to Facer (2002), questionnaires that include both closed and open-ended questions gather more in-depth information and facilitate the interpretation of the quantitative data. Questionnaires are widely used in educational research, as direct contact with participants (such as interviewing) is time consuming and expensive, and much of the same information can be gathered through written responses. In addition, as written questionnaires are typically more efficient, they are considered suitable for large samples. This was appropriate for this project, as the survey was sent to all secondary schools in WA and the teaching demands for those teachers delivering OE programmes is time intensive.
3.2.1 Phase 1: Survey development

The survey was based upon similar research conducted in Victoria (SA) and New Zealand (Lugg & Martin, 2001; Polley & Pickett & 2003; Zink & Boyes, 2006) which provided initial content validity. Changes to some questionnaire content and the implementation processes were made to suit the specific setting of WA. A hard copy of the survey was piloted with six selected OE secondary school teachers, two from each of the three school sectors: Government, Catholic and Independent. Critical feedback from the participants resulted in further refinement to ensure content validity. In addition, teachers were asked to identify the most appropriate time in the school calendar for completing the survey, to ensure a maximum response. Based on the responses, the following changes were made.

1) A broad definition of OE was included and some questions were reworded to ensure inclusivity for all teachers of OE.

2) The general structure of the survey required additional space for some questions. Rock climbing and abseiling were split into separate pursuits.

3) More time was allocated for the completion and return of the survey.

Feedback suggested that an electronic survey would make data entry easier and be more time efficient to complete. An investigation identified a number of available electronic survey tools. Discussion with Kathy Kingsford, Executive Officer from the Queensland Outdoor Recreation Council (QORF) (personal communication, 12 August, 2006) advised that the program SurveyMonkey was time effective for building the survey, contacting potential participants, completing the survey and processing the collected data. Therefore, an on-line version of the questionnaire for this project was developed using Survey Monkey. It included an introduction and sections were formatted under the headings listed below. Each
section provided space for additional comments and a final section invited participants to provide any additional feedback (see Appendix 6).

- Section A: Contact details
- Section B: School details
- Section C: Scope of Outdoor Education
- Section D: Learning outcomes
- Section E: Outdoor pursuits
- Section F: Barriers to Outdoor Education
- Section G: Staffing and qualifications
- Section H: Safety and legal issues
- Section I: Professional association affiliations

3.2.2 Phase 2: Main survey

The aim of the main survey was to contact the most appropriate person responsible for the organisation and/or teaching of OE in all WA secondary schools and invite them to complete the survey.

3.2.2.1 Recruitment

Permission to contact school principals was sought from each school sector, namely the Department of Education, Catholic Education Office and the Association for Independent Schools Western Australia. Once permission was granted, contact details for all schools were provided. All schools were sent a hard and electronic copy of the sector approval (see Appendices D, E and F), University of Notre Dame Australia ethics approval (see Appendix C) and the survey (see Appendix G), requesting their school’s participation. If the school’s principal was willing to participate, the cover letter requested the survey be given to the most appropriate
staff member in their school, either the OE Coordinator, OE teacher, HPE Learning Area Coordinator, Head of PE or PE teacher.

As the initial response rate was lower than desired, the survey was sent for a second time to all schools who had not responded if they had not already opted not to participate. The survey was also presented at a local PD day for PE and OE teachers; emailed to potential participants by Outdoors WA; and finally, individual teachers were personally approached to complete the survey (see Appendix G). The recruitment flow chart is shown in Figure 3.1.
Figure 3.1 Recruitment of sample.
Data management Data for each section were imported from Survey Monkey and analysis was conducted using version 17.0 of the Statistical Package for the Social Sciences. Participants were de-identified by being allocated a non-referenced numerical study number to ensure confidentiality. When data were screened for completion, accuracy, missing data, or outliers 19 surveys were removed from the sample. In three cases where multiple surveys were received from one school the survey completed by the teacher with the most senior position title was used. Consequently, only data from 51 complete surveys were included in the study.

As the survey comprised 9 sections, with many multiple answer options over 2000 variables were entered (Appendix E). Composite variables were created where appropriate to reduce the number of variables and make the data set more manageable for analyses. For example, for the question *Number of students in the school*, the initial 10 response categories were reduced to 5 by combining the response range. For the *Annual total budget*, response categories were reduced from 8 to 5.

In many cases, where Likert scales were used the scores for responses were reversed to more accurately reflect the question. For example, in Section F: Barriers to Outdoor Education in Your School, 1 (very high) being most relevant to 5 (very low) being least relevant made more sense to be reported as 1 (very low) and 5 (very high).

The written responses to some open-ended questions provided by some teachers were copied into a word document under section headings.
3.2.2.2 Data analyses

Descriptive statistics were generated and reported for the total sample and for each sector. Tests for normality were conducted using the Kolmogorov-Smirnov test and confirmed by examining the histograms. Where data were normally distributed parametric tests were conducted using one-way ANOVA Post hoc analyses were undertaken using the Bonferroni test. For non-parametric data, differences between school sectors were examined using the Kruskal-Wallis test. Pearson’s chi-square was used for categorical data. The significance level for analyses was set at $p < .05$.

The open-ended written responses provided by some teachers were grouped according to school sector and theme. Where appropriate, one or more comments from each school sector was included after the quantitative results. These comments provided additional information allowing for greater interpretation of the quantitative responses and to highlight similarities and differences between school sectors.

3.2.3 Phase 3: WACE Outdoor Education course delivery from 2008 to 2013

Longitudinal data were obtained for the delivery of the WACE Outdoor Education course each year from 2008 to 2013 from the SCSA to create an All schools data set. Data were grouped into the stages of the course: PA/PB, 1A/1B, 1C/1D, 2A/2B and 3A/3B and then separated according to the school sectors. The schools that participated in this research project, termed Study schools, were then removed from the All schools sample and the participation in all stages of the WACE Outdoor Education course for school sectors was identified. These results were compared to the initial intention to deliver responses that had been collected in Phase 2. Finally, trends identified in the Study schools were compared with those in the All schools.
3.2.3.1 Ethics compliance

Ethics approval was granted from The University of Notre Dame Australia Human Research Ethics Committee (see Appendix C) and initial permission from the gatekeepers of each educational sector was obtained (see Appendices D, E and F). Individual schools were invited to participate via the school principal, who was requested to ask the most appropriate teacher to complete the survey. Participants were provided with a plain English cover letter (see Appendix I). Participants and individual schools were not identified. Participants were free at any time to withdraw their responses without prejudice. In compliance with the ethics approval, returned questionnaires in hard copy were stored in a locked cabinet and electronic documents were secured by password on the principal researcher’s work computer.

In the following chapter, the results of the project are presented.