

November 2008

***The use of an Integrated Action Research - Action Learning Method  
(ARAL) in the Implementation of Change***

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**Abstract**

The integration of action research and action learning (ARAL) provides a practical method for involving action and critical reflection within the workplace. This report of an action research project in a Malaysian shipping company provides insights into the use of the ARAL method for achieving work and learning outcomes within a proven research framework. It identifies the structure, processes and elements that can be applied in action research while exploring the challenges of change management and testing solutions to real work issues and problems. The lessons learnt from this research suggest that the ARAL approach be given consideration for use by managers in tackling difficult and important issues in their organisations.

**Introduction**

Successful management of change in an organisation has been reported using the action research method and the involvement of a company's senior managers in the change process (Sankaran 1999). This report describes how the CEO of Global Carriers Berhad, a Bumiputra shipping organisation in Malaysia, introduced an action research and action learning (ARAL) approach that was intended to control the rapid pace of growth within the organisation and to make its operations and performance more effective and efficient.

The CEO had preliminary discussions with each of his senior managers and explained the concerns shared by the Board of Directors of Global Carriers regarding the ability of the organisation to cope with rapid growth and the impacts of change within the industry. He proposed that the action research and action learning methods he had learnt about whilst undertaking doctoral studies in Australia, would provide the necessary processes to meet these challenges. He and his team of managers would become researchers, engaged in the investigation of change management in their organisation.

This report is presented in three sections. The first provides a conceptual framework for the ARAL method based on the literature of action research and action learning. The second examines the application of the action research method and its use of action learning in the implementation of change. The final section discusses the data gathering and analysis with a justification for the use of action research in this study.

### **1 Action Research Action Learning (ARAL) – Developing a conceptual framework**

The research design in the study was essentially exploratory in nature. Both the literature review and the action research method were instruments of exploration whereby real life situations were naturally stimulated to observe the introduction of the change process by the senior managers (“the AR Group”) of a Bumiputra shipping organisation in Malaysia using the integrated action research and action learning (“ARAL”) approach.

The structure and stages of the exploratory action research designs are, by nature, difficult to predict. The research developed in reaction to the natural stimulation of the integrated ARAL process itself.

The study, therefore, was to record the observation of the relationship between:

- a) the introduction of the change process using the integrated ARAL approach; and
- b) the literature review which caused the study to focus on the use of an integrated ARAL approach in the introduction of the change process, rather than on the quantitative aspects of the change process.

The integrated ARAL approach is *qualitative* rather than quantitative, in this study. The research design was exploratory in nature because no hypothesis was tested. This exploratory study was “carried out to ascertain relevant variables for further research” (Bouma, 2000, p.91) and was also conducted to formulate hypotheses for further investigation.

Following the definitions suggested by Fellin, Tripodi and Meyer (1969), this action research study was considered to be exploratory, rather than experimental or quantitative-descriptive, for the following reasons:

1. Despite having experimental features such as ‘testing’ of the integrated ARAL approach, a field research component, as well as relatively systematic procedures for obtaining empirical observation and for the analysis of data, the study could not be classified as experimental because its focus was on only one organisation within the field of shipping organisations in the geographical region of Malaysia. In addition, there was no rigorous test of a hypothesis which specified that changes in Variable X caused changes in Variable Y (Bouma, 2000). It must also be noted that the choice of the particular shipping organisation for the purpose of this study was not the result of a random process. In fact it was deliberately chosen because of an existing relationship between the Researcher and the site.
2. In contrast to a quantitative-descriptive study which seeks “by the use of measuring devices to describe relationships among variables” (Fellin et al, 1969, p.255), this study falls within the category of an exploratory study as it seeks to articulate questions and hypotheses for subsequent investigation (Fellin et al, 1969). The introduction of change using an integrated ARAL approach in the Bumiputra shipping industry in Malaysia is a new field, in a new environment and constitutes a ground breaking exploratory dimension. The study’s aim was to explore the introduction of a total conceptual change process using the integrated ARAL approach in a shipping organisation which would have significant contribution to the development of policy and practice in the shipping industry in Malaysia.

3. An exploratory study involves a great deal of information about a single case or a small number of cases in contrast to the quantitative-descriptive and experimental studies which include statistical concepts such as correlation and proportions, amongst other quantitative techniques. This study focused attention on one case and one market for the introduction of the change process in a shipping organisation in Malaysia using the integrated ARAL approach.
4. There is a bias towards an exploratory study because:
  - The Researcher is the chief executive of the site, a Bumiputra shipping organisation. He had a desire to observe the introduction of the change process using the integrated ARAL approach. Having a personal interest in the shipping industry, he also believed that this study would be of interest to the other Bumiputra public listed shipping organisations in Malaysia.
  - The Researcher's interest in the change process and action research was reinforced by his acquaintance with Dr Selva Abraham, Associate Professor Graham Arnold, and Professor Robin McTaggart, all of whom were firm believers in action research.
  - The Researcher believed that the introduction of the change process using the integrated ARAL approach in a Bumiputra shipping organisation would be both successful and profitable.
  - The Researcher was not only concerned with the introduction of the change process using an integrated ARAL approach as a theoretical development, but also to find out the limits of the introduction of the change process.
5. The exploratory nature of the research was confirmed by the use of the literature review. A literature review is traditionally used to generate hypotheses or provide quantitative verification. In this study, the literature became a source of generating suggestions or ideas based on mutual interaction between the literature and the action research case study. This factor further reinforced and clarified the study as an exploratory study.
6. The major contribution to knowledge from exploratory studies is in providing ideas and sharpening insights useful for developing hypotheses which can be investigated in future research studies. Exploratory studies seek to locate and describe relevant variables and tend to suggest how they are related to each other. This approach has the advantage of providing a wide range of detail, with the opportunity to uncover latent patterns of behavior (Fellin et al, 1969).

It will be seen in the final section of this report that the conclusions of this exploratory are consistent with the above statements. The measure of the contributions of this research will not only be in the reproducibility of the research process, but the usefulness of its conclusions for future research.

### **The exploratory action research design applied in this study**

Yin (1994) writes that the unit of analysis in a case study could be an individual, a decision, a programme, the implementation process or an organisational change. The unit of analysis in this study was the introduction of the change process using an integrated ARAL approach in a Bumiputra shipping company in Malaysia by the CEO and the senior managers (the AR Group) in the organisation.

The study had a similar sample size to that of Sankaran (1999, p. 98) who writes:

I had to investigate management learning amongst managers. I was introducing Western methods in a traditional Japanese managed company..... I needed these managers to initiate the programme.... Given my environment, larger samples and a more controlled environment were not possible without changing the very context I wished to conduct the research in.

The site in this study was a Malaysian Bumiputra organisation and in a similar approach to Sankaran, the change was introduced by the Researcher and the AR Group made up of senior managers in the organisation. It was for this reason that the Researcher also used a "purposeful or criterion based sampling" (Sankaran 1999, p.98) for his study.

The research design was adapted from Abraham (1997), who had undertaken an exploratory research study in which he used action research as the research method. The research design in this study was divided into two stages: a 'Conceptual Stage' and an 'Action Research Method Stage'. Table 1 illustrates the major features of this research design which are then discussed.

**Table 1 Major features of research design**

<b>Conceptual stage</b>	<b>Action research method stage</b>
<ul style="list-style-type: none"><li>• Experiences and past interest of the researcher</li><li>• Literature review</li><li>• Discussions with experts</li><li>• Attendance at relevant workshops</li></ul>	<ul style="list-style-type: none"><li>• Data collection by participant observation and semi-structured interviews at site</li><li>• Data analysis by clustering and logical chain of evidence approaches and triangulation</li></ul>

#### **The conceptual stage**

The conceptual stage was the first phase of the research design. The conceptual stage involved the review of literature as well as discussion with various subject experts during personal meetings and workshops, all of which helped the Researcher to conceptualize the introduction of the change process to his shipping organisation in an exploratory action research context.

The books on change management, action research, action learning and research designs provided comprehensive coverage but many of these books were outdated by the time of publication and generally represented the work of a major researcher or teacher in the area, often based on principles going back to the author's student and creative period.

Periodical and applied journal articles on these subjects gave a more up to date report of the leading research, although they were less settled in their views and more subject to controversy. The articles also represented the contributions of those who were investigating and developing the subjects of change management, action research and action learning.

The study of literature provided the Researcher with a comprehensive overview of the change management and the action research and action learning techniques which helped him to understand the various issues and processes required to implement change.

Additional conceptual input was obtained from discussion with various experts including:

- a) Dr Selva Abraham – the Researcher's supervisor and an internationally regarded authority in change management and management development using action research and action learning;
- b) Assoc. Prof. Graham Arnold of the University of South Australia;
- c) Prof. Robin McTaggart – an international author on action research;
- d) Prof. Chad Perry – a renowned author on how to write a doctoral thesis;
- e) Attendees at doctoral seminars conducted by the University of South Australia on action research and advanced management techniques; and
- f) Attendees at a conference in Singapore in 1996 on action research, action learning and organisational learning, where the Researcher submitted a paper jointly with Abraham, Arnold, and Oxenberry.

These discussions with specialists and practitioners provided the Researcher with greater clarity in his search of the literature because most of these experts tended to favour the implementation of change using the action research approach.

The action research method stage is divided into the action research site, the action research intervention phases and the data collection and analysis phases.

#### **Action research site**

Global Carriers Berhad ("Global Carriers") is a public listed company on the Kuala Lumpur Stock Exchange (KLSE). It was initially the holding company of six companies which was later increased to twenty-one companies. These subsidiary companies are involved in shipping activities such as freight services, shipping management and shipping agency services.

The thematic concern of Dato' Mohamad Bin Hashim (the Researcher and CEO), and the Board of Directors of Global Carriers, was the ability of the senior managers and the organisation to be able to cope with the changing nature of the organisation, especially in light of its accelerated growth after its public listing.

Having embarked initially on a doctoral programme with the University of South Australia, the Researcher was familiar with the concept of action research and action learning (ARAL) and he wanted to explore the introduction of the change process at Global Carriers using the ARAL approach.

## **2 The action research intervention phases**

### **Phase 1 – action research group formation**

After obtaining endorsement by the Board of Directors of Global Carriers, the Researcher informed the senior managers that an action research group (AR Group) would be set up to work through the change process. Their participation would involve a process of learning about the change process and would help in the development of the organisation, their respective departments and themselves. Each of the people invited by the Researcher, including the Project Manager and Project Consultant of Global Carriers, agreed to join the AR Group and gave permission for the research activities to be recorded and the results published. Participants in the AR Group are shown in Table 2.

Table 2      **The AR Group members at the beginning of the study**

<b>Name</b>	<b>Position</b>
Sarfuddin Bin Othman ("SO")	Manager Commercial Division
Mohd. Gazali Hashim ("MGH")	Crew Manager
Wan Izani Wan Mahmood ("WI")	Operation Manager
Captain Khoo Chin Yew ("KCY")	Asst. Operation Manager
Shukeri Abd. Manaf ("SAM")	Finance Manager
Lim Seng Hock ("LSH")	Special Projects Manager
Captain Khoo Lye Heng ("KLH")	Asst. Commercial Manager
Ramlan Bachik ("RB")	Asst. Crew Manager
David Chua ("DC")	Asst. Commercial Manager
Benjamin Simandjoentak ("BS")	Project Consultant
Suriah Sa'at ("SS")	Human Resource Administrator

### **Phase II – Inviting visiting expert**

It was arranged for Dr Selva Abraham, a seminar leader at the advanced doctoral seminars conducted by the University of South Australia and an international authority on action research and management development, that during a visit to Kuala Lumpur he would talk to the AR Group members about action research and action learning. Dr Abraham emphasized the benefits of these processes to the organisation and indicated that not only would the Researcher gain from the study, but most importantly, there would be benefits for the organisation and the AR Group members.

### **Phase III – Learning about action research and action learning**

The Researcher, realising that he did not have any in-depth experience in action research and action learning but only his knowledge acquired through the review of literature, visited Adelaide to attend a workshop on action research and action learning at the Gibaran Institute.

This was a five-day intensive workshop attended by a small group of participants. The workshop proved invaluable to the Researcher as it gave him a greater understanding of action research, action learning and change management. The other participants were MBA candidates who were using action learning and action research in their studies and they shared their learning experiences with the Researcher.

**Phase IV – Appointment of a resource person**

All members of the AR Group gave their support to the action research project because they realised the benefits to be derived from the project. They hoped that after going through the AR cycles, they would be knowledgeable about the integrated action research and action learning (ARAL) approach. They anticipated a number of benefits from their involvement in the project, including increased job satisfaction as a result of improved teamwork amongst members; better inter-departmental communication; a better understanding of the group's corporate direction and increased participation in the group's transformation process.

On his return from the Gibaran Institute, the Researcher shared his understanding of the learning benefits that could be obtained from using the ARAL processes. He advised that he planned to invite Dr Abraham to be a resource person for the Action Research Group and sought their approval. This was agreed and the rationale for the decision is shown in Table 3.

Table 3 **Rationale for Selection of Resource Person**

<b>Dimensions</b>	<b>Rationale</b>
<b>Specialization</b>	Dr Abraham is CEO of Gibaran Institute which specialises in work-based management learning using the Action Research Action Learning method. This specialisation is relevant to the Researcher's area of research.
<b>Indigenous</b>	Dr. Abraham's vast experience in creating models for planning and implementing management learning processes for indigenous people in Australia was strength for the AR Group in a Bumiputra (indigenous) organisation in Malaysia.
<b>Dedicated team</b>	The Institute has developed a team of dedicated personnel who are trained in action research and action learning. They will provide important support to Dr Abraham in the event he is not available for unforeseen circumstances.
<b>Culture</b>	Dr Abraham grew up in an Asian cultural environment before immigrating to Australia. Because of this, his cultural sensitivity would enable him to work well with the AR Group. Dr Abraham will be able to understand the individual team members' way of thinking and outlook.

**Phase V – Action research cycles**

Zuber-Skerritt and Perry (2002) indicated that two action research cycles had to be completed for a doctoral thesis. In this study two action research cycles were completed, as described in the following sections.

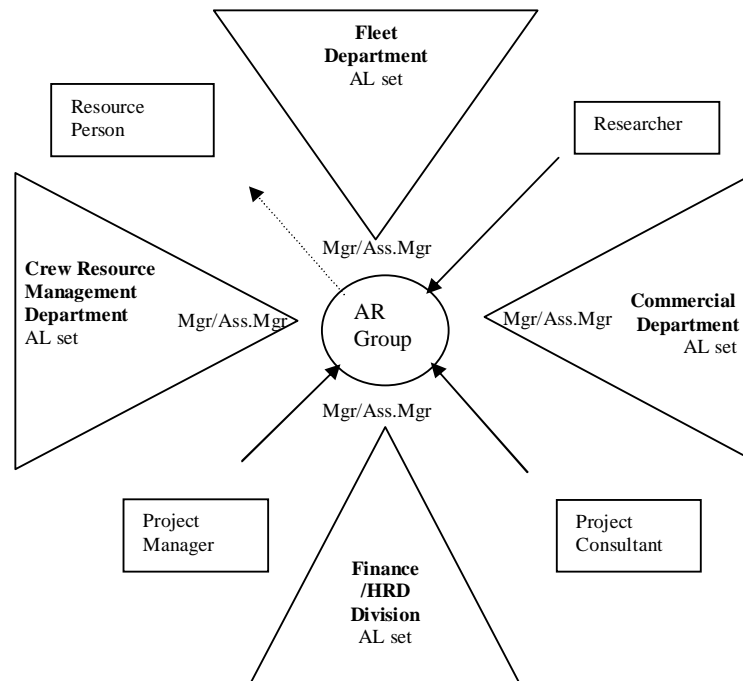
**CYCLE 1**

In May 1996 the Researcher started working with the AR Group on the introduction of the change process using an integrated ARAL approach. The starting point was individual development of the AR Group Members and the CEO in the action learning and action research process using the knowledge, experience and skills of the Resource Person.

There were two cycles in the action research process. Cycle 1 was for a period of about nine months from May 1996 to January 1997 and comprised four mini-cycles. Mini-Cycle 1.1 was from May to July 1996; Mini-Cycle 1.2 was between July and October 1996; Mini-Cycle 1.3 took place between October and December 1996; while Mini-Cycle 1.4 was between January and April 1997. Each mini-cycle commenced with a planning workshop and at the end of the fourth mini-cycle an evaluation session was conducted which signalled the completion of the major action research Cycle 1 in January 1997.

The ARAL model that emerged in Cycle 1 is shown in Figure 1. The ARAL model was made up of the AR Group Members comprised of the senior managers, the Researcher, the assistant managers and the members of the Action Learning (AL) sets which had been established in each department.

Figure 1 ARAL model in Cycle 1





Whilst the AR Group Members were involved in the introduction of the change process using AR, they also worked with the AL sets to introduce change in their departments. The integrated ARAL approach therefore impacted on the organisation as a whole because of the changes within the various departments.

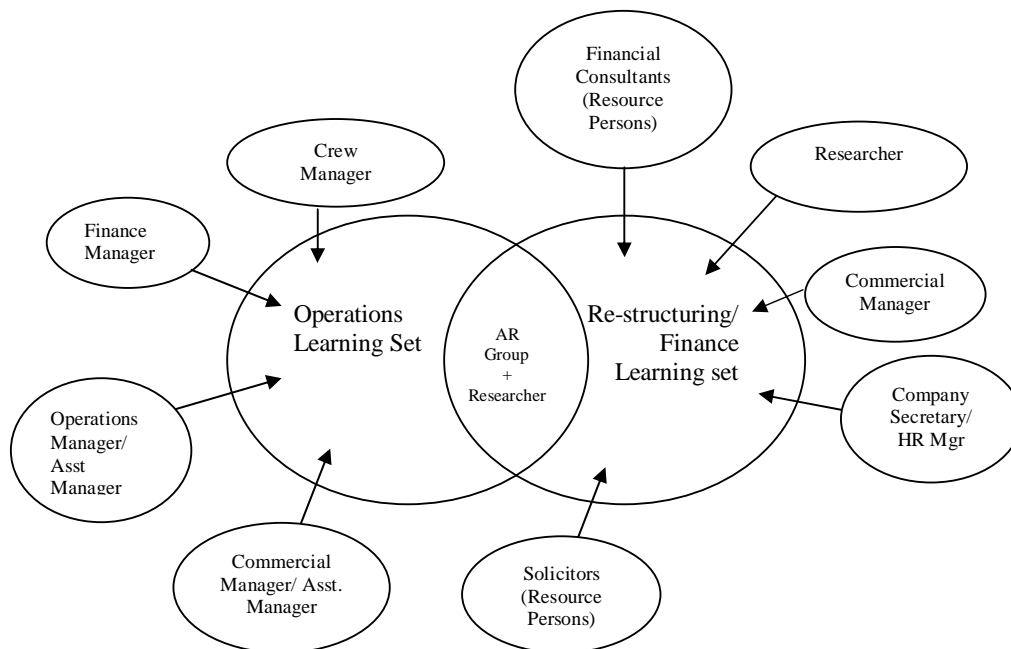
**CYCLE 2**

Cycle 2 started in January 1997 and the first mini cycle was completed in April 1997. After reflection during the April workshop, it was decided that the workshop should address the crisis of the Asian melt-down and its impact on the organisation.

The AR Group Members, whilst continuing their efforts on their own departments at a natural pace, regrouped into two action learning sets, the Operations AL set and the Restructuring/Finance AL set. Even though the structure was changed so that they worked as two new AL sets, the AR Group continued working together on the thematic concern of managing within the changing environment of the organisation. Thus, the integrated ARAL approach was always in evidence during Cycle 2.

The ARAL model that emerged in Cycle 2 is shown in Figure 2.

Figure 2 ARAL Models in Cycle 2



### **3 Data gathering and data analysis**

#### **Action research data gathering and analysis techniques**

The action research method used the following data gathering and analysis research techniques.

- Participant observation by the Researcher for the introduction of the change process during Cycles 1 and 2, reinforced by informal conversational interviews to confirm his observations;
- Feedback from each of the AR Group Members and the Researcher, on the impact of the introduction of the change process using an integrated ARAL approach during Cycle 1. The Resource Person was present to validate the process;
- Semi-structured interviews of each of the AR Group Members and the Researcher at the end of Cycle 2 by an external person who was familiar with AR and AL; and
- Triangulation of the perceptions of the AR Group Members and the Researcher in Cycles 1 and 2.

**Data gathering techniques** used in this in this study were participant observation and semi-structured interviews.

#### **Participant observation used in the study**

Spradley (1980, p.54) commenting on participant observation stated:

A participant observer comes to a sound situation with the purpose 1) to engage in activities appropriate to the situation; and 2) to observe the activities, people and physical aspects of the situation.

The chief executive of the Bumiputra shipping organisation in Malaysia and the top team of senior managers formed the action research group. As such, they were participant observers of the project.

The Researcher was a participant observer throughout the study and was “directly involved as participant in people’s [his AR Group] daily working” (Jorgensen 1989, p.21). His role provided him “access to the world of everyday [corporate] life from the standpoint of a member or insider” (Jorgensen 1989, p.21) and he “was able to observe and experience the meanings and interactions of people [the senior managers] from the role of an insider” (Jorgensen 1989, p.22).

The Researcher made “direct observations” as participant observer of the AR Group and had first hand “experience” which was the primary form of data collection in this study. His direct observation role started off from the time he obtained permission from the senior managers to form the AR Group. He made observations of the AR Group Members as senior managers involved in the change process. His observations included all aspects of the change process beginning from Cycle 1 when the AR Group began to learn about action learning and apply this to their departments. During Cycle 2 he observed when the senior managers from the AR Group formed into action

learning sets and tackled the external problems of the impact of the Asian Economic 'melt-down' in Malaysia.

**Conversational interviewing** by the Researcher was part of the participant observation research technique of gathering data. The Researcher conducted conversational interviews throughout his observation process during the mini-cycles in Cycle 1 and Cycle 2 to obtain information from the AR Group Members about those things which the Researcher felt could not be directly observed. The need for this is expressed by Patton (1990, p.278) who explains:

The issue is not whether observational data is more desirable, valid, or meaningful than self report data. The fact of the matter is that we cannot observe everything. We cannot observe feelings, thoughts and intentions. We cannot observe behaviours that took place at some previous point in time; we cannot observe situations that preclude the presence of an observer.

It was for this reason, as indicated by Patton (1990), that conversational interviewing was undertaken during the participant observation process, to reinforce the data the Researcher was gathering as a part of his participant observation role.

The informal conversational interviews allowed the Researcher to be "highly responsive to individual differences and situational changes" (Patton 1990, p.282), an important process in the Malaysian cultural context. A structured interview approach as part of the participant observation process would not have been as appropriate as the informal conversational interviews as it would be an unnatural process at the site. It is less likely that the data would have been accurate because of superior and subordinate relationship between the CEO (the Researcher) and his senior managers (the AR Group Members). This integrated participant observation and conversational interviewing process was applied throughout the study.

The Researcher kept a diary and log of activities during the mini-cycles in Cycles 1 and 2. During the cycles, he visited the managers in their departments or had informal interviews with them. He did not at any time interview the staff or stay in the office for long periods of time, because it was inappropriate and artificial for the Researcher to place himself in the manager's office to observe them in action. These actions would also have been culturally inappropriate.

**Semi-structured interviews** were proposed at the end of the evaluation workshop in Cycle 1. The Researcher and the AR Group Members agreed that an independent interviewer, who was not otherwise involved in the study, should be used to gather data from the Researcher and the AR Group Members for the Cycle 2 workshop. The purpose of this was to increase the reliability and validity of the data.

An outside interviewer was invited to conduct the interviews because:

- i) she was a Master of Law and familiar with interviewing and data gathering; and
- ii) She was familiar with action research and action learning in her role as the Director and Registrar of an international institute dedicated to the methods of ARAL and work-based manager development.

If the Researcher (the CEO) had interviewed the AR Group Members, there would have been a tendency towards subjective and unreliable data because they were his subordinates. For this reason, the Researcher and the AR Group Members decided to appoint an independent interviewer who would be impartial and objective.

The interviewer used the semi-structured approach to the interviews as described by Rubin and Rubin (1995, p.5):

When researchers want more specific information, they use a semi-structured interview (also called focus) format. The interviewer introduces the subject, and then guides the discussion by asking specific questions.

The semi-structured interviews were used for collection of the views of the Researcher and the AR Group Members to establish the impact of the ARAL approach on the organisation as a whole. Table 4 sets out some of the features of effective interviewing raised by Bailey (1987, pp.157-158) and which were observed in this study.

<b>Bailey's dimensions</b>	<b>Features in this study</b>
1. Flexibility	The interviewer was flexible in changing her style of interviewing based on the needs of the respondents, who were Malaysians. The interviewer was the Director of an Institute and a qualified lawyer who had been trained in interviewing. She was a Penang born Indian who spoke the Malay language and was familiar with the cultural issues that were prevalent in Malaysia.
2. Response Rate/ Nonverbal Behaviour	The semi-structured interview was appropriate in this study for an improved response rate. The interviewer could observe the non-verbal communications of the respondents as well as focus on the response that the respondents gave to the questions.
3. Control over environment	The interview was conducted in the Boardroom of Global Carrier Bhd and there was privacy, without distracting noise or interruptions.
4. Respondent alone can answer	The respondent was not able to change his opinion by receiving prompts or answers from others because it was a one to one meeting. Furthermore, others could not complete the questionnaire on behalf of the respondent because of the nature of the process.
5. Time	There was no need for the interviewer to wait as there were fixed times for the interviews and the respondents came to attend these interviews as scheduled.

**Table 4 Features of the semi-structured interviews**

Each interview lasted around fifteen minutes and all AR members were interviewed over a period of a day on 15 September 2000.

The interviews were tape recorded and the tapes were transcribed and checked by the interviewer and AR Group Members for accuracy. The transcripts were then returned to the Researcher for the data analysis process.

The Resource Person was another participant observer, in his capacity as a consultant during Cycle 1, and as a mentor to the CEO during the crisis period when the integrated ARAL approach was being used. The Resource Person became the supervisor for the Researcher's DBA during this period because his supervisor at the University of South Australia passed away and arrangements were made for supervision to be transferred to Southern Cross University for completion of the DBA.

The Resource Person validated the ethical process used for the interviews because the Researcher also had the role of CEO to the AR Group Members.

### **Data analysis**

Miles and Huberman (1984) writing on the issue of drawing and verifying conclusions in a study, state that there are tactics for generating meaning to data and tactics for testing or confirming of the findings. Their list of tactics for generating meaning to data has been tabulated in Table 5.

Table 5 **Tactics for generating meaning to data**  
(Miles and Huberman 1984, p. 215)

<b>Tactic</b>	<b>Purpose</b>
1. Counting	A familiar way to see "what's there"
2. Noting patterns, themes 3. Seeing plausibility 4. Clustering	These tactics help the analyst see "what goes with what"
5. Making metaphors	Like 1, 2, 3 & 4, it is a way to achieve more integration among diverse pieces of data
6. Splitting variables	Differentiation is sometimes needed
7. Subsuming particulars into the general; 8. Factoring 9. Noting relations between variables 10. Finding intervening variables	Tactics for seeing things and their relationships more abstractly
11. Building a logical chain of evidence 12. Making conceptual or theoretical coherence	Tactics to assemble a coherent understanding of data

Although there are many tactics for the analysis and generating meaning to data, as set out above, there were two specific tactics used in this study, namely:

- (i) building a logical chain of evidence and
- (ii) Clustering.

**(i) Building a logical chain of evidence**

Miles and Huberman (1984, p. 228) describes this tactic as follows:

The field Researcher constructs this evidential trail gradually, getting an initial sense of the main factors, plotting the logical relationships tentatively, testing them against the yield from the next wave of data collection, modifying and refining them into a new explanatory map, which then gets tested against new cases and instances.

At its most powerful, the method uses two interlocking cycles. One is called “enumerative induction” in which you collect a number and variety of instances all going in the same direction. The second is called “eliminative induction” in which you test your hypothesis against alternatives and look carefully for qualifications that bound the generality of the case being made ...The “modus operandi” logic used in several professions as a troubleshooting device is a good example of a back-and-forth cycling between enumerative and eliminative induction.

To be able to investigate the impact of the ARAL approach on the various departments and on the organisation in this study, there had to be a “logical chain of evidence” of such impact. In this study there were two main action research cycles and there were three mini cycles within each of the two main cycles.

In Cycle 1, the AR Group went through the action research processes of planning, acting, observing and reflecting during every mini-cycle and finally reflected upon the impact of the integrated ARAL approach on their departments. The following was the process of how the “logical chain of evidence” of this cycle was assembled and recorded:

1. **Planning:** At the commencement of each mini-cycle, a planning workshop was held to plan for the new cycle, and for this purpose new conceptual knowledge was provided in the form of short lectures, videos and group discussions.
2. **Acting:** During each mini-cycle, the AR Group Members worked with their respective departments using the AL approach and reported on the changes that had been initiated.
3. **Observation/reflection:** These changes were then reflected upon by the AR Group as a whole and where the AR Group Members had issues on which they required advice, these were tabled during “trouble-shooting meetings” when the issues and possible solutions were discussed, for implementation. This was also done during the re-planning workshops.
4. **Evaluation:** The evaluation phase was in four stages. During stage 1, the Researcher shared with the AR Group Members his observations of the changes that had taken place in the departments during the three mini-cycles, in the form of detailed findings and reports. The AR Group Members then shared additional information on how change had occurred in their departments and the Resource Person, an unbiased party, observed their reflection to confirm reliability and validity of the data reflected upon.

Cycle 2 marked the beginning of the Asian economic crisis which occurred between mid 1997 and the end of 1998. The crisis had severe financial implications on the organisation and the CEO (the Researcher) and the senior managers ("AR Group") had to take immediate action to save the organisation from financial collapse. This was tackled in an organisational change forum. Using the knowledge of the integrated ARAL approach that they had acquired during Cycle 1, they shifted the focus of the change process from a departmental context to an organisational context in order to rescue the organisation from financial ruin. The ARAL model that emerged for this purpose in Cycle 2 is provided in Figure 2 set out earlier.

Evidence of the changes in the organisation observed during each of the mini-cycles in Cycle 2, as a result of the ARAL approach, was recorded by the Researcher as a "logical chain of evidence". Semi-structured interviews of the AR Group Members and the Researcher were conducted by an independent interviewer to determine the impact of the ARAL approach on the organisation as a whole. These various sources of evidence formed a "logical chain of evidence" for Cycle 2 as described by Miles and Huberman (1984).

### **(ii) Clustering**

Miles and Huberman (1984, p.219) commenting on the data analysis process of clustering write:

Clustering is a tactic that can be applied at many levels of qualitative data: at the level of events or acts, of individual actions, of processes, or locales, of sites as wholes. In all instances, we are trying to understand a phenomenon better by grouping them, then conceptualising objects that have similar patterns or characteristics.

During the evaluation workshop in Cycle 1, the views of the AR Group Members were clustered to establish what the impact was, whether positive or negative, on the introduction of change in the department of each of the AR Group Members.

There was further clustering of the data of the HRM department and the Crew Resource Management department because of the similarity of functions and overlaps. Clustering of the finance department and the strategic issues departments was made because these departments were the responsibility of one manager.

During Cycle 2, the views of the Researcher and each of the AR Group Members were clustered to establish whether there was an impact (positive or negative) on the organisation as a result of the ARAL approach.

### **(iii) Testing for conclusions**

Twelve tactics for confirming conclusions and assessing the data quality have been identified by Miles and Huberman (1984, p. 230) and are set out in Table 6:

Table 6 **Tactics for Confirming Conclusions and Assessing Data**  
(adapted from Miles and Huberman, 1984, pp. 231-242)

<b>Tactics</b>	<b>Purpose</b>
1. Checking for representativeness 2. Checking for Researcher effects on the site and vice versa 3. Triangulating across data sources and methods 4. Weighting and evidence - deciding which kinds of data are most reliable	Tactics for assessing data quality
5. Contrasts and comparisons 6. Checking the meaning of outliers 7. Using extreme cases	Tactics that test a conclusion about a 'pattern' by saying what it's not like
8. Ruling out spurious relations 9. Replicating findings 10. Checking out rival explanations 11. Looking for negative evidence	Ways of submitting our beautiful theories to the assault of brute facts
12. Getting feedback from informants	A good explanation deserves attention from the informants who supplied the original data

In this study, two tactics were used for establishing the validity and reliability of the data, namely, getting feedback from informants and triangulation.

**(iv) Getting feedback from informants**

The value of obtaining feedback from participants is explained by Miles and Huberman (1984, p 242):

One of the most logical sources of collaboration is the people with whom one has talked and whom one has observed. After all, an alert observant actor in the setting is bound to know more than the Researcher ever will about the realities under investigation.... Feeding findings back to the informants is a venerated but not always executed practice in qualitative research.

Bronfenbrenner (1976) called this 'phenomenological validity' and Guba (1981) called this "confirmability".

In this study at the end of Cycles 1 and 2, the Researcher fed his findings as a participant observer back to the AR Group Members who were the 'informants' in order to test the validity and reliability of his findings and observations.

**(v) Triangulation**

The process of triangulation described by Patton (1990, p.244) indicates, "multiple sources of information are sought and used because no single source of information can be trusted to provide a comprehensive perspective", and that it is in "data analysis that the strategy of triangulation really pays off" (Patton 1990, p.464). "By combining multiple observers, theories, methods and data sources" a qualitative research will be able to "overcome the intrinsic bias that comes from single-methods, single observer, and single-theory studies." (Denzin 1970, p.313)



Denzin (1978, p.214) identifies four basic types of triangulations as follows:

1. **Data** triangulation:  
the use of a variety of data sources in a study
2. **Investigator** triangulation:  
the use of several different researchers or evaluators
3. **Theory** triangulation:  
the use of multiple perspectives to interpret a single set of data
4. **Methodological** triangulation:  
the use of multiple methods to study a single problem

Janesick (1994, p.214) commenting on Denzin's triangulation types, adds a fifth type to Denzin's list, namely, interdisciplinary triangulation, which he says will "help to lift us up out of the dominant trends of psychology."

Yin (1994, p.72) writes that with triangulation, the potential problem of construct validity can also be addressed, because multiple sources of evidence essentially provide multiple measures of the same phenomenon.

Patton (1990, p.467) writes that triangulation of data sources "means comparing and cross-checking the consistency of the information derived at different times and by different means with qualitative means." He adds that this approach means:

- 1) comparing observational data with interview data;
- 2) comparing what people say in public with what people say in private;
- 3) checking for the consistency of what people say about the same thing over time; and
- 4) comparing the perspective of people from different points of view - staff, clients' views, funder views, and the views expressed by people outside...(Patton 1990, p. 467).

He continues:

Triangulation of data sometimes within qualitative methods will seldom lead to a single, totally consistent picture. It is best not to expect everything to turn out the same. The point is to study and understand when and why there are differences (Patton 1990, p. 467).

At the end of Cycle1 and Cycle 2, the observation of the Researcher and the observations of every AR Group Member were triangulated to check the consistency of the opinions of the parties with regard to the impact of the integrated ARAL approach in the introduction of change within the departments and in the Bumiputra shipping organisation in Malaysia.

#### **(vi) Validity and reliability**

This section describes the processes used to test the validity and reliability of the findings of the study.

**Construct validity** can be achieved using a case tactic that includes multiple sources of evidence, establishes a chain of evidence and uses key informants to review the draft case study report (Yin 1994). In the present study, these dimensions were satisfied. Multiple sources of evidence were obtained, namely from each of the AR Group Members and the Researcher, as well as the Resource Person. A chain of evidence was obtained from the Researcher's observations and the feedback from the AR Group Members in Cycles 1 and 2. In both Cycles 1 and 2, the AR Group Members who were the "key informants", reviewed the Researcher's report on each Cycle.

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**Internal validity** was not considered in this study as it is an exploratory case study. According to Yin (1994, p.33), internal validity is “inapplicable to descriptive or exploratory studies”.

**External validity** deals with the problem of generalizing a study’s findings beyond the immediate case study (Abraham 1997). Whereas this particular study involves a particular public-listed Bumiputra shipping organisation, it could be replicated at some future date in other similar organisations, which would provide the basis of an external validity.

**Reliability** of the study can be established using a case study protocol (Yin 1994, p.37). In this study there have been systematic procedures for collecting data from the mini-cycles within Cycles 1 and 2. There were specific research questions, detailed reporting of the processes and of the observations and opinions of the Researcher and the AR Group Members. This systematic protocol could be repeated by another researcher.

### **Justification of this study as an AR study**

This study could be justified as an AR study because it has satisfied most of the characteristics of action research described by Abraham (1997). This justification is shown in Table 7:

Table 7 Characteristics of action research met by this study

	<b>Action research characteristic</b>	<b>Features of this study</b>
1	Problem Focus	The action research method used in this study was problem focussed in the context of real life situations. The action research cycles were planned to explore and solve a real life problem of the senior managers and the CEO of Global Carriers in being able to manage change and cope with the changing environment. The study would contribute to change management policies and practices of the Bumiputra shipping organisations in Malaysia.
2	Action Orientation	This study recorded all the evidence of action taken by the AR Group and the CEO.
3	Cyclical Process:	The action research method involved two main cycles and mini-cycles within the two main cycles.
4	Collaborative	Collaboration is a fundamental ingredient of the action research method and the AR Group and the Researcher worked together to address the thematic concern of the organisation and the unforeseen crisis.
5	Ethical Basis	As the CEO was also the Researcher and the AR Group Members were his top team, the Researcher retained the Resource Person throughout Cycle 1. During Cycle 2 the Resource Person was the mentor and the DBA supervisor for the Researcher and helped to maintain the study's integrity
6	Scientific	The data gathering and analysis processes used scientific techniques of participant observation, semi-structured interviews, clustering, logical chain of evidence, feedback from informants and triangulation to ensure that the data was reliable and valid.
7	Re-educative	There was a change in the knowledge base of the Researcher and the AR Group Members because they saw the application of ARAL in action. They learnt about AL and applied it in their departments and in the organisation when it was in a crisis
8	Emancipators	The introduction of the ARAL approach helped the senior managers and the CEO of the organisation to salvage an organisation which would have otherwise collapsed during the economic crisis and gave purpose to all the managers and the staff of the organisation.
9	Naturalistic	The study was undertaken in the natural setting of a public listed shipping company in Malaysia.
10	Normative	The social 'norms' of the AR Group were considered during the research, but in order to bring about change in the group, the AR Group Members and the CEO modified the norms during the action research process.
11	Group dynamics	The AR Group operated as an effective team whilst applying their learning to their respective departments and the organisation in Cycle 1 and Cycle 2 respectively.

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**Conclusion**

This report of an action research project in a Malaysian shipping company has provided an example of how an integrated action research action learning (ARAL) approach can be used by the managers of an organisation to investigate difficult and challenging issues affecting their activities. The focus of the report is primarily on the research method that is employed, the details of how the research was conducted, the research framework and elements that were applied, and its justification as a process that can be used in the investigation and resolution of work based problems and issues.

The ARAL approach is presented as a method for achieving practical business solutions within a research framework that can investigate real management issues and contribute to the development of new management learning.

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