

## Chapter 2

# METHODOLOGY

### Introduction to the Chapter

This chapter will look at the rationale behind the selection of the methodology used to answer the research questions that have been stated previously. This will encapsulate a brief praxis of qualitative and quantitative paradigms. This is essential in determining the viability and validity of the choices that have been made. There is an accent of one on the individual, human experience and associated perspectives. Knowledge is seen to revolve around the individual, and the environment is viewed as far more personable. The analysis in this study relates to these characteristics and as such emphasises the qualitative model which in itself is more sensitive to the context of innovations.

The primary aim of this investigation is to examine the implementation of a sports education strategy into a developing context. The sports innovation encapsulates the Aussie Sport program initiated in Australia in 1986. This innovation accents one particular aspect of the Aussie Sport ideal ; modified sports, and looks at the pilot phase of the project. From a theoretical standpoint the study looks at several aspects including physical education philosophy and its historical base, the Aussie Sport concept, and physical education and adult training with respect to innovatory programs in PNG.

The fieldwork consists of parallel case studies starting with the initiator of the program, the Train The Trainers Workshop then detailing its implementation into two pilot schools and concluding with an analysis and evaluation of the gathered data. The accent is on exploratory and qualitative work with particular emphasis placed on description and interpretation of the collected data. This is set within a framework of case study research and evaluation methodology.

The very nature of physical education, which is characterised by movement and interaction is enhanced via the use of the qualitative paradigm and its humanistic philosophical base. There needs to be a sensitivity and as such the research centers on the descriptive design in which the objective in this investigation is one of describing rather than explaining a phenomena. In this sense this study, as has been detailed earlier, places the focus on what Parlett and Hamilton (1976 ) term illuminative evaluation. The primary concern is with description and interpretation rather than measurement and prediction. This will be further detailed in the section on rationale to follow.

Before this analysis it is necessary to outline the overall context of the study and its subsequent limitations. These have been put together under the following subheadings; geographical and cultural, resources, personal and the process of innovation. The methodological rationale is then presented which explains the framework and approaches that were used in this study and why they were deemed as the most beneficial to this investigation. The qualitative context of physical education follows and then this leads into the research methods and procedures used to answer the research questions and begins with the preparatory fieldwork, then the fieldwork, early data collection, method development, and the recording of the data.

## **CONTEXT OF THE STUDY**

This section addresses the methods and modes of inquiry used in the study. It deals with limitations to the investigation and these are further divided into geographical and cultural constraints, resources, personal constraints, and the innovation process itself.

This research is based on qualitative modes of inquiry as has been detailed at the start of this chapter. Because of the exploratory nature of investigation into the social setting described, a descriptive format was deemed as beneficial. Case study itself is primarily observational in that the information is collected about an individual or group. Because of this, verification becomes to some extent inherent or intrinsic to the research. Discussion of this has been in some detail so as to highlight its use in this investigation.

Descriptive detail in social situations has as its raw material personal knowledge and experience. This lends itself as Stake (1978) contends to humanistic understanding. Kemmis (1982) reiterates this claiming that case study is a social and cultural, process and that it is an empirical process of truth seeking. In this way it is argued that the characteristics of the conducting of this research are compensated for by the methods used. The limitations will now be detailed.

### **Limitations to the Investigation**

This investigation has not been a straightforward task as it is the first of its kind in PNG in relation to physical education innovatory programming. Several constraints presented themselves. The following were seen as pertinent and related directly to studying in a developing environment; geographical and cultural, resources, personal, and the processes involved in innovation itself. Each one of these factors are now examined.

## **Geographical / Cultural Constraints**

PNG and particularly the highlands region exhibits enormous geographical and social diversity. Doing research in such an environment is both stimulating and frustrating. Over 700 indigenous languages and dialects are spoken. When one is talking, the listener could be trying to understand in their third language. The highlands regions remained largely undisturbed until the 1930's and often concepts put forth are not understood in such an environment. It was only in the 1950's that the idea of universal primary education was mooted. This has still not been achieved in the 1990's. Hence many of the populace have not reached high school, peaking out at the end of grade six. These factors alone make research a difficult process.

## **Resources**

Been situated in the town of Goroka in the highlands region it is often difficult to rely on resources arriving on time, and often telephone lines and consequently fax lines are inoperative as communication links are often taken over by local villagers demanding compensation. The radio transmitter is situated on a mountain top of a local village and often communications are terminated until payments are made to the village people.

Unfortunately delays and continual interruptions are part of the PNG lifestyle and as a researcher one has to develop patience. To try and contact the University of PNG (Waigani Campus, Port Moresby) to find details of a book can take weeks.

## **Personal Constraints**

At the local level the investigation was impeded early on. It was deemed that all preparatory work be halted. Fortunately some of the officers of the PNGSC led by the Executive Director permitted the research to go ahead. There was a further attempt to impede the research internally, when an attempt was made to ban the investigation from going into the pilot schools. Even though permission had now been granted opposition continued. Added to these factors the provision of relevant information concerning the program was not forthcoming. Faxes and phone calls were not answered. At the conclusion of the pilot program a letter was sent admonishing the research.

The first visit to any pilot school by a program coordinator from the PNGSC in the Eastern Highlands province since the workshop in June, took place on November 8th. This was the first and only visit to the community schools and at this stage one of the

years involved in the program had already sat their exams and left (this is normal practice throughout the country for the year six classes).

### **The Innovation Process**

Another limitation of the study is the fact that many variables have been identified in relation to the innovation process and these have been detailed but the study does not undertake to quantify these factors. Analysis of interactions between them is also beyond the bounds of this investigation. The study was limited to two pilot schools in the Eastern Highlands province. There had been an anticipated nationwide examination of the program but due to the absence of funding and initial research acceptance problems, this did not occur. Hence no attempt has been made to transpose results in the country, and no generalisations are put forward which could be deemed misleading.

The factor of expatriate leadership in the innovation was not analysed as this is a difficult issue to gauge either qualitatively or quantitatively. Papua New Guinean trainees may not relate to the role models of expatriate educators. Also the leader from the PNGSC who directed the workshop was an expatriate and a woman. Gender issues have been documented in the literature review and once again no attempt has been made to assess this issue. Of the four trainers three were women and of the two key coordinators of the program one was a woman.

## **METHODOLOGICAL RATIONALE**

This section will look at the fundamental basis in the formulation of a research methodology. It is necessary to examine this in order to consider and substantiate the approach that has been used. The concept of research itself is looked at briefly and then the paradigms examined a little more closely. The approaches are defined and investigated. The descriptive methodology encompassed in the qualitative paradigm can be recognised through the process of case study. This is detailed with the accent placed on the sport education innovation via The Train The Trainers example. The advantages of this approach are then highlighted. Physical education itself is then examined in light of the qualitative context and then the research methods and procedures in the study are documented.

## **Research Approaches**

Man endeavours to answer many questions in his search for truth. By answering questions he is able to employ experience and reasoning. He draws on his body of knowledge, and that which comes to him from the outside. Opinions of experts, friends, family and the like are taken into account. He then uses reasoning and critical evaluation to form an answer. Some logical explanations come into play. But reliance on just personal experience and reasoning has its drawbacks. Aristotle (cited in Larson 1976) posed a more systematic approach to inquiry. Bacon extended this idea and concentrated on the observation of phenomena to draw a conclusion about something.

Once these methods were expanded and developed and applied to the natural and social sciences a systematic procedure of inquiry developed ..... research. Techniques arose to explore man's conceptual reality. Piaget and Mead concentrated on the individual, human nature and behaviour. Pasteur used a more experimental approach concentrating on hypotheses and tests.

Either of these approaches encapsulates the word research. It is a derivative of the French word "recherche" which means : quest, pursuit, the search after truth, the search for truth, to make searches into, close investigation or inquiry (Hill and Kerber 1967, p.4). We can extend this to Mouly's definition in which he writes "... research is best conceived as the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data" (Cohen and Manion 1985, p.43).

By studying research one is able to see not only its meaning, but its perspective, the rationale behind it and the relationship that exists between research and improvement. Research pervades our very existence and man is continually creatively active in the pursuit of knowledge, to increase his knowledge to extend his understanding about the world and the universe to seek truth, and to resolve problems on every level.

As this is all encompassing it is inevitable that no one methodology will be appropriate for all occasions. One must look for appropriateness in the mode of inquiry and the paradigmatic setting. The conceptual framework for the study could be presented schematically as a paradigm upon which the study's structure and text have been developed. A paradigm is described by the Collins English Dictionary as being a pattern or model, a systematic arrangement of a set of all forms containing a particular element.

In educational research the human being is the subject and as such is surrounded by many factors of influence. Generally within educational research two distinct paradigms can be discerned. Each has its own strategies, foci and assumptions. Parlett and Hamilton (1976) view the dominant inquiry as the 'classical' or 'agricultural botany' paradigm. This latter term comes from the original concept where many of the statistical and experimental techniques used in educational research were originally developed for use in agricultural experimentation. Here the researcher can be deemed a positivist, an objectivist or an experimental or normative investigator. Social reality is seen to be external to the individual and has an objective nature as noted by Cohen and Manion (1985).

The approach is quantitative and the view of reality is one of hardness. Society is seen to be ordered and governed by rules and laws. The world exists and the philosophical basis extends this concept in terms of realism. Knowledge is hard and real and can be transmitted only in a tangible form. By viewing knowledge in this way the researcher takes a step back from his participants.

Cohen and Manion (1985) and Parlett and Hamilton (1976) reiterate that the normative researcher is involved in trying to support or refute a knowledge claim. The researcher's ultimate aim is to establish a comprehensive and universal theory, to account for human and social behaviour. The researcher, by using a positivist approach to the world analyses relationships between selected factors. The approach is also quantitative and by controlling factors that affect validity the demonstration of a cause-and-effect relationship is heightened. If one is to reside only within this paradigm many difficulties are forthcoming, especially with regard to educational innovation.

Parlett and Hamilton (1976) document these points and one of the major shortfalls is that the traditionalist approach to investigation particularly in this field fails to provide for the extraneous variables which exist. Before and after research designs assume that innovatory programs undergo little or no change and that statistical generalisations tend to be insensitive to local perturbations and unusual effects. Added to these factors is that often this type of evaluation fails to articulate with the varied concerns and questions of participants, sponsors and other interested parties. Also the methods used in traditional evaluations impose artificial or arbitrary restrictions on the scope of the study.

These points highlight that this type of paradigm is often an inadequate procedure in these circumstances. Parsons (1976) notes that the way in which an innovation is used and the setting in which it is used are as important as the nature of the innovatory package itself. If these social, psychological, cultural, environmental and political

variables are ignored via such a methodological approach then a more appropriate paradigm is necessary. A contrasting view is the interpretive or phenomenological approach to educational research.

This approach is based on the concern for the individual and human experience, and was developed by anthropologists and sociologists. It is postpositivistic in its inquiry. Best and Kahn (1989) note ...

... the quantitative researcher is one who has carefully planned the study, including the tests, or other data collection instruments and studies each subject in an identical manner with little human bias. The qualitative research is also planned, yet leaves open the possibility to change, personal bias, but it is more open and responsive to the subject (p.89).

The interpretive approach is concerned with human beings, interpersonal relationship, personal values, meanings, beliefs, thoughts and feelings (Leedy 1993, p.142). The theory in this paradigm is emergent and comes from the research. The anti positivists believe that all knowledge revolves around the individual. It is not only personal but also unique and based on experience. Social reality is based on individual consciousness and not seen as external to the person. In this sense meanings and interpretations people have are essential to the interpretive researcher. As Cohen and Manion (1985) illustrate man is not responding mechanically to his environment, but he is the initiator of his own actions.

Knowledge is therefore far more subjective and experiential. Investigators view the social world as being far more personable and softer, and in this way have far greater involvement with their participants. The approach here is qualitative and stresses the social reality as one which encapsulates the individual and his perspectives. The principal concern is with an understanding of the way in which the individual creates, modifies and interprets the world, as made evident by Cohen and Manion (1994). The philosophical base here is one of idealism. Truth is gained by the exhibition of subjectivity. Whereas the normative investigator claims that it is through science that the clearest possible ideal of knowledge is gained. However, this doesn't seem to be so successful in the study of human behaviour. Human beings are dynamic and in constant activity with others and their environment.

The normative approach tends to concentrate more on measurable answers which tend to be more specific whereas the interpretive approach tends to ask more subjective questions. Hence the questions are more diverse. The interpretive researcher is involved

in trying to understand the individual in his natural setting. The researcher aims to try and understand the way the individual relates to the world around him. Here there is reliance on human observation and because of this and the inherent concepts of beliefs, values and feelings, there is criticism. However as Crossley (1983) notes ...

...the rising support for phenomenological theory, combined with symbolic interactionism and ethno methodology and its rapidly growing body of related literature is providing legitimacy, guidance and structure for interpretive educational researchers seeking objectivity and standing.

The paradigm challenges the view that scientific method represents the only route to validity and truth of knowledge. As such, the interpretive approach rests on the assumptions about knowledge and social phenomena that differ markedly from those of the natural sciences.

Filstead (1970) defines this approach as such ...

Qualitative methodology refers to those research strategies, such as participant observation, in-depth interviewing, total participation in the activity being investigated, fieldwork, etc., which allow the researcher to obtain first hand knowledge about the empirical social world in question (p.6).

In this sense the total environment is pursued. Consequences which result from the total picture need to be taken into account. MacDonald and Walker (1982) reiterate this in suggesting that experiences, circumstances, concerns and preferences of participants need to be portrayed. They claim, along with others including, Stake (1978), Parlett and Hamilton (1976) that many questions that are put to evaluators especially by teachers cannot be answered by experimental methodology. Such questions are directed at the experience of the participants and at the nature and variety of transactions which characterise the learning milieu of the program.

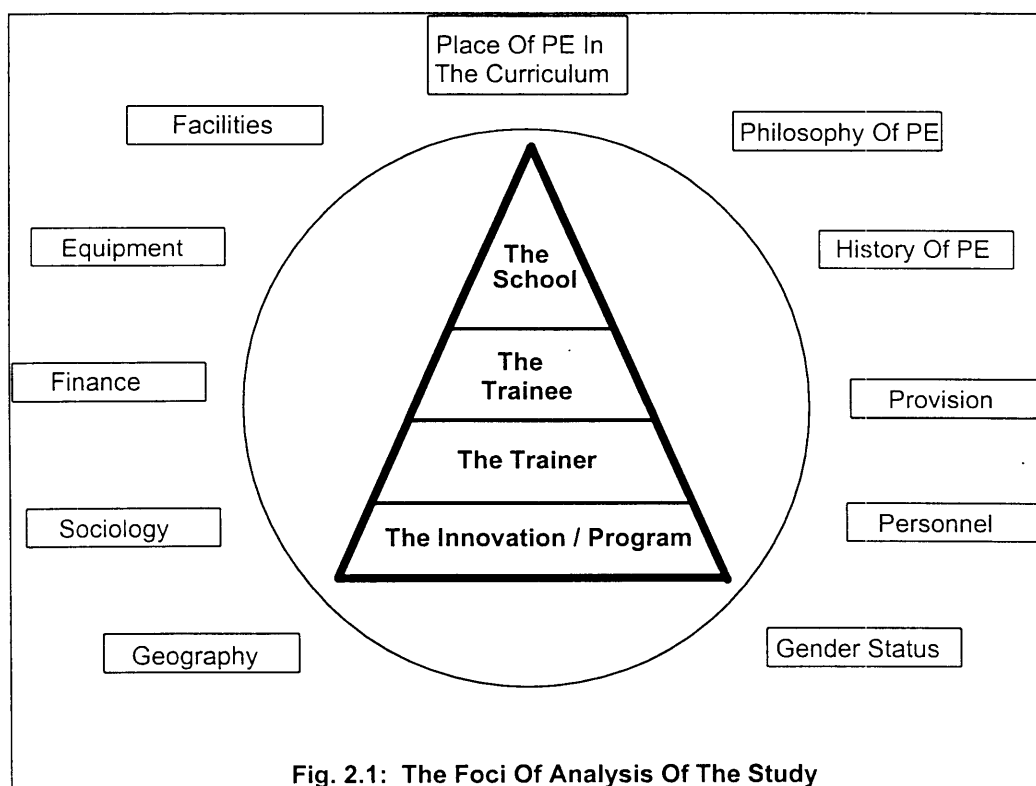
Parlett and Hamilton (1976) see this as the social-psychological and material environment in which students and teachers work together. In this study there is such a situation and as has been detailed in the literature review it represents a network of variables which interact upon one another. Havelock and Huberman point out that the reason many innovations fail is that innovation is a matter of system change and system building within a social context. They can't be seen in isolation. Economic, social, political, philosophical and cultural limitations must be acknowledged. The context the



change is to take place in must be kept in mind and more so in the developing world. Many innovations have been documented in PNG and many have floundered.

As Wilson (1977) claims, human behaviour is complexly influenced by the context in which it occurs and that human behaviour often has more meaning than its observable “facts”. The qualitative research enterprise depends on the ability of the researcher to make himself a sensitive research instrument by transcending his own perspective and becoming acquainted with the perspectives of those he is studying. Added to this, Stake (1978) in detailing the philosophies of the German philosopher Dilthey reiterates this accent on humanistic values and especially the facets and powers of people to experience and to understand. Stake continues this in relation to innovatory programs. He suggests that if the evaluator focuses only on the terminal behaviour of the learner he may fail to detect desirable or undesirable side effects which may be of major significance to the program. Criticism is targeted once again at the traditional model and more significantly to the process of innovation itself.

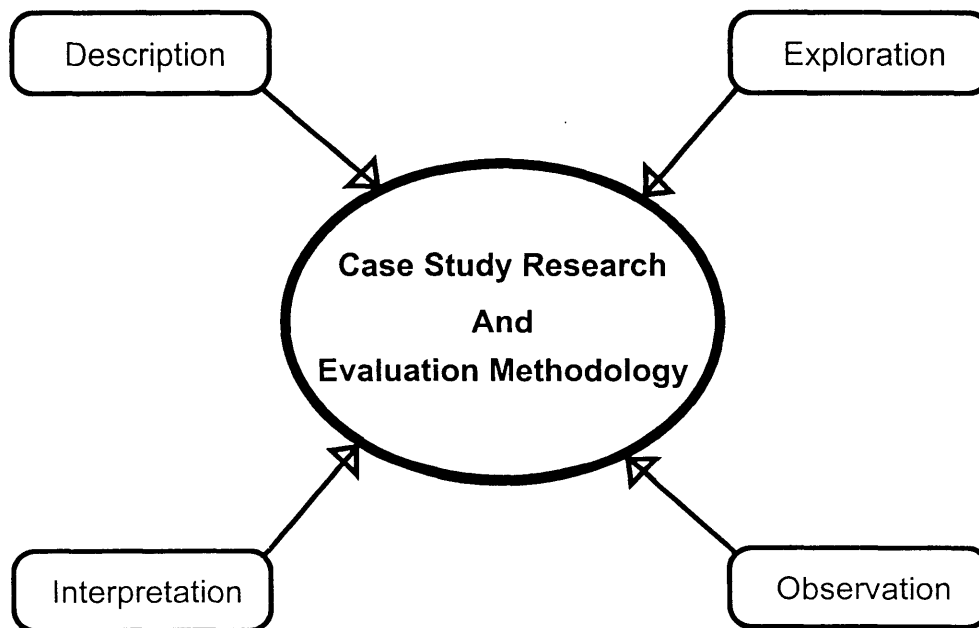
In accordance with this information, given this study affords a natural orientation, a transactional and holistic approach which highlights as Stenhouse (1982) points out, individual perceptions. The methodology in part, suited to this concept is that of case study, but before this is explored a conceptual design for this study is put forward. This is put forward in Figure 2.1.



**Fig. 2.1: The Foci Of Analysis Of The Study**

All of the contextual factors have the potential to influence the strategy and are considered in drawing conclusions of the overall program both with respect to the short and long term achievements of it. However a comprehensive analysis in any detail is beyond the scope of this investigation. Therefore this needs to be taken into consideration when final analysis is made.

In looking at the triangulation of concepts an overall framework presents itself :



**Fig. 2.2: Investigative Design**

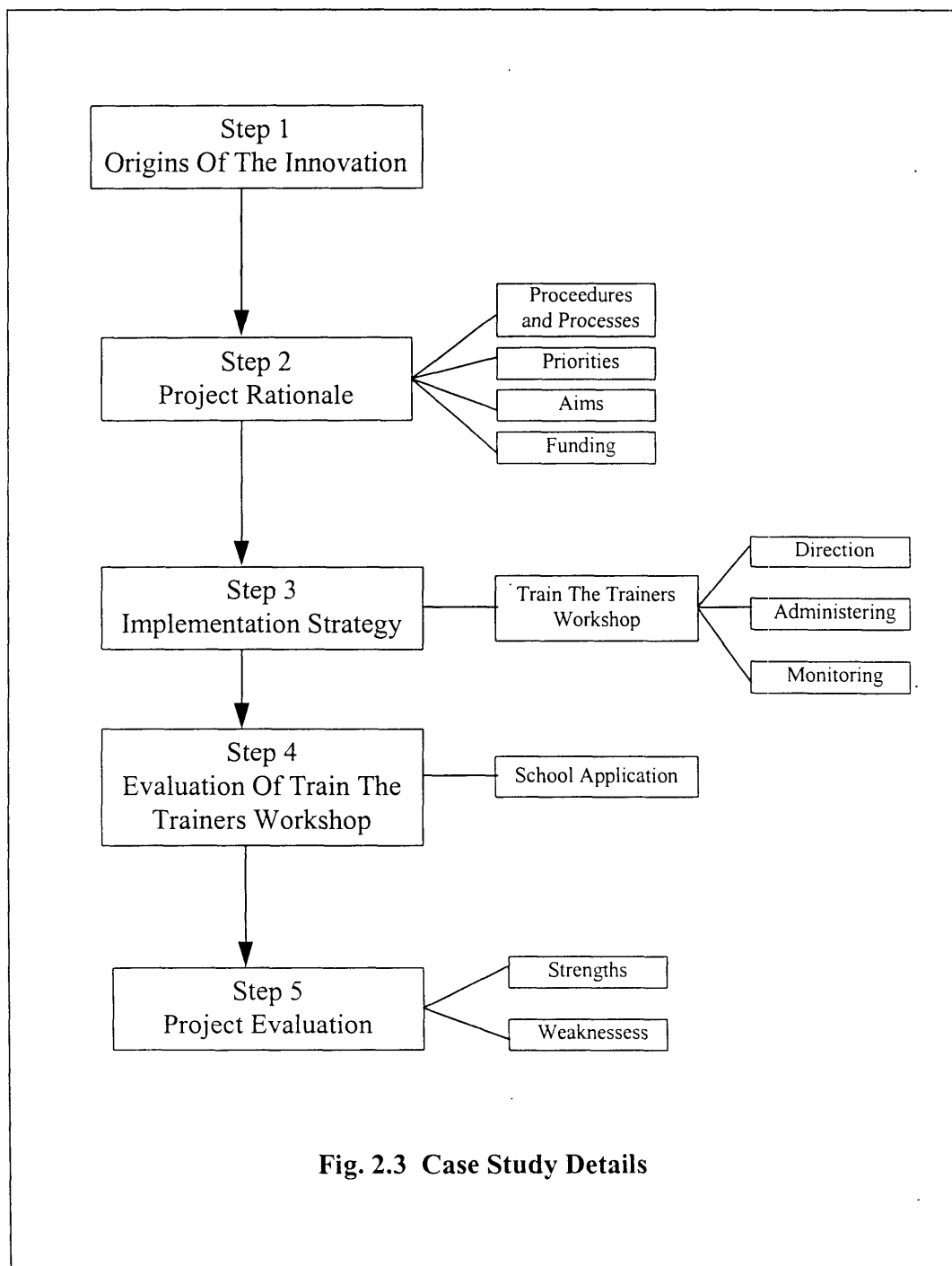
### **Case Study**

The previous diagram (figure 2.2) recognises as illustrated by Adelman, Jenkins and Kemmis (1976) that case study itself is an umbrella term for a family of research. The methods having in common; the decision to focus on inquiry around an instance. In this case the Train The Trainers workshop and its composite parts, as shown in Figure 2.3.

Stenhouse (1975) equates case study as naturalistic research and counter to what he calls the psycho-statistical paradigm. This is in direct comparison to the experimental or normative approach. Smith (cited in Kenny and Grotelueschen, 1984) interprets case study as an emerging 'genre of research' that has been often regarded with suspicion. Authors, including Kemmis (1982), Stenhouse (1975), Stake (1978), Shaw (1977),

Hamilton, Macdonald and Walker (1982) put forward the theoretical and philosophical basis upon which case study is founded. Case study is made the focus of attention and not a whole population of cases.

This study involves an inquiry into a sport education innovation and how it was initiated and implemented into PNG via the preparatory steps to the Train The Trainers workshop to its implementation in the pilot schools. Hence the steps involved in the Aussie Sport / Pikinini development is as follows.



**Fig. 2.3 Case Study Details**

As Adelman et al (1976) claim the case study is held within the wider tradition of sociological and anthropological fieldwork and the methodology is eclectic. As such case studies contribute usefully as they characterise an exchange between implementers and the initiators of program. Relationships are typically intensive investigations which are generated to identify and describe basic perceptions and experiences.

The Train The Trainers Workshop is a case within which issues are indicated, explored and discovered so that a broader understanding of the case is possible. This type of study is predisposed towards making generalisations about the case, but has the capacity not to be seen in isolation but as part of the educational and sporting context of PNG.

Cavanagh (1992) focuses in on case study and terms it as “integrative” and having the potential to usurp all the approaches as the research need arises. As such this approach and its justification can be formulated in two different ways. These approaches are called by Kenny and Grotelueschen (1984), reactionary and progressive. A reactionary case study is spoken of as a negation of traditional educational research and it is often referred to as ‘non-positivistic’, ‘non-quantitative’ and ‘non-reductive’ whereas the progressive posture attempts to forge a definition or conceptualisation that goes beyond just reacting against the traditional approach. In this sense clarity of its role is being sought in the justification of its use.

In this study the contribution of case study research is seen from this progressive outlook. One is looking to provide the best possible method to view the inquiry. It is a small scale endeavour in which social reality of a process is examined in an analytical manner. In this sense it is not just a descriptive study as the process as well as the outcome is looked at.

Innovation does not have a prescribed stopping point. Many interactions, as have been demonstrated in the literature review, combine together. Intellectual transactions of discussion, planning, deliberation, most of which is unrecorded, comes into conflict with the working actions of the implementors and those who carry out the innovation. These transactions are more visible, easier to observe record and remember. These interactions form important and essential observations and interpretations.

As has been indicated in the literature review, processes that occur in developing countries are peculiar to such an environment. Vulliamy, Lewis and Stephens (1990) demonstrate the considerable potential such qualitative strategy has in developing countries and particularly to the process of evaluation of innovations, where divergences between policy and practice can be highlighted through a ‘sensitivity to the unintended,

as well as intended' outcomes of innovation. Case study is suited to exploratory and open-ended investigations such as this study. It has a heuristic quality. Weeks (1977), when writing with PNG researches in mind suggested that :

The case study is relied on in situations where researchers know little about the problems they are studying but want to find out more about them. Most case studies are at the level of description, but they can go beyond that. Case studies are often exploratory. They are often used at the beginning of a project to give insights and understandings into research problems. They can provide knowledge on which hypotheses to guide further research can be based (p. 54)

These sentiments by Weeks are inextricably bound up in this research. Little has been done in the area of research in physical education in PNG and what has been done indicates a poor and at times lack lustre approach to improving its status. This has been made evident in the literature review. As far as innovation into the area this investigation provides a platform for this to occur. It is a descriptive look and in turn exploratory. It attempts to look at the pilot project of Pikinini Sport in this rudimentary stage and give insights into an understanding of the processes involved in it.

If there is to be an understanding of how an innovatory program is 'taken on board' then all encompassing aspects must be considered. In the light of this study these factors include; perspectives surrounding a physical education philosophy, adult training, the innovations history and prior effectiveness, and the environmental context it finds itself. As such the anti positivistic emphasis is evident in this study. The interpretive approach challenges the view that scientific method represents the only route to valid and 'true' knowledge.

Given this investigation with its exploratory nature the case study framework exhibits several advantages. These are succinctly put forward by Adelman et al (1976). The first of these advantages surrounds the concept of reality. Case study affords a 'down-to-earth' recognition of 'real' situations. They recognise the complexity and 'embeddedness' of social truths. Secondly case studies have the potential to provide an archive of descriptive material and added to this they are seen as 'a step to action'. Insights can be directly interpreted and put to use for staff or individual self development. They can also be used for within institutional feedback for formative evaluation, and in educational policy making. The data which is presented is normally more publicly accessible than other research, in a language hopefully less esoteric and less dependent on specialised interpretation. The reader is able to judge the implications of a study for themselves.

Case study research offers what Adelman et al (1976) term a 'surrogate experience' in which the reader is invited to underwrite the account by appealing to his tacit knowledge of human situations. A multiplicity of experiences and perspectives are brought to light. A limiting consideration is that others must live with the consequences of the investigators findings. MacDonald and Walker (1982) view experimental method as conceptually asocial whereas case study is pursued via a social process and leads to a social product. Sometimes there are problems associated with confidentiality, interpretation and accessibility. However when innovation is considered these difficulties need to be assessed in the context of the innovatory environment. PNG is not a typical setting for any program to be introduced and as has been made evident in the literature review it is bounded by unique operative aspects and factors.

Because case study methods rely heavily on human instrumentation they are invariably partial accounts which involve selections and choices. As such the processes of observation and interpretation are controlled as in experimental research. Case study then becomes a dialectical process and as illustrated by Kemmis (1982) becomes a praxis of the domains of theory and the methodology used. It becomes a naturalistic process of truth seeking all of which must be examined within the setting of the research.

Parlett and Hamilton (1976) stress description and interpretation rather than measurement and prediction in their illuminative evaluation context of qualitative evaluation. They document that the attention given to learner outcomes and the adoption of pre-specified objectives restricts the scope of evaluation. The aims of illuminative evaluation are to study the innovatory program. Stake (1978) developed the concept of 'responsive evaluation' in portraying educational innovation. He advocates a narrative style and a need to 'convey a holistic impression, the mood, even the mystery of the experience'. Once again the emphasis is on observation and description. But added to this once again is its interpretation within the cultural context.

It is important to note here that these researchers do not reject the statistical approach and its subsequent methods and data if they are deemed appropriate. As such this study does not attempt to avoid this paradigm but recognises its potential in aspects of the research. The two approaches are not necessarily incompatible and can be combined.

The focus of the study in terms of its analysis is presented at differing levels. The first level is that of the initial formulation stage. The focus is then on the analysis of the trainers themselves. The third level of analysis is the trainee level. Finally there is

discussion of the school level placing emphasis on the school environment, the students and the teachers of the innovatory program.

The primary aim is to examine the application of the Pikinini Sport strategy during the pilot phase and to assess its effectiveness for wider application across other community schools in PNG. When looking at the figure above the focus will be encompassed in the triangular configuration, detailing the innovation, the trainers, the trainees, and the school and its students. Although the surrounding factors will be mentioned no detailed analysis is made. As stated earlier the analysis incorporates both theoretical and empirical dimensions. From a theoretical point of view the investigation examines the change of strategy with particular reference to the literature detailed in the review while the fieldwork consists largely of a case study approach of the Train The Trainers workshop and its effect at two of the pilot schools, and as such assesses its viability at the school level.

Before this is examined it is necessary to posit the discipline of physical education in the qualitative context as has been done in this study. To see how this research paradigm can fit into this conventional science is essential before any analysis is made.

### **Physical Education - The Qualitative Aspect**

Physical education research as a part of the educational field has come under the auspices of conventional science. Physiology, kinesiology, biomechanics, and skill acquisition seem to fit neatly into the scientific paradigm. However the physical educator whether a teacher, a coach, a fitness trainer, a biomechanist or a university professor all are bound by virtue of its ethos. Each one of these professionals want people to experience and enjoy the benefits of physical activity whether they be a top class athlete to an unfit and overweight citizen. The field is vast and encompasses not just one discipline but many.

The discipline has taken on a new persona. The individual has come to be of paramount importance whether it be the educator or the educated. Physical education is characterised by movement and interaction; therefore its understanding and philosophical base resides with the individual.

Alexander (1994) expresses physical activity as 'movement culture' and in this expresses the influence and importance of the community in which one finds oneself and the greater societal context, with its inherent values and beliefs.

Whether one talks of physical education or its battle with sport education the focus is the same. Whatever the justification of what a physical education program represents it is the individual participant who is involved in a world of exploration movement and activity. Many composite factors are intertwined; health, fitness, skill development, self actualisation, cooperation, fun and joy, relationships, commitment, competition, achievement, and attitude development. A humanistic philosophy is its essence and it provides a potentially powerful medium for meaningful human experiences and personal development which is fundamental to all cultures.

It is evident that individuals participating in this arena do so in a social context. As Locke (1989) explains, the qualitative researcher's central concern is how people make sense of their world. The investigation can't comprehend the participant's understanding unless there is some form of access to the context in which such sense is constructed. Inquiry then presumes that the two are interdependent on each other. Locke highlights some important aspects of qualitative research. Several of these are relevant to this study. Firstly, the basic function of the researcher is to produce description without judgement; secondly, the research is nonmanipulative and no attempt or intervention is made to change the situation under study. Next, the perceptions, attitudes, beliefs and assumptions of the participant are a primary target for much of the work, and there is continuous reflective activity by the investigator.

### **Summary**

So far this section has documented the methodological and philosophical aspects of both quantitative and qualitative research paradigms in order to choose the most appropriate framework for this study. As a result the qualitative paradigm and the case study approach to educational research has been adopted by this investigator and details have been provided to justify this form of methodology. Physical education is characterised by movement and interaction and therefore its understanding and philosophical base resides with the individual. This humanistic philosophy highlights a qualitative approach with some accent on the quantitative format. This study equates with naturalistic research but does not exclude normative properties. Several limitations of the qualitative approach are evident but these have been considered and the limitations evident in this investigation will be discussed as they emerge. The research methodology and procedures will now be detailed.



## **RESEARCH METHODS AND PROCEDURES**

This section will endeavour to demonstrate what methods were used to answer the research questions and the procedures involved in doing so. This will follow the headings of restating the research questions, preparatory fieldwork, fieldwork, early data collection, and method development. The recording of the analysis will then follow.

A variety of research tools were used to assist in answering the research questions. Can an innovatory program that has been developed for one cultural and sociological environment be successfully implemented to another?

### **The Research Questions**

The research questions generated by the concept stated above are as follows :

- Will the quality of instruction and the trainer competency level affect the successful delivery of the training program ?
- Will the characteristics of the target group of a training workshop impinge on its successful implementation ?
- Will the existing perceptions of the community school children about physical education influence the implementation process ?
- Does a train The Trainers Workshop effect the successful implementation of the sports program into the community school ?

Several steps will be taken to answer these questions and form the basis of the analysis.

These are as follows:

- a) Recount and record the developments of the Train The Trainers Workshop
- b) Evaluate its implementation
- c) Highlight and evaluate strengths and weaknesses of the workshop
- d) Evaluate the impact of the program at the 'grass roots' level via two case studies in the Eastern Highlands Province
- e) Make recommendations for future development

The remainder of this section will detail the methods used to collect the data necessary to carry out these dimensions.

## **Preparatory Fieldwork**

The initial study was begun in the early part of 1994. The program training was to be held at the National Sports Institute in Goroka, PNG. At this time the researcher was employed at the Institute as a lecturer and had a foundation background in physical education. There was a particular interest in the exploration of the impact and problems associated with physical education in the PNG curriculum. Teaching practice supervision at the community and high school level had been undertaken and there was involvement in the preparation of physical education graduates. There was an inherent interest in any program that would herald 'newness' into the academic circles and the community at large.

In 1992 a revised national Sports Policy was documented. The specific objective was - 'Sport For All'. One of the major emphases was 'Children In Sport' in which opportunities were to be provided for school age children to benefit from the exposure to sports through physical education and school sports activities and to improve the training of teachers in physical education.

Background reading of this policy and in educational development in general served as the starting point for the early work. Relevant documentation on curriculum developments in physical education, adult training, historical perspectives on education in general and physical education specifically and national education plans over the ensuing years were sought. Also any materials relating to innovatory programs in PNG, such as the Secondary Schools Community Extension Project were collated. From these materials, however meagre, (particularly in relation to physical education) the basis of the investigation was formulated.

Assistance was sought from the National Sports Institute itself in negotiating some time to do the investigation and possible financial assistance. Unfortunately this was not forthcoming. An approach was then made to the PNG Sports Commission to continue research approval and funding. As the PNGSC is the authority to whom the NSI must listen to it was felt that an approach here was warranted. A letter was sent to the Director of the NSI from the coordinator of the forthcoming program. Unfortunately the research was discouraged. After many discussions, phone calls and letters the research went ahead.

From the outset such unforeseen problems were not conceived and the early problems it generated made preparatory steps difficult. Access to the innovation, leaders, and documents was problematic. However after negotiations via fax and phone the

coordinators of the program were extremely positive in providing assistance to the research. A tele-conference prior to the coordinators and trainers arriving in Goroka was arranged and this involved various aspects of planning, the preparation of grounds, and assuring of equipment availability.

The access to the two pilot schools in the Eastern Highlands Province was much easier. The respective headmasters and their staff were willing to be involved. They were also keen to assist with the programs development. This acceptance was a welcome response. Once fieldwork arrangements were completed there was a continuation to foster an arrangement whereby the investigation could continue with the assistance of the PNGSC.

Familiarisation with the Aussie Sport Program became critical at this stage and literature and other documentation was obtained from libraries and the Sports Commission in Australia. A similar development had taken place in South Africa in 1992, though the contribution from Aussie Sport was on a much grander scale. The Ministers for Foreign Affairs, Gareth Evans, and Sport, Ros Kelly had met with a delegation from South Africa to discuss the possible contribution of Australian assistance in developing non-racial sport in the country. The Aussie Sport program became the catalyst. As such information on this project was sought to see if similarities could be drawn to the PNG experience. Relevant literature with particular attention on PNG education, physical education, physical education in the PNG context, adult training and their respective issues and associated pros and cons was consulted.

These developments provide a structure of inquiry for the investigation and the qualitative paradigm fits neatly into this open and flexible framework. Linked to this flexibility is the importance and scope of external factors inherent in innovative programming. These factors are then essential in drawing subsequent conclusions from the respective case studies. By doing this the study is inclusive in looking at the wider context and not just centred at the micro level of investigation. The study was undertaken with an awareness of these factors and its immediate aim was to find out about the innovation strategy, the trainers who would be providing the strategy and then the participants who would be receiving the program, the trainees and then the impact on the final level the school and its students (refer to figure 2.1).

## **Fieldwork**

The literature previously reviewed in Chapter One stresses that the research strategies such as participant observation, in depth interviewing, total participation in the activity being investigated, field work, etc., allows the researcher to obtain first hand knowledge about the empirical social world that is being questioned.

Participant observation can be two fold. In the analysis of an evaluator of a short course these can be as either 'observer-as-participant' or 'participant-as-observer'. In the latter the evaluator joins in as far as possible the activities of members of the group, but at the same time he or she must proceed with the task of data collection. In relation to these roles the evaluator can adopt a variety of personas. Formal or not, passive or active, and obtrusive or hidden.

The 'participant-as-observer' approach was used for the week involved in the train the trainers workshop in June and at the West and North Goroka Community Schools during the months from July to November 1994. As the workshop was for such a short duration it was felt that this type of observatory role would not only allow sufficient time for the observation task, but also so that the participation task would not become too dominant in such a short time frame.

One of the criticisms of the qualitative approach is that it depends so much on the interpretation powers of the researcher and on his or her judgement. Parlett and Hamilton (1976) in response to this criticism stress that in all research human judgement is required and thus affords the taint of vulnerability.

Participants were told the research role and objectives from the outset by the PNGSC coordinator and the research was to be as unobtrusive as the study of this nature allowed. There was observation of the participants and access was made available to all sessions whether they were of a practical or theoretical orientation. Interpretation within the total context of the program prevailed. Having lived and worked in the country for three years afforded a small level of insight and understanding. It was possible that responses and reactions were given more meaning because of this.

However relationships between Papua New Guineans and expatriates needs to be addressed. The course coordinator from the PNGSC was a long time expatriate in the country and even though there was a National coordinator also he spoke very little and provided very meagre information when addressing questions from the trainees.

The research itself was met with scepticism and caution as has been detailed earlier. What impact this had on the overall study is difficult to assess as the analysis of feelings which are often hidden under the surface are too difficult to determine. As LeCompte and Goetz (1982), Filstead (1970), and Scriven (1972) point out, in all research where people are the 'subjects' their views of the researcher and of the research itself will affect their responses and behaviour. They also maintains that just as it is impossible to eradicate these influences it is also impossible to remove the researcher's assumptions about the participants.

Whilst the project relied heavily on qualitative techniques some quantitative materials were also used, particularly with respect to the responses of the trainees to the week long course, and the responses of community school students to specific questions about physical education in their school. These were collated in quantitative form and subjected to basic analysis.

### **Early Data Collection**

The main research was conducted in Goroka at the National Sports Institute. At the early stages efforts were directed at familiarisation with the course developments coming from the PNGSC, trainer analysis literature and general familiarisation of the community schools to be used and the selection of which school would be used as the trial for the student questionnaire.

The decision on what schools were to participate in the innovation was still not known by June 14th. This made initial preparation a difficult process with the possibility that the school chosen as the trial school would be selected as a pilot school. Fortunately this was not the case. The program was due to start on June 26th.

Relevant information pertaining to the two schools to be used as the pilot schools was gathered. This was done via observation and discussion with the headmasters and teachers and local sources including the provincial inspector. Facilities, student numbers, staff and the school locality were the major observations made. It was evident at this early stage from discussions with the school staff that many had a very limited knowledge of the proposed innovatory program. Even those who had been selected to attend the workshop were somewhat confused as to what would be happening.

Correspondence via the telephone and the written word assisted the next phase which entailed the collation of a more detailed outline of the program. Minutes of the meetings between the PNGSC the Education Department and the Australian

coordinators were made available although these were slow in arriving and only after repeated requests.

Prior to the teleconference which took place at the NSI on June 10th , a written request had been forwarded to the Australian coordinators asking for their support in the research of the programs initiation into PNG. Along with this was the request to interview them along with the trainers on their arrival in Goroka. This was acknowledged and accepted and details were to be provided on their arrival in Goroka.

By doing this the initial accent of the investigation became the analysis of the trainers. Who were they, where did they come from, what experience did they have and what did they know about PNG, became the foci. This emphasised the importance of these people in the delivery of the workshop and the innovation in general. The importance of this is documented in the literature review with reference to Simons eight point summary of trainers involvement with emphasis on the developing country context.

Adult training was then considered an essential issue in the development of the innovation and as such the reactions of the trainees was evaluated in a general way. As part of this formula an evaluation was then made of the teaching quality at two pilot community schools in the last phase of the investigation. In this way attention was to be given to the initial process entailed in the workshop and conclude by the application made in relation to it in the selected schools.

### **Method Development**

Observation, informal discussions and interviewing marked the early phases of the fieldwork. This included the trainers, the trainees, course coordinators, school headmasters and staff. Data was gathered via direct verbal interaction and this approach had the facility to provide an understanding of the participants perceptions. Recording was done by the use of a tape recorder and notation and several diaries were kept in order to do this. These were for details and observations made with the trainers and course coordinators, the trainees, for each of the schools and their students, and one for perceived strengths and weaknesses of the innovation as the research progressed. Extended discussions were possible with any of the participants and this was extremely useful as such perceptions gave the writer useful insights as to the progress of the program.

## **Recording the Analysis**

As Kemmis (1982) points out case study rarely proceeds by observation in the sense of merely watching; it also entails such interventions as interviewing, recording and participation. One of the methods of data collection is the survey and in this method interviews, and questionnaires are used. The qualitative research model depends on the ability of the researcher to make himself a sensitive research instrument by surpassing his own perspectives and becoming acquainted with the perspectives of those he is studying. This kind of active involvement then binds what Locke (1989) terms the 'knower' and the 'known' and hence the independence of the two becomes an impossibility. The inquiry can then not be regarded as value-free. There is acceptance of this premise but there was an attempt to install objectivity by using an array of strategies and instruments when gathering the research data. The information which has been detailed is documented in a summary format on the following pages. The phase column details what was done during each part of the investigation and this is divided into five phases. The first of these is phase one, the preparatory fieldwork, the second phase is the fieldwork stage, the third phase encompasses the early data collection, the fourth phase, the program in action and the final or fifth stage the analysis and evaluation.

The second column of the table indicates the information source or sources that were used in order to prepare the relevant phases of the study. The third column is the action that was taken in the study and the areas of information that were dealt with. This table serves as a summary of the phases of the study so that the information is presented in an easy to read format with the accent not only on the information but also on what was done during each part of the investigation ie. the planning and the contingencies that were accessed.

Each research question is inextricably bound up in this documentation. The first research question asks will the quality of instruction and the trainers competency level affect the successful delivery of the training program. By looking at readings on innovation programs and adult training initiatives in particular, conducting interviews, making diary entries via observation, being a participant-observer this question was looked at. The second research question asks will the characteristics of the target group impinge on its successful implementation. The trainees were observed, interviewed and given a questionnaire before conclusions could be drawn. The third question asks will the existing perceptions of the community school children about physical education influence the implementation process. Questionnaires were given to two pilot schools in the eastern Highlands province. Year six children were used in the sample as they had

been exposed to community school longer than the students in the lower years. The final question asks does a Train the Trainers Workshop effect the successful implementation of the sports program into the community schools. On the spot interviews were conducted along with the observation of the physical education lessons via an observation sheet and portapak video. Trainees at the two pilot schools studied were given a questionnaire at the conclusion of the trial period along with impromptu interviews and analysis of diary entries. This data analysis will be further expanded and detailed following Table 2.

**TABLE 2.1 : Chronological Phases Of The Study**

<b>Phase</b>	<b>Information Source</b>	<b>Action</b>
<b>Phase 1 Preparatory Fieldwork</b>	Obtain permission for research	From PNGSC, NSI
	Seek research funding	From PNGSC, UPNG
	Do background reading on <ul style="list-style-type: none"> <li>• 'Sport For All' policy</li> <li>• Educational development in PNG</li> <li>• Adult training initiatives</li> <li>• Historical perspectives on education and Physical Education</li> <li>• Innovatory programs in PNG</li> <li>• Aussie Sport program</li> </ul>	<ul style="list-style-type: none"> <li>• Library materials; PNG/ Australia</li> <li>• Australian Sports Commission</li> <li>• Schools and staff</li> <li>• NSI</li> <li>• PNGSC</li> </ul>
	Teleconference with Aussie Sport personnel	
	Contact EHP community schools and the pilot schools and staff	<ul style="list-style-type: none"> <li>• Phone calls</li> <li>• Personally</li> <li>• Run trial questionnaires on non pilot schools</li> </ul>
<b>Phase 2 Fieldwork</b>	The Train The Trainers Workshop	Observation of ; <ul style="list-style-type: none"> <li>• coordinators</li> <li>• trainers</li> <li>• trainees</li> </ul>
	The EHP pilot schools	Interview school staff and students
<b>Phase 3 Early Data Collection</b>	The pilot schools and their associated students, headmasters, and teachers	<ul style="list-style-type: none"> <li>• Give questionnaires to the school students</li> <li>• Access school information of numbers of students and relevant details</li> <li>• Take photos</li> </ul>
	Provincial inspector	Talk over the phone
	PNGSC materials on the innovation	Access materials from the preparatory meetings
	The trainers	<ul style="list-style-type: none"> <li>• Conduct Interviews</li> <li>• Observe trainers in action</li> </ul>



		<ul style="list-style-type: none"> <li>• Make diary entries</li> <li>• Video sport sessions where necessary</li> <li>• Become a participant-observer</li> </ul>
	The trainees	<ul style="list-style-type: none"> <li>• Conduct on the spot interviews and record by the use of a tape recorder</li> <li>• Hand out questionnaire</li> </ul>
	The coordinators	<ul style="list-style-type: none"> <li>• Conduct interviews</li> <li>• Record and document the information</li> </ul>
<b>Phase 4 The Program In Action</b>	The Train The Trainers Workshop	Conduct and record on the spot interviews with participants
	The pilot schools in the EHP	<ul style="list-style-type: none"> <li>• Observe the physical education lessons by using Anderson's Observation Sheet</li> <li>• Use the portapak video where necessary</li> <li>• Conduct interviews with the pilot school trainees</li> </ul>
<b>Phase 5 Analysis and Evaluation</b>	The Train The Trainers Workshop	<ul style="list-style-type: none"> <li>• Analyse the questionnaire information</li> <li>• Analyse the impromptu interviews</li> <li>• Analyse the diary entries</li> <li>• Record the group discussion at the end of the workshop</li> </ul>
	The implementation process	Analyse all of the preceding phases
	The selected pilot schools	<ul style="list-style-type: none"> <li>• Analyse Anderson's Observation Sheets</li> <li>• Analyse the questionnaires given to the pilot school trainees</li> </ul>
	The program	Analyse all the information gathered in the preceding phases

This information will now be expanded and data collection methods included. Each section details what tools were used to gather the data, how they were formulated, what trials were conducted, and how the information was analysed. All of the instrumentation is documented in the relevant Appendix.

### **Trainers Interview**

The trainers interview schedule was developed which consisted of eighteen open ended questions (Appendix four). Each interview was held at a time determined by the trainer but all were completed over two days. Trainers were asked not to discuss any questions until all interviews had been conducted.

Prior to the delivery of these questions a trial was administered to two staff at the NSI. Of the two people involved in the trial one was an expatriate. This was deemed necessary as the trainers coming to administer the course were from outside PNG and therefore it was necessary to trial the questions on a non national. From this trial minor adjustments to a few questions were made.

The questions were based on an open ended response format so as to engage the respondent in conversation. In this way it was felt that a deeper understanding would be obtained even though the length of the interviews expanded. Each interview begun with an introduction and a statement of the time and date of the interview and the name of the respondent. The questionnaire was asking questions in relation to three major areas ; the personal background of the trainer including usual particulars experience etc., their perceptions and knowledge of PNG with direct relevance to the education system, culture, and thirdly in the area of the workshop and participant expectations.

Thematic analysis was done on the following questions. For the project coordinators questions two through to five were looked at in relation to experience, background and selection. Questions six and seven referred to the PNG preparation, and questions eleven, twelve, and fifteen through to seventeen, to the program itself including reservations, expectations and what was been attempted. These questions can be found in Appendix four.

The questions when applied to the project trainers (coordinators), who were instrumental in the delivery of the sports sessions, was slightly different. Once again thematic analysis was done. The first category was background and experience and questions one, two four and five were used. Category two was selection and timing and questions three, and nine were used. Category three related to background information of PNG and its education, and preparation of materials. Questions six through to eight were looked at. Reservations was the next category and question eleven covered this aspect. Possible problems was category five made up of questions thirteen through to sixteen. Expectations was covered by question twelve. As an adjunct to this lessons were observed by the use of field notes and taping. The intent was to observe and record behaviour as it was normally occurring in order to gauge the interactions between the trainers and the trainees.

### **Trainees Questionnaire**

The trainee questionnaire was administered to sixty nine participants who attended the Train The Trainers Workshop. This questionnaire was constructed to determine the background of the trainees including their gender, experience in and out of teaching and any relationship to the specific area of physical education. The second area of importance was to discover what the respondents knew about the program prior to attendance at the workshop and how they thought such a program ie. the Train The

Trainers workshop would assist them in the delivery of the innovation and what they felt would be useful or seen as a possible problem or difficulty in their particular situation.

This group questionnaire survey was administered to the respondents by the interviewer. The respondents proceeded as in a mail questionnaire situation. However the researcher was on hand and the participants were allowed to ask questions relating to the questionnaire. This enabled an economical approach as opposed to personal interviews and it facilitated obtaining information from less educated respondents. In light of this the questions were simply worded and when choices were given these were the same in each circumstance. By using this method the researcher was able to reach a large number of respondents quickly and systematically which was vital in a workshop that only ran for one week and after that time the participants would return to provinces throughout the country where access to them would be extremely difficult.

All the trainees were given the questionnaire at the same time which was at the conclusion of the week long workshop. It was administered at the lecture theatre of the NSI and all papers were collected at the conclusion of the session. As such a one hundred percent response rate was obtained. The questionnaire was pretested on staff from the NSI and the University of PNG (Goroka Campus). Ten staff were pretested.

During the workshop an oral interview was conducted with different trainees. Twenty six were interviewed orally. They were randomly selected and composed ten females and sixteen male respondents. Rodwell discusses the use of oral testimony as a viable research tool at the primary source in carrying out investigations into historical aspects of educational research and the writer in this investigation concludes that in a study of this type, hinged on individual perceptions, oral testimony is justified.

Thematic analysis was used as the basis for the statistical methodology used. This was in the following areas: question three (teaching experience), question four (occupation), question five (provincial area), question eleven (reasons for attending), question eighteen (sport selection).

Percentage response rates were used on questions one, six, nine, thirteen and fifteen. Thematic analysis was used on the remaining questions. The information is highlighted in Appendix five.

## **The Community School Students**

A questionnaire was detailed and then taken to a national woman at the YWCA in Goroka who specialised in Tok Pisin classes. Here she and three helpers, one of whom was a coastal, translated the questions the writer had set down into Pidgin English. This was then taken to a staff member at the NSI where the translation was converted back into English. Another attempt then translated the document back into Pidgin English. Both languages were used on the final questionnaire.

This proved a valuable tool in determining understanding of the questionnaire by the students for the following reasons ;

- a. students were able to gain information from either language in trying to answer questions.
- b. students at both schools come from a variety of backgrounds and provinces and English even though it must be used in the community school curriculum may not be fully comprehended by all students. These students could refer to the Pidgin wording.
- c. all students would be able to answer the questions providing less discrepancies and incomplete forms.

The respective school principals were contacted and were only too happy to assist, as were the students and their teachers. The questionnaire was administered on the same day to the respective schools, West and North Goroka Community Schools. Only the year six classes were chosen in this survey. It was decided that these students having been at school longer and experienced more, would be better able to understand the questionnaire and their involvement in the program.

Fifteen Likert style questions on physical education were given (Appendix six). Two other questions related to parental background to determine level of parental schooling. The major purpose of the questionnaire was to identify the students perceptions of physical education both generally and specifically prior to the innovation implementation. Up until this time no such documentation had been done. The writer was keen to find out what students thought about their already existing physical education program and if indeed information could be gained in relation to changing it.

The questionnaires were administered in class time and hence there was a one hundred percent response rate. It is to be noted that before this was done a pre-test questionnaire

was given to a class of year six students at another local community school in Goroka not involved in the program. Also the Goroka International School was used in the pre-test and a random sample of students selected. Twenty five students were pretested.

### **Statistical Methodology**

For each item percentage response rates were determined from the raw data for each school, then for each item a chi square was calculated using three categories; agree, undecided and disagree. The chi square was the most appropriate method used as the data involved comparing frequencies occurring in these different categories. It was again useful and deemed the most appropriate when determining if the observed frequencies were significantly different.

Therefore, the information gained from the two schools was then amalgamated and response frequencies documented to see if any items were significantly different between the two schools. The questionnaire can be found in Appendix six.

### **Analysis Of The Program In Action**

The two pilot schools of West and North Goroka were selected for observation. The observations started on July 28th 1994 and concluded on November 2nd 1994. In this time forty three sessions were documented. A portapak video was to be used along with Anderson's Physical Education Teachers Professional Function Observation System (this can be found in Appendix seven ).

The two schools that were selected were both in the town district of Goroka. It was hoped that a rural community school would be included but due to logistical problems this was not possible. Instead the two schools selected consisted of inherent differences to begin with and this served as enough of a distinction. West Goroka community school is the largest community school in the province with 1043 students, twenty five teachers and situated to the west of the town centre and close proximity to the NSI. North Goroka community school has 669 students and fourteen staff and is situated to the north of the town and on University grounds of the Goroka campus. Because of this location the school is often used in teacher education programs.

Observation of physical education lessons at both schools was based on Anderson's teacher function format. The way this was done was to employ commonly used professional terminology and concepts to classify behaviour. Anderson developed this system for coding teacher behaviour in physical education according to common

professional functions. The intent was to amass a descriptive record which could be used as a basis for recording and evaluation.

The research attempted to do basic analysis of teaching by using this instrument and the processes involved in observing what happens during a class, compiling a record of those observations, and interpreting the record. As part of the observations a basic analysis was undertaken of how closely the teacher followed the models and examples set down by the trainers in the workshop. No rating scales or coding forms were used to do this.

### **Strengths And Weaknesses Of The Program**

The information generated and gathered in the preceding operations ; trainers interview, trainees questionnaire, student questionnaire, and analysis of the program in action would be used as the basis for recommendations concerning the strengths and weaknesses of the program, its analysis and future concerns.

As part of this the trainees who were in charge of the pilot program in their respective schools were given a questionnaire consisting of twenty four questions (this can be found in Appendix eight ). This was administered in late November to assess the response by these participants to the programs development in their school. Thematic analysis was then used.

The questions were based on an open ended format and they were in relation to the following major areas; if the Train The Trainers Workshop had prepared them sufficiently to run the program in their school, what sort of support they had been given by the administration, staff, PNGSC, the provincial recreation officer in EHP other pilot schools in the province and the community at large, and what the strengths and weaknesses were in their school.

Informal discussions were also conducted with these trainees so as to augment the perspectives they had given in the written word. In conducting these it was felt that feedback via this medium would be relaxed and perhaps true feelings would become evident.

So far this section has looked at the qualitative and quantitative research paradigms in order to establish the framework most appropriate to this study. In general the qualitative was used by the researcher. Although limitations are evident in this type of research it was felt that this was the most appropriate method.

Preparatory fieldwork, fieldwork, early data collection and the method development have been discussed in relation to the research questions. The research tools of interview schedules, questionnaires, descriptive analysis, observations (participant and non-participant) provided for the generating and gathering of information. These have been presented. Details of the preparatory steps leading to the development of the Pikinini sport concept have been looked at already; but this section will serve as a summary of the developments before the results and their analyses are presented. As is evident from the information given so far, this study gives an in depth look at the concept of Aussie sport through the modified sports program and its integration into PNG. In this way it is an evaluative case study because the researcher was evaluating a program whose aim was to enhance children's sport in the country.

The aim behind the project rationale as identified by the PNGSC was the establishment of a pilot program utilising the highly successful Aussie Sport Program to assess the viability of establishing a Pikinini Sport Program in PNG. The National Sports Policy (1993) in one of its many principles, stated that it was to provide opportunities for children to benefit from the exposure to sports and physical education. This became the motivation for an increased commitment to children's sport in the country. It was felt that the appropriate pathway to achieve this goal was to look overseas and endeavour to find a structure which could be suitable for PNG. The possibility of conducting a pilot program had been mooted as early as 1993 after a presentation on the Aussie Sport initiative was provided to the Oceania National Olympic Committee's annual meeting in New Zealand.

The Australian government donated resources and a sum of K5,000 to the project. In March 1994 Coca-Cola Amatil (PNG) came forward with a sponsorship deal. K35,000 was offered in the first year, and K50,000 for each of the next four years, subject to the success of the pilot program.

### **Overall Concept**

A training team was to come from Australia, consisting of sport development officers from the four selected sports : soccer, volleyball, netball and tee-ball. Two Aussie sport administration personnel would lead and direct the project. Officers from the PNGSC would be working alongside these experts but the actual project information was to be delivered by the Australian team. It was evident that the technical training expertise was not available in the country and guidance from outside was necessary. In late February 1994 two experts representing Aussie Sport International visited PNG for a preliminary

planning meeting with the PNGSC. At this meeting the Australian representatives gave an overview of the Aussie Sport Program and the position of children's sport in PNG was analysed by the group. From this meeting the following mission statement arose : 'to develop young people through active sporting involvement which encourages lifelong participation and contributes to an improved society'.

### **Organisation of the Pilot Project**

A task force was established to meet the mission statement and from this the pilot program emerged. The task force was made up of representatives from the PNGSC, the Education Department and the National sporting bodies. There was also a representative from the NSI but this person was on leave when the workshop got underway. As has been mentioned, the project was only mildly supported financially by the Australian government. It was up to PNG to seek sponsorship to fund the project. Coca Cola Amatil (PNG) became this sponsor and was given naming rights. The project was named Coca-Cola Pikinini Sport.

With the goals and aims of the project set, it was up to the task force to determine which schools would be involved in the project. At the second task force meeting in April the provinces that were originally selected were changed. These became the National Capital District, East New Britain, the Eastern Highlands and Morobe. The PNGSC has regional centers in each of these provinces and it was decided that perhaps earlier decisions had been hasty. Also the Eastern Highlands province was now included, which had been overlooked. The catalyst for the project was to take place in this province. Its exclusion would have been ill conceived.

At this stage the final decision on the sports to be selected was made. Once again changes were evident. Initially, the sports selected were; volleyball, soccer, netball, rugby league, softball, athletics, basketball and rugby union. These were narrowed down to volleyball, soccer, netball and tee-ball. Final selection was based on what the majority of children played in the country.

Schools were the next target. It had been decided because of the nature of the project, with the accent on modified sports, that the community schools would be the best route for program implementation. Only grades four to six would be involved. Schools were selected to participate on a voluntary basis. Interested schools were to apply and then wait for consideration and approval. These schools were provided with details of the project. The Education Department and the task force members had decided upon a rural and urban/school makeup. Five schools from each province were to be selected with this



rural/city logistical framework. The five schools chosen in the Eastern Highlands Province were; North Goroka Community School, West Goroka Community School, Henganofi Community School Asaroka Community School and Okiufa Community school. North and West Goroka schools were the two schools looked at in this study.

Both of these schools have a similar student base and are situated in the townsite of Goroka in the Eastern Highlands. Due to logistical problems and the hesitancy of the Director to allow time for this research the schools selected had to be in the town and close to the NSI. North Goroka Community school is situated on the campus grounds of UPNG (Goroka Campus) and is one of the oldest schools in the province. It has access to the University grounds which are in close proximity. These include a rugby field, and an area which is paved and suitable for volleyball, basketball or netball. Two courts are available in this space. All these facilities are within a short walk of the classrooms. As the school is on the university grounds it is often used for teaching practice over a short or extended time and the students are receptive to a variety of program developments from prospective teachers. Staffing at the school is made up of approximately fourteen teachers with eleven females and three males. The deputy principal of the school at this time was a female. The teacher selected to attend the workshop and then to run and coordinate the program in the school was also female. The majority of the teaching staff at the school are also female. Considering the information put forth in the literature review the female influence on the program could have been a factor in its effectiveness. There were no extra staff allocated to assist this person. This person was selected to attend the workshop by her school deputy principal.

West Goroka Community school is situated west of the townsite and air strip. It is one of the largest community schools in terms of numbers with just over 1,000 students attended by twenty five teachers. Class sizes range from thirty eight to forty six children, and fifteen of the teachers are female. The school headmaster was very keen to be involved in the project and thoughtfully chose to send two teachers to the workshop. These teachers would then run and coordinate the Pikinini program in their school. There were no additional staff allocated to assist in this. The school has one large oval and then a smaller one which is in between the two classroom areas. There are no paved areas on the school premises. The school itself is some five hundred metres from the high school and approximately one kilometre from the NSI. In the time that the researcher has been at the NSI the school has never requested use of any of the institutes facilities.

It was intended that the four sports demonstrated and instructed at the Train The Trainers workshop would be taught in the community schools in terms three and four.

Each school was provided with a modified sports equipment kit supplied by the Australian government. This included modified volleyballs, tee-ball batting tees and specialised small soft balls, netball and soccer equipment along with written resources and a kit bag to carry the equipment in. This was given on completion of the week long workshop.

### **The Train The Trainers Workshop**

On June 10th a teleconference was undertaken at the NSI. Contributors to this from the PNG side included a group in Goroka consisting of a national 'teaching fellow', a netball trainer who was resident in Goroka and the researcher. In Port Moresby one of the program coordinators and in Australia connections were made with the two coordinators of the program and the volleyball trainer. Questions ranged from what the weather was like in Goroka, food and safety concerns, to the state of physical education in the schools, and the program format. Questions were diverse, and at times seemed to have little relevance. Prior to this the PNGSC detailed the clientele for the workshop. They would be; community school teachers from the selected schools in the selected provinces, provincial recreation officers, youth leaders, sport leaders, teachers from the international schools in the country, school principals and tertiary institution candidates.

A draft program was drawn up. Saturday 25th of June was set aside for arrivals and registration. Sunday, the Australian trainers were delayed in Port Moresby and there was a three hour delay in the start of the program. Piginini sport was introduced to the trainees via a verbal explanation from an officer of the PNGSC. The Australian trainers session was changed to the evening. All other session times were devoted to the sports with each group having approximately a five hour session on each sport. This is interspersed with morning , afternoon and lunch breaks. Sessions started at 8:30am through to 10:00am, recommenced at 10:30am and continued till lunch at 12:00. The afternoon sessions began at 1:00pm till 2:30pm then recommenced after afternoon tea break from 3:00pm to 4:30pm.

On the Wednesday the afternoon was given over to a session in the lecture theatre dealing with future directions/implementation strategies, followed by an explanation of the Expo which was to take place on the Thursday. Unfortunately only seventy school students arrived for the Expo. As the workshop was conducted in the school holidays many students failed to turn up on the designated day and many were unable to get to the venue. This was also the official launch of Piginini sport with dignitaries, sponsors, and the pigininis themselves. The official logo was unveiled. The workshop concluded

on Friday 30th June with the trainees departing for their respective provinces during the next two days.

The trainers were recruited from varying sources. The netball trainer resided in Goroka, and as such was chosen by Netball Australia for cost saving reasons. This trainer had prior experience as the junior development officer for Netball Victoria. She had held this position for four years. The volleyball trainer was recruited by the South Australian Sports Institute and was the second choice after a Queensland coach, who was unable to be part of the program due to pressing work commitments. This trainer was the youngest in the group at twenty one years and was involved in coaching the under nineteen team in South Australia. The softball/teeball trainer was recruited in the state of Queensland by Softball Australia. This expert was an Aussie Sport Education Coordinator, who had twelve years prior experience in the primary/high school system of Queensland. This trainer also knew and had worked for the Australian team coordinator.

The final trainer was the oldest of the group at fifty years of age. This was the only male of the group and held the position of Director of Coaching in northern New South Wales. In total he had thirty two years coaching involvement. He was selected by the National body for soccer in Australia and the Australian Soccer Federation.

The project was coordinated by two other experts from Australia. The first of these experts holds the position of Principal Sports Development Officer for Aussie Sport with the Sports Development Unit of the Department of Tourism, Sport and Racing in Queensland. This has been an indefinite secondment from the Queensland Education Department. Before this position the coordinator was the Education Officer for Aussie Sport in Queensland and held the position for three years. The second coordinator, also from Queensland holds the position of Sports Operations Coordinator within the National Aussie Sport Unit of the Australian Sports Commission.

All of the trainers were interviewed on the same day in the same manner. A written guide of questions to be asked and the ordering of these, including prompts where necessary were with the researcher. The questions were based on a thematic analysis for all questions apart from the closed questions where descriptive statistics were used.

Questions one, two, four, five and eleven relate to the personal background of the trainer- ie. what they were bringing to the project. Questions six, seven, eight, thirteen and fourteen relate to the trainer's perceptions of the education set-up in the country and the cultural perspective. Questions three, nine, twelve, fifteen, sixteen and seventeen

relate specifically to the Train The Trainers Workshop. The two final questions ten and eighteen asked for general information.

These questions were designed to assess the trainer's viability in conducting the workshop and subsequently the success of the innovation and also to determine if a relationship exists between instructor competence and the trainees attitude to the sport being taught and possible effect on the overall performance of the trainee. The responses by the trainers and particularly the coordinators would prove invaluable in answering the question of whether a program designed for one cultural and sociological environment could be successfully transplanted to another. The unstructured nature of the questions gave the researcher valuable insights and in depth responses from the trainers. All interviews were recorded mechanically by a cassette recorder. The purpose of the interview schedule was to determine the *whys* of the project innovation and not just the *what*.

The *trainees* were given a questionnaire at the conclusion of the workshop. This ensured a one hundred percent response rate and the similarity of conditions for all the respondents. As all had been involved in the Train The Trainers Workshop it was felt that the trainees would be sufficiently motivated to respond and answer the questions to the best of their ability. The questions were constructed so as to determine several areas of significance. The first was the trainees background, secondly their knowledge about the program prior to attendance at the workshop, how they thought that such a program ie. the Train The Trainers workshop would assist in the delivery of the innovation; what they felt would be useful; and what they thought would be possible problems or difficulties in their particular situations.

Thematic analysis was used on the majority of questions with descriptive statistics used on the closed questions. Questions one through to seven, related to trainee background and experience. Questions eight through to twelve and eighteen through to twenty two related directly to the workshop and questions thirteen through to seventeen, related to the delivery of the innovation.

For the innovation to be assessed it was felt that unless a monitoring of what students already felt concerning the status of physical education in their schools was carried out then there was no basis or rationale for the innovation. If students felt that their physical education programs were effective and enjoyable at present then how effective could something new be ?

A frequency ANOVA using both the raw data from the schools mentioned earlier was used. It was decided that there needed to be a determination of whether observed differences among the sample groups could be attributed to chance or whether there are real differences among the populations that were to be sampled. The method most suited for this purpose is the statistical tool of analysis of variance. These results were then amalgamated and a chi square calculated using the three categories of agree, disagree, and undecided. Three categories were used because of the low numbers in the disagree category. Percentage response rates were determined for the two schools.

Analysis of the innovation in action was deemed necessary in order to answer the research question of whether the staging of an in-servicing workshop could affect the program's implementation in the community school. Inherent in this question also are the strengths and weaknesses of the innovation program itself and the ultimate research question of whether a program developed elsewhere be a success in a different environment and context ?

Information gathered in all of these preceding operations are put forward in the following where the results will be documented. Presentation will take the form of text, tables, graphs and figures. The data will then be analysed and interpreted.

### **CONCLUSION TO METHODOLOGY**

Research methodology has been described in detail in order to justify and give credibility to the choices made. There is a heuristic quality to the investigation and a prevailing perception of understanding in relation to innovatory change and exploration of that change.

As explained by Macdonald and Walker (1976) the perspective of case study is to examine an instance in action. The overriding aim being to reveal properties of the class to which the instance belongs. It is pursued via a social process and leads to a social product and hence relies heavily on human instruments. Stenhouse (1975) responds and describes it as naturalistic, qualitative, descriptive, responsive, interpretive, and hermeneutic, with quantitative indices in a subordinate role. The fieldwork involved evokes, gathers and organises information which has as its site of events the phenomena to be looked at.

Because innovations try to bring about desired changes in varying contexts they are not seen in isolation but rather as part of the total construct. As such, external factors come into play and these will impinge on the program regardless of the implementation

strategy that has been used and will ultimately determine the success of such a program. In this sense the components of the problem surrounding research are formulated and then the mode of inquiry determined.

The investigation lends itself to a descriptive exploratory perspective. Qualitative research methods and case study in particular has the potential to put the accent on the humanistic qualities it generates. The methodology used in this study required such an approach particularly as no other program of this type has been done before. Hence there was not a large amount of material to use for comparison and detailed statistical analysis. Because of these factors the research design followed the format which has been detailed. It was felt that the information that has been provided substantiates the approach used in this investigation. Limitations have been documented earlier on in the chapter so as to acknowledge the constraints inherent in working in a developing world environment.

This is a descriptive and evaluative study of the first physical education innovation in Papua New Guinea. Aussie Sport seeks to enrich the lives of young people through quality sporting experiences, that will encourage lifelong participation. The catalyst for its inception into PNG was via 'The Train The Trainers Workshop', with the accent on the modified sports aspect. The program objectives were to train teachers and community representatives in the implementation of these modified sports in their respective schools and community, and by so doing encourage and resource these identified leaders.