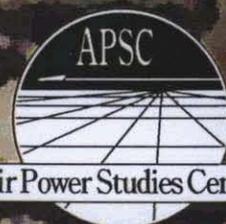




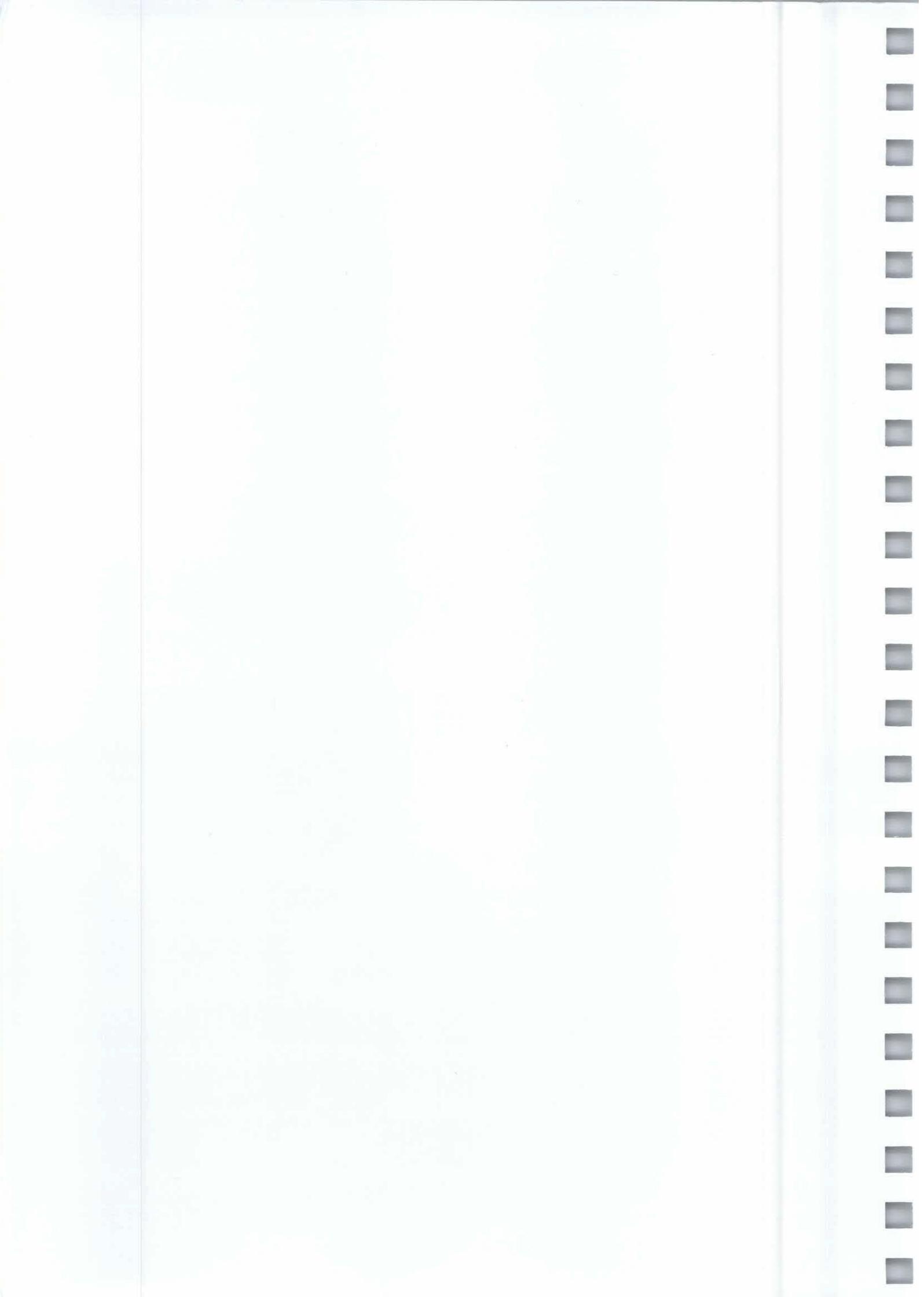
THE RAAF'S FUNDAMENTAL BUSINESS

AN EVALUATION OF RAAF AIR POWER EDUCATION

SQNLDR JAMES Y. WALKER



1995



'THE RAAF'S FUNDAMENTAL BUSINESS'
AN EVALUATION OF RAAF
AIR POWER EDUCATION

Squadron Leader J.Y. WALKER, AM



Air Power Studies Centre

RAAF Base Fairbairn

Canberra

1995

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THE AIR POWER STUDIES CENTRE

The Air Power Studies Centre was established by the Royal Australian Air Force at its Fairbairn Base in August 1989 at the direction of the Chief of the Air Staff. Its function is to promote a greater understanding of the proper application of air power within the Australian Defence Force and in the wider community. This is being achieved through a variety of methods including development and revision of indigenous doctrine, the incorporation of that doctrine into all levels of RAAF training, and increasing the level of air power awareness across the broadest possible spectrum. Comment on this publication or enquiry on any air power related topic is welcome and should be forwarded to:

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DISCLAIMER

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James Y. Walker
Canberra
November 1995

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Glossary

1RTU No 1 Recruit Training Unit
2FTS No 2 Flying Training School
3CRU No 3 Controlling and Reporting Unit

A

ADBC Air Defence Basic Course
ADF Australian Defence Force
ADFA Australian Defence Force Academy
AETS Airmen Education and Training System
AMB Amberley
APSC Air Power Studies Centre

B

BSC Basic Staff Course

C

CAS Chief of Air Staff
CASAC Chief of Air Staff Advisory Committee
CI Chief Instructor
CPLPROMCSE Corporal Promotion Course
CTO Course Terminal Objective

D

DARA Directorate of Army Research and Analysis
DAPSC Director Air Power Studies Centre
DEGT Director of Education and Ground Training
DGPERS-AF Director General Personnel-Air Force
DMPP-AF Director Manpower Plans and Policy-Air Force
DPC-AF Director Personnel Civilians-Air Force
DS Directing Staff

E

EDN Edinburgh
ESL East Sale

F

FEG Force Element Group

G

GR Graduation Requirement

H

HQTC Headquarters Training Command

J

JOIC Junior Officer Initial Course

N

NADACS National Air Defence and Airspace Control System
NCO Non Commissioned Officer

O

OHT Overhead Transparency

R

RAAF Royal Australian Air Force
RAAFCSC Royal Australian Air Force Command and Staff
Course
RAAFSC Royal Australian Air Force Staff College
RAAFSMTT Royal Australian Air Force School of Management and
Training Technology
RIC Richmond
RTC Recruit Training Course

S

SAN School of Air Navigation
SATC School of Air Traffic Control
SGTPROMCSE Sergeant Promotion Course
SNCO Senior Non Commissioned Officer
SOTAP Staff Officer Training Analysis and Policy
SST Single Service Training

T

TDO Training Development Officer
TRGCMD Training Command

W

WAG Wagga
WLM Williamtown
WOFFPROMCSE Warrant Officer Promotion Course
WP Working Party

EXECUTIVE SUMMARY

Introduction

1. The RAAF air power education program was implemented in Jul 92. It has three levels. First, a formal education program set within the education and training context; second, input at unit level through largely informal means; and finally, input to the Defence organisation, the wider community and regional nations. Considerable resources have so far been expended on the RAAF air power education program but few, if any, performance measures are in place to assess whether those resources are being effectively and efficiently employed.

The Study

2. The aim of the study was to evaluate the effectiveness of the RAAF air power education system. To achieve this aim a rigorous research methodology was applied, using data from six broad sources. These were instructors, graduates, supervisors, commanders, non-RAAF personnel (Army, Navy, the Defence organisation and the wider community), and training records from each of the relevant training schools. Over 450 personnel were either surveyed or interviewed as part of the study.

Findings

3. **Formal Air Power Education Program.** Evidence indicates that the current structure of the formal air power education program is generally effective. However, there is scope for improvement in a number of areas, including the development of an air power education philosophy, the revision of instructional strategies and the update of syllabus objectives.

4. **Unit Level Air Power Education Program.** The goals of the unit level air power education program have not been achieved, and evidence indicates that they will not be achieved if the program's structure remains informal and non-intrusive. Greater involvement by the APSC to provide unit commanders with the skills, knowledge and resources to educate their personnel is required.

5. **Defence Organisation, Wider Community and Regional Nations.** The goals of the Defence organisation, wider community and regional nations

air power education program have been achieved, with possibly the one exception; the goals for the wider civilian community.

RECOMMENDATIONS

6. Based on the results found by this study, the following recommendations are made:

Recommendation One

The APSC, in conjunction with relevant training schools, develop an air power education philosophy which defines the aim of the RAAF air power education system at each step of the airman and officer professional military education continuum.

Recommendation Two

The APSC, in conjunction with Headquarters Training Command (HQTC) and Air Force Office, develop and publish a RAAF air power education strategic plan that defines the structure of the RAAF air power education system, its vision, mission, key result areas, critical success factors and objectives.

Recommendation Three

A junior officer position (Any Officer desirably with a training background) be established at the APSC to co-ordinate an air power education network to facilitate a greater interaction between the APSC, training schools and unit commanders on the effective promotion of air power and its application.

Recommendation Four

An additional annual CAS Fellowship should be offered to a suitably qualified and experienced SNCO/WOFF.

Recommendation Five

The APSC, in conjunction with HQTC and the relevant training school, incorporate the following improvements to the air power education components of the AETS and OETS courses, based on further investigation where necessary:

- a. A greater emphasis should be placed in all AETS and OETS courses on encouraging the concept that each member has the responsibility to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.
- b. The CTO 'Apply air power to the defence needs of Australia' which the 1991 WP applied to all AETS, OETS and operator courses is too broad and should be replaced with more specific objectives based on recommendation Two.

Recommendation Six

No. 1RTU, in conjunction with the APSC, carry out the following to improve the effectiveness of the RTC air power component:

- a. conduct a needs analysis, in accordance with the Recommendation Two, to ensure RTC graduates' needs are met and that there is continuity between the RTC and other AETS courses;
- b. conduct a thorough examination of air power education with a view to developing a more extensive, effective and motivational air power study package;
- c. develop an effective strategy for air power education on the RTC;
- d. establish links between the APSC and RAAFSMTT to ensure provision of adequate air power education resources for the course;
- e. conduct an assessment of the training that should be provided to RTC instructors in air power education;
- f. conduct a methods/media analysis to provide the necessary direction to ensure the most effective methods

are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated; and

- g. investigate the possibility of including in the RTC syllabus a visit to the flightline by students as a motivational teaching method.

Recommendation Seven

RAAFSMTT, in conjunction with the APSC, carry out the following to improve the effectiveness of the CPLPROMCSE, SGTPROMCSE and WOFPROMCSE air power education components:

- a. conduct a needs analysis, in accordance Recommendation Two, to ensure CPL, SGT and WOFP needs are met and that there is continuity between all AETS courses,
- b. determine the pre-requisite training required by AETS air power instructors,
- c. investigate scheduling more preparation time for student presentation for the SGTPROMCSE, and
- d. implement a system for the effective provision of air power resources for the course.

Recommendation Eight

RAAFCOL and ADFA, in conjunction with the APSC, carry out the following to improve the effectiveness of the JOIC and ADFA single service training air power components:

- a. conduct a needs analysis, in accordance recommendation Two, to ensure junior officer needs are met and that there is continuity between all OETS courses,
- b. develop an instructor's air power package to ensure instructor standardisation, and

- c. develop an integrated approach to air power education to provide continuity and motivation throughout the entire ADFA course.

Recommendation Nine

No. 2FTS and SAN, in conjunction with the APSC, carry out the following to improve the effectiveness of the, Airmen Aircrew, Air Traffic, Navigator and Pilot courses air power components:

- a. conduct a needs analysis, in accordance with the Recommendation Two, to ensure junior pilots', airmen aircrew, air traffic controllers' and navigators' needs are met and that there is continuity between all courses and the relevant AETS or OETS course;
- b. establish links with the APSC to ensure provision of adequate air power resources for the courses; and
- c. conduct a methods/media analysis to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated into this phase.

Recommendation Ten

No. 3CRU, in conjunction with the APSC, carry out the following to improve the effectiveness of the ADBC air power component:

- a. conduct a needs analysis, in accordance with Recommendation Two, to ensure air defence officers' needs are met and that there is continuity between the ADBC and the JOIC;
- b. conduct a thorough examination of air power with a view to developing a more extensive and effective air power study package that places an emphasis on understanding and applying air power doctrine, rather than simply learning doctrine itself, and encourages the concept that a comprehension of air power doctrine is a personal responsibility;

- c. establish links with the APSC, 2FTS, SAN and RAAF Staff College to ensure provision of adequate air power resources and reference material for the course;
- d. conduct an assessment of the pre-requisite knowledge and experience ADBC air power instructors require;
- e. conduct an assessment of training that should be provided to ADBC instructors in air power; and
- f. conduct a methods/media analysis to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated into this phase.

Recommendation Eleven

The APSC, in conjunction with RAAFSC, develop an air power presentation for inclusion in the Commanding Officers' Course. The presentation should emphasise the responsibility that a Commanding Officer has in ensuring that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.

Recommendation Twelve

The APSC conduct an annual air power education workshop involving all air power trainers to implement the improvements to the air power elements of the AETS and OETS highlighted in Recommendations Five to Eleven inclusive.

Recommendation Thirteen

To encourage personnel at the unit level to understand how their functions and activities relate to the application of air power, the APSC:

- a. develop and implement a long term strategy, using the AETS and OETS as its primary vehicles, aimed at encouraging the concept that each member has the

responsibility as an officer or NCO/SNCO/WOFF to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF;

- b. facilitate debate, at the highest levels, to encourage operational units to provide feedback to their support elements on the effectiveness of the support elements activities in support of day-to-day operations, exercises and deployments;
- c. develop and implement a shorter term strategy to:
 - (1) motivate and raise the interest levels of personnel at unit level with regards to air power,
 - (2) relate the contemporary application of air power to unit level functions and activities,
 - (3) facilitate discussion and debate of contemporary air power issues, and
 - (4) provide unit level commanders with the support and direction on how to promote a greater awareness of air power in their units.

Recommendation Fourteen

The APSC investigate the feasibility of conducting an air power workshop for Navy and Army Staff College DS at the beginning of each staff course.

Recommendation Fifteen

The APSC investigate the inclusion of an air power phase in the initial Navy (Cerebrus) and Army (Duntroon) Officers' courses.

Recommendation Sixteen

The APSC, in conjunction with DPC-AF, develop and implement an air power education phase for RAAF civilians.

Recommendation Seventeen

The APSC investigate the feasibility of conducting air power workshops for senior defence civilians.

Recommendation Eighteen

The APSC facilitate thought and discussion on the ways in which air power and its application in the defence of Australia can be more effectively promoted to the wider civilian community.

Recommendation Nineteen

The APSC investigate introducing executive summaries or abstracts to the APSC Working Papers to enhance their appeal to the general public.

Recommendation Twenty

The APSC investigate distributing the APSC Working Papers and the APSC Newsletter to the Press Gallery Defence Journalists.

Recommendation Twenty-One

The APSC investigate conducting a regular Army Doctrine Centre, Maritime Studies Program and APSC forum to discuss joint issues.

Recommendation Twenty-Two

The APSC investigate developing a network of interested officials and ADF personnel, at Director level and above, to meet once a quarter to discuss professional concerns.

Recommendation Twenty-Three

The APSC investigate conducting presentations to Senior Management Education courses such as the Defence Industry Study Course, or those held at Mt Eliza.

SECTION ONE

CHAPTER ONE

INTRODUCTION

1.01. 'An organisation can only be as good as its ideas, which themselves must be formalised, codified and widely understood.'¹ However, until August 1990 air power doctrine in the RAAF had not been formally stated, and as a result, air power education has not been as structured and coherent as it should have been.² Nowhere has the importance of this deficiency been better expressed than in a report on ADF command arrangements prepared in 1987 by then Brigadier J.S. Baker. Commenting on the question of command of air assets in joint operations, Baker judged that the proper use of air power in contemporary conflict was not well understood. Baker suggested:

In part Air Forces are themselves to blame for any dearth of understanding. There are few scholars adding to the strategic debate; there is little written doctrine...Of any of the Services, it is Air Force which requires the greatest body of corporate knowledge of all forms of operations on land, sea or in the air. In turn it must educate others in the effective use of air assets.³

1.02. Stephens supports Baker's view, and adds that over the last 20 years, RAAF air power education had been largely ineffective as a result of a 'slow and unco-ordinated' effort.⁴ In recent years, however, there has been considerable progress in this regard. Most notably, in 1989 Air Marshal R. Funnell, in an effort to raise the level of the RAAF's professional understanding of its real business - air power - instituted a range of measures to promote the wider understanding and proper application of air power in the RAAF.⁵ These measures included the review of RAAF air power doctrine, the establishment of a centre for air power studies, and a study of RAAF air power education and training.

1.03. As a result of these initiatives an education program was implemented to change the RAAF so that air power would be perceived as both the cornerstone and capstone of the RAAF's disparate endeavours. Since 1989 considerable effort has been applied to effect this culture change. The *RAAF Manual of Training Policy and*

¹ Stephens, A., *Power Plus Attitude*, AGPS Press Publishing, Canberra, 1992, p 182.

² Espeland, B, 'Air Power Education', *Regional Air Power Workshop*, Darwin August 1993, pp 29-32.

³ Baker, J.S., Brigadier, *Report of the Study into ADF Command Arrangements*, APSC, Canberra, March 1988, pp 4-17.

⁴ Stephens, A., *Power Plus Attitude*, op cit, p 183.

⁵ *ibid*, p 190.

Procedures requires that training and education programs be regularly evaluated as part of the systems approach to training.⁶ To date no attempt has been made to measure the effectiveness of the overall program. Although considerable resources are being expended on air power education there are few performance measures in place to determine whether those resources are being effectively and efficiently employed. A deficiency therefore exists. What is needed is a comprehensive evaluation of the RAAF air power education program to determine its effectiveness. This study provides such an evaluation.

- 1.04. This Report is divided into three sections.
- a. Section One - Introduction and Development of Evaluation Strategy,
 - b. Section Two - Analysis of Evaluation Issues, and
 - c. Section Three - Conclusions and Recommendations.

Section One

1.05. Section One comprises three chapters. Chapter One provides an introduction and brief background to the study development, while chapters two and three describe the pre-planning and planning phases of the study.

1.06. **The Pre-Planning Phase.** The aim of the pre-planning phase is to define the major stakeholders in the evaluation, acquire a thorough understanding of the program, and clarify and reach agreement on the following:

- a. the subject of the evaluation,
- b. the purpose of the evaluation,
- c. the specific issues and questions to be addressed by the study,
- d. deciding which aspects of the air power education program the evaluation is to focus upon, and
- e. developing an evaluation strategy and model for the study.

This is an important element of the evaluation as it will ensure that each of the major stakeholders is involved in all aspects of the study.

⁶ DI (AF) AAP 2002.001, *RAAF Manual of Training Policy and Procedures*, Chapter 14

1.07. **Planning Phase.** The outputs from the pre-planning phase will be used during the planning phase to carry out the following activities:

- a. determining data sources and methods of collecting data;
- b. designing an approach for the collection, management and analysis of data;
- c. developing a data collection schedule;
- d. defining the survey sample; and
- e. identifying and establishing contacts to assist with arranging interviews and administering questionnaires.

In addition, the data requirements of the evaluation questions, the methods of collection chosen and item analysis will be considered. Therefore, survey items will be developed, survey instruments will be prepared and administered, and data collected.

Section Two

1.08. Section Two comprises 13 chapters. In each of these chapters various elements of the RAAF air power education system will be analysed. During this phase all data collected, both qualitative and quantitative, will be analysed using the management and analysis methods developed during the planning phase. For empirical data this is likely to take the form of describing the survey sample in terms of averages, percentages, frequencies and histograms, calculating correlation coefficients and cross tabulating data. For qualitative data, inputs, processes and outcomes are examined to determine any logical connections between them.

Section Three

1.09. Section three comprises two chapters. In accordance with the reporting procedures agreed in the pre-planning phase, Chapter One provides the study's conclusions. Chapter Two presents the study's recommendations.



SECTION ONE

CHAPTER TWO

PRE-PLANNING PHASE

THE DEVELOPMENT OF RAAF AIR POWER EDUCATION

The Vision and Strategy for Air Power in the RAAF

2.01. In 1989 Air Marshal R. Funnell formulated a strategy to achieve his vision to establish a culture whereby the place of air power and the roles which the RAAF must play in the securing of Australia would be properly understood within both the RAAF and the wider community. Funnell believed that every element/person of the RAAF must understand their role in the provision of combat air power. As recently as 29 August 1995 this vision was reaffirmed by A/CAS AVM D. Rogers who stated that the vision was applicable for the foreseeable future. With regard to air power education, Funnell considered that the study and knowledge of air power must be the central element of the RAAF's corporate intellect. Funnell's strategy comprised three major elements. First, Air Marshal Funnell established a full-time doctrine writing team to write an Australian air power manual, and to stimulate thinking about air power and air forces. Second, the RAAF Air Power Studies Centre (APSC) was established in August 1989 absorbing the doctrine writing team. It was allocated the following tasks:

- a. to advise on air power studies, doctrine and policy;
- b. to develop and maintain RAAF air power doctrine; and
- c. to co-ordinate and sponsor air power training and syllabus development.¹

2.02. The first edition of the Air Power Manual was published by the APSC in August 1990. Copies of the Air Power Manual were distributed to all RAAF officers, ADF training establishments, libraries, universities, regional and allied air forces, and other outlets for public information. A condensed version of the manual was also distributed for more general reading in 1992.

¹ Stephens, A., *Power Plus Attitude*, APSC, Canberra, 1992, pp 185-190.

2.03. The third element of Air Marshal Funnell's strategy was to conduct a thorough review of air power education and training to ensure an appropriate level of professional understanding of air power across all elements of the RAAF. Air Marshal Funnell considered the review fundamental in setting the direction for the future development of the RAAF air power education program. Two major studies into RAAF air power education were conducted. These were:

- a. *A Report on a Study of RAAF Air Power Education* by Air Commodore I. Westmore in 1989, and
- b. *Report of a Working Party to Review Air Power Training and Education in the RAAF* in 1991.

The Westmore Report

2.04. In conjunction with the review of air power doctrine, Air Commodore I. Westmore was directed to conduct a study to report on air power education in the RAAF. The study addressed the following issues:

- a. the desired purpose, scope and content of RAAF air power education;
- b. present arrangements for air power education in the RAAF; and
- c. the proposed way ahead including, if appropriate, interlocking syllabuses through which to impart, and reinforce formally and progressively, the concepts and applications of air power.²

2.05. **Purpose and Objectives.** Westmore defined the purpose of air power education as the optimisation of air power exercised by the RAAF in the defence of Australia.³ From this, he determined two broad objectives of air power education, namely:

- a. To inculcate in all RAAF members a sense of corporate identity based on an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF.

² CAS Minute 720/1988 of 22 Nov 88, *A Study of RAAF Air Power Education*.

³ Westmore, I. *Report on a Study of RAAF Air Power Education*, Canberra, April 1989, p 10.

- b. To develop in RAAF members and other individuals in the Defence Organisation and the wider community the strategic thinking appropriate to their relationship with the use of air power in the defence of Australia.⁴

2.06. **Scope of Air Power Education.** The Report proposed that the scope for air power education should include:

- a. human factors,
- b. strategic thinking internal to the RAAF, and
- c. strategic thinking external to the RAAF.⁵

2.07. **Human Factors.** Westmore argued that air power education is required to satisfy the vocational needs of all members of the RAAF. He stated:

All RAAF personnel should have certain ideals and ideas impressed upon them. Those concepts should reinforce the positive elements of their vocational aspirations.⁶

A central tenet of Westmore's argument was that the scope of RAAF air power education, from the perspective of human factors, must be tied to career milestones. Westmore considered that this approach would provide a sturdy framework for air power education and constantly remind those in positions of authority of their formal responsibilities.⁷ As a final note, Westmore emphasised that every formal RAAF course should include, as vocational reinforcement, the appropriate treatment of air power.⁸

2.08. **Strategic Thinking Internal to the RAAF.** Westmore argued that air power education, in the sense of an air force's professional advanced learning, is required to stimulate and sustain the strategic thinking by RAAF commanders and staff officers across a wide range of appointments at increasing levels of *responsibility, purview and cerebration*. Westmore proposed that education in strategic thinking in relation to air power therefore needed to be introduced at the earliest stages of officer training. He added that strategic thinking should underlie the formal officer education program, culminating at RAAFSC, and that it should also

4 *ibid*, pp 10-11.

5 *ibid*, p 11.

6 *loc cit*.

7 *loc cit*.

8 *ibid*, p 12.

be an important consideration in the education of more senior RAAF officers.⁹

2.09. **Strategic Thinking External to the RAAF.** The Report proposed that the RAAF should conduct an external campaign of education in air power doctrine to explain its theory and application in the defence of Australia. Westmore considered that this would provide the basis for justifying the RAAF's stance on strategic issues and generate broad support and confidence. Recommendation was made that such education in strategic thinking should be directed firstly at the other elements of the Defence Organisation, and, in particular, at those officers who proffer advice to Government. While Westmore considered these elements of the Defence Organisation should be educated, he also emphasised the need to educate the command and staff levels in Navy and Army, as well as the wider community.¹⁰

2.10. **Assessment of Air Power Education in the RAAF.** Westmore assessed that the arrangements for the RAAF air power education system were totally unsatisfactory. He concluded that to the extent that air power doctrine was taught to officers in the RAAF, it was *ad hoc*, largely superficial, and unrelated to career progression, endorsed doctrine or common references.¹¹ The Report states:

The absence of endorsed air power doctrine is a serious deficiency and is a major factor in the unsatisfactory condition of RAAF education.....Furthermore, the staff involved have neither the experience, expertise nor reference materials required...Air power is not taught to the other ranks. It should be.¹²

Westmore concluded, that as a result of this largely unco-ordinated effort over the last 20 years, RAAF air power education had been largely ineffective.¹³

2.11. **Proposed Way Ahead.** Although Westmore was unable to propose a system of inter-locking syllabuses for air power education because of a lack of codified doctrine at the time, he was able to suggest what needed to be taken into account and what broad steps should be taken. Westmore recommended that the implementation of a RAAF system

⁹ *ibid*, p 12.

¹⁰ *ibid*, pp 12-14.

¹¹ *ibid*, pp 17-24.

¹² *ibid*, pp 42-44.

¹³ *ibid*, p 24.

of air power education should take into account:

- a. the need to teach formally not only endorsed air power doctrine, but question continually the veracity of that doctrine, and conduct regularly a formal review of endorsed doctrine and accept the costs of substantiated change;
- b. a range of central relationships linking overarching concepts to basic applications at the personal and organisational levels; and
- c. pervasive links between proper understanding, self-fulfilment, pride in the RAAF and a truly professional ethos.¹⁴

2.12. **Proposed Steps to be Taken.** Westmore recommended that the way ahead should include:

- a. development of necessary doctrine,
- b. design and implementation of Graduation Requirements (GRs) to form the basis of a RAAF model system for air power education,
- c. conduct of collateral education,
- d. concern for air power literature,
- e. an increase within the RAAF of a range of informal and *ad hoc* measures, and
- f. a program to influence positively the wider understanding of air power.¹⁵

2.13. Air Commodore Westmore's Report was considered by Chief of Air Staff Advisory Committee (CASAC) as submission No 3/89, and all recommendations were endorsed.

Working Party Report on Air Power Education

2.14. On 28 November 1990, a paper on RAAF air power education and training was presented to the Headquarters Training Command (HQTC) Training Symposium by GPCAPT B. Espeland, Director of the APSC

¹⁴ *ibid*, pp 42-44.

¹⁵ *ibid*, p 44.

(DAPSC). Espeland recommended that appropriate GRs, based on endorsed doctrine, be developed. A Steering Committee consisting of DMPP-AF, DEGT and DAPSC was subsequently established to oversee a working party (WP) comprising a core element of RAAF APSC, HQTC and unit representatives. The scope of the WP study was to design air power education and training to graduate, at various levels throughout their career, officers and airmen who:

- a. have a sound knowledge and understanding of air power, and its importance to the defence of Australia;
- b. have an appreciation of the many different environments (Governmental, Departmental and Service) influencing the development and employment of air power in the Australian region of primary strategic interest;
- c. have an understanding of the implications of air power across the levels of war;
- d. have an appreciation for the doctrine processes involved;
- e. have an understanding of the operation of the RAAF;
- f. have an appreciation for, and understand, the role theory plays in air power combat operations; and
- g. possess the skills which will enable them to apply effectively their acquired knowledge in their new appointments.¹⁶

2.15. **Methodology.** The first step in the WP study was to review all appropriate course GRs and to determine performance standards to ensure that air power training would be achieved progressively, on a continuum from Recruit training through to the highest level; the RAAF Command Staff Course (RAAFCSC). Initially the WP developed training objectives for the Officer and Airmen Education and Training Schemes only. However, objectives were subsequently developed for the Basic Aircrew and Operator/Controller courses. As a basis for the study methodology the WP adopted the RAAFCSC Air Power Study Model. The WP argued that this provided direction for a training needs analysis which enabled training needs of each course to be matched to doctrine.¹⁷

¹⁶ *Final Report of Working Party to Review Air Power Training and Education in the RAAF*, December 1991, pp 1-2.

¹⁷ *ibid*, pp 3-4.

- 2.16. **Deficiencies.** The study revealed the following deficiencies:
- a. no structure or integrated approach was evident with air power Course Terminal Objectives (CTOs),
 - b. an absence of air power CTOs within several GRs,
 - c. variation in the use and meaning of air power terminology, and
 - d. variation in proficiency levels between courses.¹⁸

Each of these deficiencies was addressed, and all courses were subsequently revised to include a relevant air power stream.

2.17. **Training Objectives.** The approach adopted by the WP did not treat each course in isolation, rather air power was progressively integrated across all course levels of the education continuum. The WP recommended that a single CTO be developed for inclusion in all GRs. The CTO was stated as follows:

Apply air power doctrine to the defence needs of Australia.¹⁹

Although no formal training design rationale was given for the use of a single CTO, the WP justified its decision by writing enabling objectives for each of the courses.²⁰ CTOs and associated enabling objectives for each course are shown at Annex A. Although some of the enabling objectives appear to be similar, different operative words have been used to indicate progress to higher levels of performance as does the use of incremental levels of proficiency.

2.18. **Training Methods and Concepts.** The WP also undertook a review of air power education and training methods, and concepts. The characteristics of available delivery systems were reviewed and suitable systems were identified for use within the RAAF. For selected courses an analysis of a range of instructional characteristics was carried out which included consideration of general course information, eg locality and frequency; course component characteristics, eg stability of subject content and duration of air power instruction; analysis of learning objectives to determine the subject complexity; as well as an assessment

¹⁸ *ibid*, p 3.

¹⁹ *ibid*, p 4.

²⁰ *loc cit*.

of learner preferences and needs.²¹ This information is presented in tabular form at Annex B.

2.19. **Recommendations.** The following recommendations were made by the WP:

- a. one common air power CTO be adopted for all training courses reviewed,
- b. enabling objectives identified by the WP be incorporated within syllabuses for all training courses reviewed,
- c. the air power CTO be deleted from the WSC and the FSGT promotion course GRs,
- d. the delivery system for air power education and training be selected in accordance with the methods and media analysis conducted by the WP,
- e. a series of training videos covering all aspects of air power doctrine be produced under the direction of the APSC,
- f. wargaming at an appropriate level be adopted by RAAFCSC and Basic Staff Course,
- g. APSC is to conduct a two day workshop and seminar for training development and instructional staff,
- h. APSC is to conduct regular reviews to standardise the approach to air power training, and
- i. APSC is to be consulted by course sponsors when air power training objectives are under review.²²

2.20. The WP recommendations were considered by the Steering Group on 30 Jan 92, and in general all were endorsed. The following comments were made:

- a. Recommendations at para 2.19. a. to d. were endorsed without reservation.

²¹ *ibid*, pp 4-7.

²² *ibid*, pp 10-11.

- b. The training videos referred to in paragraph 2.19., sub-paragraph d. were to be produced by Central Photographic Establishment with guidance from APSC.
- c. The recommendation at paragraph 2.19., sub-paragraph f. concerning war gaming was fully supported. However, the Steering Group noted that the RAAF lacked a central agency to promote war gaming, and that the intention was that a dedicated position and expertise was to be established by the APSC.
- d. The Steering Group decided that Training Command (TRGCMD), Staff Officer Training and Policy (SOTAP), in consultation with APSC, would sponsor regular reviews to standardise the approach to air power education.²³

Structure of the Current RAAF Air Power Education Program

2.21. As a result of these initiatives, the revised RAAF air power education program was in place by late 1992. The program's structure reflected Air Commodore Westmore's recommendation that air power education should encompass more than just the formal education process. As a result, the program's structure included:

- a. a formal education program set within the education and training context;
- b. input at unit level through largely informal means; and
- c. input to the Defence organisation, the wider community and regional nations.²⁴

The Formal RAAF Air Power Education Program

2.22. **Overview of the Program.** As a result of the two studies into RAAF air power education, air power education is now imparted progressively on a continuum from recruit training to the RAAFCSC. As well, Basic Aircrew and Operator/Controller courses also have an air

²³ DAPSC Minute, APSC 59/1/Air Pt1 (50) of 31 Jan 92.

²⁴ Discussions SQNLDR J. Walker/GPCAPT G. Waters, DAPSC, of 3 Sep 94. GPCAPT advised that there were essentially three major elements to the RAAF air power education program.

power component included. As discussed at paragraph 2.17., course GRs are shown at Annex A.

2.23. **Objectives of the Program.** The overall aim of the formal education program is to inculcate in all RAAF members a sense of corporate identity based on an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF. The specific objectives of the program were previously identified at paragraph 2.14..

Input at Unit Level

2.24. **Overview of the Program.** Responsibility for ongoing air power training at unit level lies with individual commanders, while the APSC provides support and direction. Intentionally, informality is the essence of the training program. The informal approach was taken because it allows the commander more discretion in managing the use of unit resources while minimising its impact on the unit's day-to-day activities.²⁵ The major elements of this program are:

- a. the facilitation by the APSC of thought and debate on air power doctrine, and, more recently, the role of air power in broader defence issues;
- b. the development and distribution of air power publications by the APSC, such as the *Air Power Manual*, the *APSC Papers Series*, an *Air Power Reading Guide* and *War in the Air*;
- c. the development of a database of air power information by the APSC that is circulated RAAF wide on a regular basis;
- d. the support and direction by the APSC to unit commanders on how best to promote a greater awareness of air power in their units;
- e. briefings and presentations by the APSC on an opportunity basis to units on request;
- f. a series of conferences and workshops on historical and contemporary air power issues;
- g. the appointment on some bases and units of air power liaison officers at commanders' discretion;

²⁵ *ibid.*

- h. the establishment of air power resource centres on some bases at commanders' discretion; and
- i. a program of regular air power briefings by staff members at some units at commanders' discretion.²⁶

2.25. **Objectives of the Program.** The objectives of the air power education program at unit level are to provide:

- a. informal and non-intrusive input that complements the formal education program to promote a broad understanding of air power and the application of air power doctrine, and
- b. RAAF members with an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF.²⁷

Input to the Navy, Army, Defence Organisation, Wider Community and Regional Nations

2.26. **Overview of the Program.** Consistent with the second broad air power education objective endorsed by the CASAC in 1989, the APSC has developed initiatives with Army, Navy, regional and other air forces, government and defence departments, and industry and community organisations. These initiatives include:

- a. conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues;
- b. inclusion of relevant air power studies streams in Army and Navy staff course curricula;
- c. sponsorship of RAAF fellowships for studies in air power and doctrine;
- d. conduct of research in air power doctrine; and
- e. the use of the media and public relations to promote an awareness of air power in the defence of Australia.²⁸

26 *ibid.*
27 *ibid.*
28 *ibid.*

Of particular note are the efforts by the APSC in developing closer ties at the regional level by assisting with the promotion of air power awareness and the development of air power doctrine. This has been achieved mainly through regional air power workshops, briefings, seminars, and visits; both by and to the APSC.

2.27. **Objectives of the Program.** The objectives of this component of the air power education program are to:

- a. raise the awareness of the community on the role air power plays in the defence of Australia,
- b. promote an understanding in the community of the ADF resource requirements needed for the application of air power,
- c. project the importance of the ADF to national and regional security with emphasis on air power contribution,
- d. advise regional nations in the methods they can use to promote the role of air power in the defence of their nations,
- e. advise regional nations in the methods they can use to promote an understanding of the resource requirements needed for the application of air power, and
- f. promote an understanding by regional nations on maritime operations.²⁹

METHODOLOGY FOR THE EVALUATION OF THE RAAF AIR POWER EDUCATION PROGRAM

2.28. With the historical development and objectives of the RAAF air power education program defined, the first step in the evaluation of the program is to determine the purpose of the evaluation and decide upon the major questions which need to be answered. An evaluation strategy and model can then be determined.

Purpose of the Evaluation

2.29. The purpose of evaluating the RAAF air power education program is to:

- a. measure the extent to which the vision for the RAAF air power education system has been achieved;
- b. determine if the vision for the RAAF air power education system is still appropriate for the future needs of the RAAF, and, if necessary;
- c. recommend action to be taken to ensure that the vision for the RAAF air power education system into the twenty first century will be achieved.

Implicit in this purpose is the assessment of the extent to which the vision for each element of the air power education has also been achieved.³⁰

Major Questions to be Answered

2.30. The major questions that need to be addressed by the evaluation study are:

- a. To what extent has the vision for the RAAF air power education system been achieved? To address this question the following three questions need to be answered:
 - (1) To what extent have the goals of the formal element of the RAAF air power education system been achieved?
 - (2) To what extent have the goals of the informal element of the RAAF air power education system been achieved?
 - (3) To what extent have the goals of the input to the Defence Organisation, the wider community and regional nations element of the RAAF air power education system been achieved?
- b. How appropriate is the vision for the RAAF air power education system to the future needs of the RAAF?

³⁰ *ibid.*

- c. What is the appropriate vision for the future of the RAAF air power education system?
- d. Based on this vision for RAAF air power education, will the current system meet the future needs of the ADF?
- e. What, if any, action needs to be taken to improve the RAAF air power education system to ensure that the future vision for the RAAF air power education system into the twenty-first century is achieved?

A detailed list of all evaluation questions that follow from these main questions is at Annex C.

Evaluation Strategy

2.31. To answer the study's major questions the evaluation strategy requires a broader definition than simply determining the congruence between individual performance and intended program objectives. The strategy needs to encompass the processes of delineating, obtaining and providing information for making judgements so that decisions can be made about the entire educational program. This requires an evaluation strategy that considers not just program outcomes but also program inputs and processes. Figure One is a conceptual model for the evaluation strategy.

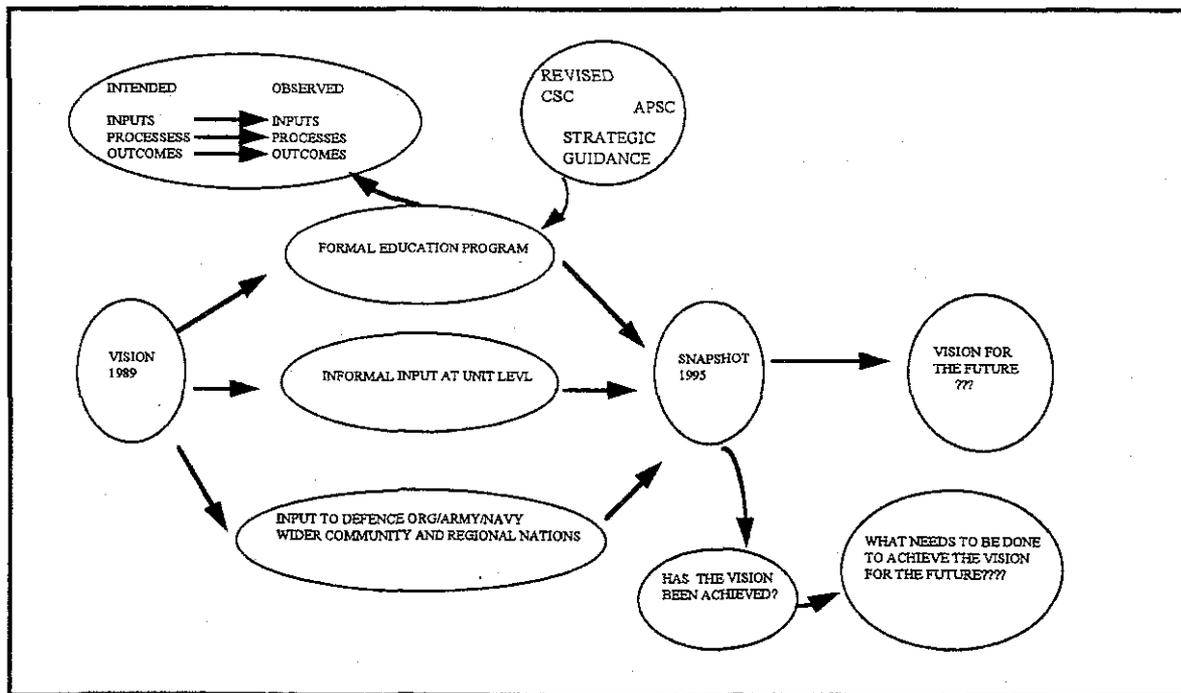


Figure One: A Conceptual Model for the Air Power Education Evaluation Strategy

Although an outcomes-oriented evaluation strategy would provide a measure of the effectiveness of the program, it would not necessarily point to how to improve the program. Therefore, to be of value the evaluation strategy for the RAAF air power education program should give attention to the relationship between background conditions, educational processes and the program outcomes. A link then must be established between this assessment of the program and the original vision. From this link a judgement can be made as to whether the vision for the RAAF air power education program has been achieved. Based on this judgement and the the vision for the future, improvements can then be recommended to the program.

2.32. There are two evaluation models that may be suitable for the evaluation of the air power education program.³¹ These are:

- a. Scriven's Evaluation Model, and
- b. Stake's Countenance Model.

Scriven's Evaluation Model

2.33. Scriven's Evaluation Model can be classified as a judgement approach in which primary attention is given to extrinsic criteria. He elaborated on the function of evaluation by emphasising goals and roles of evaluation. He also stressed that the goals of evaluation are always the estimation of merit, worth, value of something; that is, a judgement is always involved. According to Scriven, the evaluator's main responsibility is to make judgements. Scriven defines evaluation as a methodological activity which consists of the gathering and combining of performance data with a weighted set of criteria scales to yield either comparative or numerical ratings, and in the justification of:

- a. the data-gathering instruments,
- b. the weightings, and
- c. the selection of goals.³²

³¹ Walker, J.Y., *An Evaluation of the F/A-18 Hornet Computer Based Training System*, Masters Thesis, Monash University, Melbourne, 1991, pp 66-88.

³² *ibid*, pp 79-81.

Stake's Countenance Model

2.34. The Countenance Evaluation Model provides a framework which is comprehensive, in that it focuses on inputs, processes and outcomes rather than simply on outcomes. The Model suggests important ways of examining data by providing a rigorous method to examine contingencies between inputs, processes and outcomes and to examine the congruence between what was intended and what actually happened. The main emphases in Stake's Model are on descriptive and judgement data for decision making. Stake believes that in educational evaluation, the evaluation program must be fully described and judged. He suggests that the description of performance, the description of the educational process and the description of relationships between them must be undertaken.³³ Whether the immediate purpose of an evaluation is description or judgement, three bodies of information which should be examined are antecedent data, transactions, and outcomes.³⁴ A more detailed account of both Scriven's and Stake's evaluation models is provided at Annex D.

The Preferred Evaluation Model

2.35. The selection of an effective model for the evaluation of the RAAF air power education program must take into account not only the purpose and broad objectives of the entire program, but also the unique requirements of each element of the program. To this end, the formal education element and the more informal elements at unit level and in the wider community should be examined separately.

2.36. **Formal Education Element.** Although the evaluation of the formal education element is concerned with measuring the achievement of outcomes, the evaluation is primarily concerned with identifying the relationships between these outcomes and the processes and inputs to the program. In this way, if what was intended by the program does not occur, an informed judgement can be made as to why this has transpired, and improvements can be recommended. Although Scriven's Model provides a comprehensive mechanism to examine the inputs, processes and outcomes, it does not readily provide a mechanism to identify contingencies between them nor does it provide detailed guidance on examining and making judgements about evidence gathered. The Countenance Model, on the other hand, provides this mechanism. By focusing on antecedents, transactions and outcomes and the dependencies between them, the Model provides an effective means to collect, analyse

³³ *ibid*, pp 91-92.

³⁴ *ibid*, p 92.

and evaluate data. On balance therefore, the Countenance Model is the preferred evaluation model for this element of the evaluation.

2.37. **The More Informal Elements.** Unlike the formal education element, the evaluation of the more informal elements of the air power education program requires a focus not only on the achievement of outcomes and their dependencies with inputs and processes, but also on any unintended or incidental outcomes of the program. This is important because both these programs seek, in broad terms, to promote an understanding and to raise the awareness of air power through largely informal means. The emphasis is not on the educational process nor on the inputs to the program, rather on the overall effect of the program. Although the Countenance Model provides a comprehensive framework for the collection and interpretation of data, it is more suited to a formal curriculum evaluation where there are quantifiable links between inputs, processes and outcomes. Scriven's Model, however, provides a mechanism to examine the effects of the program and to assess the worth of these effects, whatever they are. Accordingly, Scriven's Model is the preferred evaluation model for the more informal elements used at the unit level and the Defence Organisation, wider community and regional nations elements of the program.

CONCLUSION

2.38. In determining the best methodology for the evaluation of the air power education program, this chapter examined the structure and objectives of the current program, the purpose of evaluating the program, and the major questions that need to be answered by the evaluation. From this examination, a methodology encompassing an evaluation strategy and an evaluation model plan was determined.

2.39. The purpose of evaluating the RAAF air power education program is to assess the effectiveness of the program structure and to measure the extent to which the program objectives have been achieved, with a view to improving the effectiveness and efficiency of the program. Although an outcomes-orientated evaluation strategy would provide a measure of the effectiveness of the program, it would not necessarily point to how to improve the program. The evaluation strategy must therefore encompass more than simply determining the congruence between individual performance and intended program objectives. The strategy needs to consider not just program outcomes but also system inputs and educational processes.

2.40. Based on this strategy, two models are suitable for the evaluation of the air power education program, namely: Scriven's Evaluation Model and Stake's Countenance Model. Stake's Countenance Model is the more appropriate model for the evaluation of formal air power curricula because it provides a comprehensive framework which focuses on inputs, processes and outcomes, and the contingencies between them. The Model is also particularly useful in determining why a curriculum may not have achieved its intended objectives, and in suggesting ways in which to improve the curriculum.

2.41. Unlike formal air power curricula, the emphasis with the more informal elements of the program is not on the educational process nor on the inputs to the program, rather on the overall effects of the program. Scriven's Model is the more appropriate model in this situation as it focuses on determining the worth or merit of a program by assessing both the program itself and any effects of the program, including any unintended outcomes. To ensure the effective co-ordination and conduct of the evaluation, a project management action plan consisting of a pre-planning, planning, item design and data collection, data management and analysis, and reporting phase is required.

SECTION ONE

CHAPTER THREE

PLANNING PHASE

INTRODUCTION

3.01. The objectives of the planning phase are to:

- a. determine data sources and methods of collecting data,
- b. design an approach for the collection, management and analysis of data,
- c. develop a data collection schedule,
- d. define the survey sample, and
- e. identify and establish contacts to assist with arranging interviews and administering questionnaires.

3.02. There were six different sources of information used in the study. These were instructors, graduates of the various courses, supervisors, commanders, personnel from Army, Navy, the Defence organisation and the wider community, and training records from each of the relevant training schools. The data collection instruments for the study surveyed instructors, graduates, supervisors, commanders, personnel from Army, Navy, the Defence organisation and the wider community. The variables from which the instruments were developed and the rationale for using these variables, together with the observation metrics and data sources, are detailed at Annex E. Objective data unable to be collected by questionnaire was gathered by researching training records from each of the relevant schools. The greatest problem with subjective data is that human estimation is very easily biased and may invalidate the measure. In an attempt to ensure that the data collected by the questionnaires were both reliable and valid, two sampling strategies were used: the calculation of a minimum sample size and the development of a sampling methodology. The questionnaires used in the study are shown at Annexes F to Q inclusive.

3.03. This Chapter will discuss the various processes in the gathering and collating of information for the evaluation. The discussion is divided into the following areas:

- a. sample size,
- b. sampling methodology,
- c. survey instruments,
- d. data gathered from training records, and
- e. data analysis.

SAMPLE SIZE

3.04. The minimum sample size for the study was based on the desired precision of estimation for subjective judgements by instructors, graduates, supervisors, commanders, personnel from Army, Navy, the Defence organisation and the wider community. As most of the questions were based on a five-point Likert scale, this scale was used as the basis for calculating the required sample size. The desired precision of estimation was taken to be one-half of a scale step (i.e. 0.5 units). The level of confidence chosen was 95 per cent. This means that an error would be made only five times in 100 replications of the study.

3.05. The required minimum sample size (N) for the study was calculated from:

$$N = \frac{\left(Z_{1-\frac{\alpha}{2}} \right)^2}{(\bar{X} - \mu)^2} \times \sigma^2$$

$Z_{1-\frac{\alpha}{2}}$ = abscissa of the unit normal curve

corresponding to $(1 - \frac{\alpha}{2})$. Where

$$Z_{0.975} = 1.96$$

σ^2 = population variance

α = 1 - confidence level ($\alpha = 1 - 0.95 = 0.05$)

$\bar{X} - \mu$ = half the width of the confidence level

306. Previous experience with five-point scales¹ has shown that the sample variance (σ^2), which is used as the estimate of the population variance, is likely to be between 1.00 and 1.96. If the maximum sample variance ($\sigma^2 = 1.96$) is employed, then the required maximum sample size is:

$$N = \frac{(1.96) * 1.96}{(0.5)^2}$$

$$= 30.12 \text{ respondents}$$

$$= 31 \text{ respondents}$$

The minimum sample size was taken to be approximately 31 respondents. Actual sample sizes are presented in Table One.

SAMPLE	ACTUAL SIZE
JOIC Graduates	35
ADFA Graduates	32
BSC Graduates	32
CSC Graduates	35
Pilot Course Graduates	35
Navigation, Air Traffic and Airmen Aircrew Course Graduates	32
Air Defence Course Graduates	32
IRTU Graduates	12 (1)
CPL Course Graduates	35
SGT Course Graduates	45
WOFF Course Graduates	40
JOIC instructors	2 (1)
ADFA instructors	5 (1)
BSC instructors	1 (1)
CSC instructors	8 (1)
Pilot Course instructors	1 (1)
Navigation, Air Traffic and Airmen Aircrew Course instructors	2 (1)
Air Defence Course instructors	7 (1)
IRTU instructors	2 (1)

¹ Walker, J.Y., 'An evaluation of the F/A-18 Hornet Computer Based Training System', Master's Thesis, Monash University, 1991, Melbourne.

SAMPLE	ACTUAL SIZE
CPL Course instructors	7 (1)
SGT Course instructors	5 (1)
WOFF Course instructors	2 (1)
Supervisors of JOIC Course graduates	40
Supervisors of ADFA Course graduates	40
Supervisors of BSC Course graduates	40
Supervisors of CSC Course graduates	40
Supervisors of IRTU Course graduates	40
Supervisors of CPL Course graduates	45
Supervisors of SGT Course Graduates	55
Supervisors of WOFF Course Graduates	35
Supervisors of Pilot Course Graduates	31
Supervisors of Navigation, Air Traffic and Airmen Aircrew Course Graduates	35
Supervisors of Air Defence Course Graduates	35
Unit level members	330
RAAF Commanders	35
Army, Navy, Defence organisation and Wider Community	33

Table One: Actual sample Sizes

Note: 1. Unable to achieve minimum sample size. Entire population surveyed.

SAMPLING METHODOLOGY

307. As previously mentioned in Chapter 2, the RAAF's air power education program comprises the following elements:

- a. a formal education program set within the education and training context;
- b. input at unit level through largely informal means; and
- c. input to the Defence organisation, the wider community and regional nations.

Accordingly, a sampling methodology was developed for each element of the RAAF air power education program.

FORMAL AIR POWER EDUCATION SAMPLING METHODOLOGY

308. Within the formal air power education program three separate samples were required. These were:

- a. a graduate sample,
- b. a supervisor sample, and
- c. an instructor sample.

Graduate Sample

309. There were 13 graduate questionnaires. Each contained specific questions relating to the air power component of that particular course. The questionnaires examined the following courses:

- a. RAAF Command and Staff course,
- b. Basic Staff Course,
- c. Junior Officer Initial Course,
- d. ADFA Course,

- e. Pilot, Navigator, Air Traffic Control and Air Defence Controller Basic courses,
- f. Warrant Officer Promotion Course,
- g. Sergeant Promotion Course,
- h. Corporal Promotion Course,
- i. Recruit Training Course, and
- j. Sergeant Aircrew Basic Course.

310. Based on these courses three graduate samples were developed. These were:

- a. a sample of AETS graduates,
- b. a sample of OETS graduates, and
- c. a sample of graduates of the Pilot, Navigator, Air Traffic Control, Air Defence Controller Basic and Sergeant Aircrew Basic courses.

Because air power was not introduced until late 1991 in the AETS, OETS and operator courses, the population from which the sample was drawn was restricted to only those members who had graduated after July 1992. To ensure the graduate samples for the OETS and AETS represented the population as accurately as possible, the method of Proportionate Stratified Sampling was used. This method requires the selection of independent variables on which the sample will be stratified. These variables are chosen on the basis of their importance to the validity of the sample. A random sampling method was used for graduates of the Pilot, Navigator, Air Traffic Control, Air Defence Controller Basic and Sergeant Aircrew Basic courses.

311. **AETS Sample.** The two variables used to stratify the AETS graduate sample were:

- a. mustering, which was divided into two strata, technical and non-technical; and

- b. employment area, which was also divided into two strata, employed in a Force Element Group or employed in a support area.

The strata from both variables were combined to give four possible categories, as shown in Table Two. These were classified as Technical/FEG (TF), Technical/Support Area (TS), Non-Technical/FEG (NF) and Non-Technical/Support Area (NS). As shown in the table there have been 3243 AETS graduates since July 1992.²

	FEG	Support Area	TOTALS
Technical	TF	TS	
	1952	217	2169
Non-Technical	NF	NS	
	644	430	1074
TOTALS	2596	647	3243

Table Two: Stratification of AETS Graduate Population

3.12. Table Three represents the number of graduates per course surveyed in each category. For example, 19 technical personnel currently working at a FEG and two technical personnel currently working in a support area were surveyed. While six non-technical personnel currently working at a FEG and four non-technical personnel currently working in a support area were also surveyed. This sampling method was applied to each of the AETS courses.

CELL	NUMBER OF GRADUATES
TF	19
TS	2
NF	6
NS	4
TOTAL	31

Table Three: Stratification of AETS Graduate Sample

² Graduate figures were obtained from 1 Recruit Training Unit, RAAF School of Management and Technology Training and Director of Personnel Airmen (DPA). Figures for each stratum were calculated using percentages provided by DPA staff.

313. **OETS Sample.** The two variables used to stratify the OETS graduate sample were:

- a. specialisation, which was divided into two strata, operational and non-operational; and
- b. employment area, which was also divided into two strata, employed in a Force Element Group or employed in a support area.

The strata from both variables were combined to give four possible categories, as shown in Table Four. These were classified as Operational/FEG (OF), Operational/Support Area (OS), Non-Operational/FEG (NF) and Non-Operational/Support Area (NS).³

	FEG	Support Area	TOTALS
Operational	OF	OS	
	155	66	221
Non-Operational	NF	NS	569
	398	171	
TOTALS	553	237	790

Table Four: Stratification of OETS Graduate Population

3.14. Table Five represents the number of graduates per course surveyed in each category. For example, operational personnel currently working at a FEG and operational personnel currently working in a support area were surveyed. While non-operational personnel currently working at a FEG and non-operational personnel currently working in a support area were also surveyed. This sampling method was applied to each of the AETS courses.

³ Graduate figures were obtained from RAAF College, RAAF Staff College and Director of Manpower and Plans (DMPC). Figures for each stratum were calculated using percentages provided by DMPC staff.

CELL	NUMBER OF GRADUATES
OF	5
OS	3
NF	15
NS	8
	31

Table Five: Stratification of OETS Graduate Sample

3.15 **Basic Operator Course Sample.** Proportionate stratified sampling was not considered appropriate for graduates of the basic operator courses because of the homogeneity of each of the courses within this group. Instead, a random sampling technique was employed. Table Six represents the number of basic operator graduates surveyed for each course.

COURSE	NUMBER OF GRADUATES
Pilot	31
Air Defence	12
Navigator, Air Traffic and Sergeant Aircrew	35
TOTAL	78

Table Six: Basic Operator Courses Sample

Instructor and Supervisor Samples

3.16 Because there were not 31 different instructors or supervisors, the minimum sample size for these groups was not always achieved. The samples for the instructors shown in Table One, represent the entire population of air power instructors for that particular course. The development of the supervisor samples was constrained by the availability of personnel. Each area was requested to nominate NCO and SNCO supervisors. These nominations are collated in Table One.

INFORMAL UNIT LEVEL AIR POWER EDUCATION SAMPLING METHODOLOGY

3.17. Sampling techniques for the informal unit level air power education system were identical to those for the formal education system. Accordingly, each sample used for the evaluation of the formal air power education system was also used for the evaluation of the unit level air power education system.

ARMY, NAVY, THE DEFENCE ORGANISATION AND THE WIDER COMMUNITY SAMPLING METHODOLOGY

3.18. The sampling technique for the Army, Navy, the Defence Organisation and wider community personnel was not random. The sample was developed in conjunction with DAPSC, and represents key personnel involved in air power in these organisations. A full list of personnel surveyed for this part of the study is shown at Annex R.

SURVEY INSTRUMENTS

Instrument Design

3.19. There were 17 different questionnaires administered for the study. These were, 13 generic graduate questionnaires, a RAAF commander questionnaire, a generic instructor questionnaire and a generic questionnaire for the Army, Navy, the Defence organisation and wider community. Supervisors and unit level items were embedded in the graduate and RAAF commander questionnaires. The questionnaires were designed to assess the issues outlined at Annex E. As detailed in Chapter 2, Stake's Evaluation Model was used to assist in the collection of data for the formal education section of the study. As such, each questionnaire for the evaluation of the formal education section was developed by designing specific items to assess the antecedent conditions, transactions and outcomes for each of the major issues.

3.20. Three types of items were used on the questionnaires: questions requiring a response on a five-point Likert scale, questions which required a tick to be placed in an appropriate box and open-ended questions. During the writing, rewording and rephrasing process for

Likert scale questions, the 'List of Informal Criteria for Likert and Attitude Construction' shown at Annex S was followed closely. Specific reference was given to the criteria for non-monotonicity and gearing the level of the vocabulary to the reader. The open-ended questions on each questionnaire were designed to allow respondents the opportunity to express an opinion, if so desired, and to facilitate any unexpected issues likely to arise.

Graduate Questionnaires

3.21. Thirteen separate graduate questionnaires were used. Each questionnaire was divided into the following four sections:

- a. as a graduate, items which measured the effectiveness of the air power components of the course that they had completed;
- b. as a member at unit level, items relating to the effectiveness of the air power education at their unit;
- c. as a supervisor, items relating to graduates' ability to meet air power CTOs; and
- d. general open-ended questions relating to the RAAF air power education system.

There were 13 graduate questionnaires ranging from an 18 item 1RTU questionnaire to a 43 item CSC questionnaire.

Generic Instructor Questionnaires

3.22. Thirteen separate generic instructor questionnaires were used. Each questionnaire was designed to assess instructors' opinions on the following:

- a. the quality of air power lessons for the particular course,
- b. the achievement of CTOs by the students, and
- c. any improvements that should be implemented to the air power components of the course.

Each questionnaire contained 20 questions, five of which required written comments. The remaining 15 were measured by the five-point Likert scale.

RAAF Commander Questionnaire

3.23. The RAAF Commander questionnaire was designed to assess commanders' opinions on the following issues:

- a. how well the formal air power education program had met its stated objectives;
- b. how well the unit level air power education program had met its stated objectives;
- c. what impact air power education program has had on the Army, Navy, the Defence organisation and wider community; and
- d. as a supervisor, to what extent CSC graduates meet air power CTOs.

The questionnaire contained 50 questions 17 of which required written comments. The remaining 43 questions were measured by the five-point Likert scale. The questions using the Likert scale were developed directly from the air power education program's stated objectives and the RAAF CSC air power CTOs. The open-ended questions were designed to elicit information which could not be readily obtained from the Likert type questions.

Army, Navy, Defence Organisation and Wider Community Questionnaire

3.24. The Army, Navy, Defence organisation and wider community questionnaire was designed to assess the opinions of senior personnel about how well the RAAF air power education program had met its stated objectives in each of these areas. The questionnaire was divided into the following five sections:

- a. Section One - for Navy personnel,
- b. Section Two - for Army personnel,

- c. Section Three - for Defence organisation personnel,
- d. Section Four - for wider community personnel, and
- e. Section Five - open-ended questions for all four groups.

Sections One and Two contained 16 questions, while Sections Three and Four contained 14 questions. Section Five contained five open-ended questions which required written comments.

Administration

3.25. The RAAF questionnaires were administered at RAAF Base Williamtown, Edinburgh, East Sale, Wagga, Amberley, Richmond and Fairbairn over the period 26 Mar 95 to 15 Sep 95. For each of the graduate, instructor and operator/controller questionnaires a focus group interview technique was used. This involved briefing each respondent on the purpose of the survey and the importance to the study of an accurate reflection of their opinions. After completing the questionnaire each respondent was then invited to elaborate on any issue they considered important. Each of these issues were then examined and discussed by the group at length. All opinions and views expressed during the focus group interview were recorded. RAAF Commander and the Army, Navy, Defence organisation and wider community questionnaires were administered on a one-to-one interview basis. The average times taken to complete the questionnaires were:

- a. graduates - between 1 - 1.5 hours,
- b. instructors - 40 minutes,
- c. operator/controller - 30 minutes,
- d. RAAF commanders - one hour, and
- e. the Army, Navy, Defence organisation and wider community - one hour.

Data Gathered from Training Records

3.26. Although the questionnaires provided a means for the collection of subjective data, they did not allow the collection of objective data. Objective data were collected by researching relevant records from the training schools.

DATA ANALYSIS

3.27. The data analysis for the study was organised around the following major questions:

- a. To what extent has the vision for the formal element of the RAAF air power education system been achieved?
- b. To what extent has the vision for the informal element of the RAAF air power education system been achieved?
- c. To what extent has the vision for the input to the Defence organisation, the wider community and regional nations element of the RAAF air power education system been achieved?

3.28. The two types of data collected in the study were:

- a. subjective data gathered by surveying graduates, instructors, operator/controllers, RAAF commanders and senior personnel from the Army, Navy, Defence organisation and the wider community; and
- b. objective data collected by researching training records.

Subjective Data

3.29. The analysis of the subjective data involved obtaining frequency distributions of the results for each question. Because of the large amount of information collected, the data were electronically analysed using the statistical SPSSX package. For analysis purposes, the data have been divided into the three major areas:

- a. formal RAAF air power education system,

- b. informal input at the unit level, and
- c. input to the Army, Navy, Defence Organisation and wider community.

3.30. Within the formal education system, the data are further divided by course and within each course the data are divided into antecedent conditions, transactions and outcomes. This presentation of the data is in accordance with the Stakes Evaluation Model. Data for the remaining two sections are organised according to Scriven's Goal Free Evaluation Model.

Objective Data

3.31. Objective data for each evaluation were largely collected from training records, and from discussions with training staff at both HQTC and each of the training schools.

Judgement Criteria

3.32. The use of Stake's Evaluation and Scriven's Evaluation models for the study necessitates the determination of absolute standards. These absolute standards were used to indicate acceptable and meritorious levels for particular issues. However, rigorous adherence to an absolute standard may prejudice the results of particular evaluation issues. Therefore, a general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents should have indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

3.33. Emphasis is made that the standard described is used only to indicate features of the RAAF air power education program which may require improvement. The final decision on whether or not a particular issue was at an acceptable level will be based on the salience of that particular issue to the overall evaluation. Ultimately, the final judgements to be made were subjective.

3.34. While the scales described provided some quantitative data, they did not provide an opportunity for individual impressions. In order to

gain respondents' opinions, a number of open-ended questions were used. Based on the results of the individual items and written responses accurate evaluation of the RAAF air power education system was able to be made.

CONCLUSION

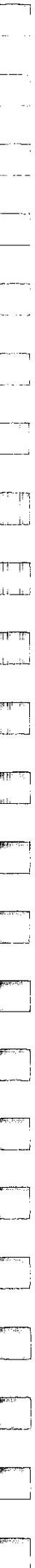
3.35. Data was collected through questionnaires, surveying instructors, graduates, supervisors, RAAF commanders, Army, Navy, the Defence Organisation and wider community personnel. Objective data unable to be gathered by questionnaires was collected by researching HQTC and training school records.

3.36. The minimum sampling size for the study was based on the desired precision of estimation for subjective judgements by instructors, graduates, supervisors, RAAF commanders, Army, Navy, Defence Organisation and wider community personnel. Since most of the questions were based on a five-point Likert scale, this type of scale was used as a basis for calculating the required sample size. Through the use of calculated formula, the required sample size was taken to be approximately 31 respondents from each group. Owing to insufficient numbers of instructors, and supervisors, attempts were made to survey their total populations.

3.37. Because the graduate questionnaire contained specific questions about the air power content in each course, the sample was restricted to students graduating after July 1992. From this number a stratified random sampling was conducted, based on specialisation and employment area. Specialisation was stratified into technical and non-technical for airmen and operational and non-operational for officers, while employment area was stratified into operational or support. These were then combined to form four possible categories. The number of graduates in each category for the sample was proportional to the number of graduates in each category for the population.

3.38. Seventeen questionnaires were administered, 13 graduate questionnaires, a RAAF commander questionnaire, a generic operator, a generic instructor questionnaire and a generic questionnaire for the Army, Navy, Defence organisation and wider community. The questionnaires were designed to assess the issues detailed at Annex E. Stake's and Scriven's Evaluation models were used to assist in the collection and collation of data.

3.39. Both subjective and objective data were collected. Subjective data involved obtaining frequency distributions for each question, while objective data were collected by researching training records. A general standard was chosen to assist in the determination that particular issues were at an acceptable level. The decision was made that if an item was to be considered acceptable, then no more than 25 per cent of respondents should have indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.



SECTION TWO

CHAPTER ONE

RECRUIT TRAINING COURSE

1.01. To assess the effectiveness of the teaching of air power on the Recruit Training Course (RTC), 35 graduates and the RTC Chief Instructor (CI), Training Development Officer (TDO) and all air power instructors were surveyed and interviewed. As well, 45 graduate supervisors were surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia.

1.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

1.03. The training strategy for the RTC is to provide a brief overview of the general concepts and campaigns of air power so that students are made aware of RAAF air power doctrine.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

1.04. The air power doctrine CTO and syllabus objectives for the RTC are as follows:

CTO:

Demonstrate an awareness of the doctrine of Air Power.

Syllabus Objectives:

- a. State the definition of air power.
- b. Outline Australia's policy for defence-in-depth.
- c. Outline the general concepts of air power.
- d. List the three campaigns of air power.
- e. List the six operations of Air Power.
- f. Identify the aircraft used in air operations used by the RAAF.

1.05. The RTC air power component is two periods only. RTC syllabus objectives, although developed through a task analysis, fall well short of the enabling objectives recommended by the Working Party in 1991 (refer Annex A). In particular, there is little emphasis given to the nature of war and the Australian approach, the history of air power and its development in Australia and finally, there is little evidence that an appreciation of the need for air power in the defence of Australia is encouraged on the course.

1.06. This view is supported by RTC graduates. Seventy-five per cent of graduates believe that not enough time is devoted to air power. Further, 70 per cent believe more emphasis should be placed on developing an understanding of the role individuals play in the application of air power for the defence of Australia.

Do air power instructor guides meet RAAF training standards?

1.07. Instructor guides for the RTC air power component do not currently exist.

Do air power lesson plans meet RAAF training standards?

1.08. Comprehensive lesson plans exist, are regularly reviewed and provide sufficient direction for instructors.

Do air power instructional resources meet RAAF training standards?

1.09. There are formal procedures in place to regularly review and update the air power education resources each year. However, there are currently no procedures in place to identify new air power resource material for the course. This possibly accounts for the fact that the course makes use of only limited air power resources; the Air Power Manual, the Condensed Air Power Manual and the video 'Citadel Scramble'.

Are instructors experienced and qualified in air power education?

1.10. The Instructional Technique Course is a pre-requisite to becoming an instructor at 1 RTU. All instructors are FSGT or higher in rank. No specific training in air power is provided to new instructors, however, advice from previous instructors is always available. No qualifications or experience, other than the experience gained from general service experience, are required to teach the RTC air power component.

What reference material and assistance is available for air power training designers and instructors?

1.11. No. 1 RTU does not have a dedicated air power reference section, nor are there any procedures in place to obtain assistance with research in air power, other than from the Base Training Centre.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

1.12. Because there are only two air power periods, the RTC air power instructional strategy is limited to a lecture and a brief guided discussion.

What level of interaction is there between instructor/student and student/student with regard to air power on each course? Is it enough/too much etc?

1.13. Apart from the limited use of questioning in the air power lessons, there is little interaction between student and instructor.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

1.14. Forty per cent of graduates surveyed are not satisfied that the existing air power lessons are motivating nor do they find them interesting. Further, 30 per cent are not satisfied with the methods used to teach air power on the course, and 50 per cent of graduates surveyed believe that the air power elements on the RTC did not motivate them to continue to learn more about air power after the course had finished.

1.15. Written comments indicate that the majority of graduates are concerned about the general lack of air power content on the course, and the teaching methods used. Examples of some typical comments include:

I found the air power elements to be interesting only to a certain degree. I feel that an aircraft visit would make it more interesting.

Not enough time.

More time is needed to relate our jobs to air power.

How is air power knowledge assessed on the course?

1.16. The air power elements on the course are assessed by two or three multiple choice questions in one of four theory examinations.

In the opinion of graduates and instructors, is sufficient time allocated to air power in each course to achieve the aim of the course?

1.17. Forty per cent of graduates believe that there is not enough time allocated to air power on the course. Open-ended responses indicate that most believe that more emphasis should be placed on an understanding of how air power doctrine relates to the roles that they will be undertaking in the future.

Does the RTC relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

1.18. Instructors were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students' future employment in the RAAF?

1.19. Discussions with the CI, TDO and instructors indicated that the air power elements are currently pitched at too theoretical a level for the students. A more practical approach is required if students are to appreciate the need for air power doctrine in the application of RAAF operations and relate the relevance of air power to their future employment.

How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the RTC?

1.20. The TDO indicated that the concept, - 'that a comprehension of air power doctrine is a personal responsibility', - is encouraged by advising recruits that the air power component on the RTC is simply an introduction and that air power education will continue throughout their careers. No other formal encouragement is provided.

How does the RTC emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

1.21. This concept is not emphasised on the RTC.

OUTCOMES

How satisfied are you that graduates of the RTC are motivated and interested enough to further their understanding of air power and its relevance to their activities?

1.22. Sixty five per cent of RTC graduate supervisors surveyed believe that graduates are not motivated and interested enough to further their understanding of air power and its relevance to their activities. Written comments suggest that the RTC does not place enough emphasis on this aspect of air power education. Among the written responses received were the following:

More emphasis should be placed on encouraging a positive attitude towards air power.

More air power should be taught.

Air power should be related to people's jobs.

1.23. These results are supported by graduate responses. Fifty per cent of graduates believe that the air power elements on the course did not motivate them to continue to learn more about air power. Again, written comments were similar to those of the supervisors. If the course is to motivate students in air power then steps must be taken to ensure the course emphasises what relevance air power doctrine and its application have to the future roles of graduates.

What is the Overall Knowledge and Understanding of Graduates?

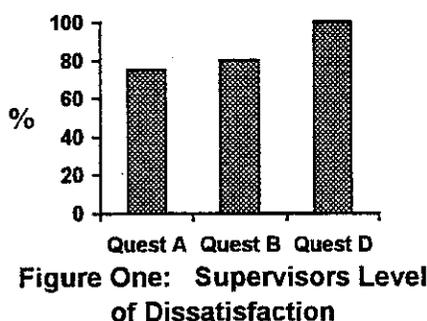
1.24. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective

judgements of supervisors. Supervisors were asked how satisfied they were that graduates:

- a. Understand how their actions and functions relate to the application of air power?
- b. Have a basic understanding of air power, and its importance to the defence of Australia?
- c. Have a basic understanding of RAAF air operations?
- d. Are motivated and interested enough to further their understanding of air power and its relevance to their activities?

1.25. All supervisors indicated that they are satisfied that the graduates of the RTC have a basic understanding of air operations. In addition, over 90 per cent of graduates surveyed were equally satisfied with this proposition.

1.26. Such unilateral satisfaction, however, was not evidenced for the other questions at paragraph 1.23. As Figure One shows, 75 per



cent of supervisors surveyed believe that graduates do not understand how their actions and functions relate to the application of air power, 80 per cent are not satisfied that graduates have a basic understanding of air power, and its importance to the defence of Australia; and all supervisors surveyed believe that graduates are not motivated and interested

enough to further their understanding of air power and its relevance to their activities.

CONCLUSION AND FINDINGS

1.27. The air power component of the RTC is a two period overview on air power which covers the definition of air power, Australia's policy of defence-in-depth, the general concepts of air power, the three campaigns of air power, the six roles of air power and a brief overview of the aircraft involved in RAAF operations. The study found that although the air

power component has been developed and is conducted in accordance with RAAF training standards, the teaching methods and level of instructional material needs reviewing. Consequently, supervisor assessments of graduates' understanding and knowledge of many of the issues raised by this study are poor.

1.28. Responses from the graduates surveyed indicate that not enough time is allocated to air power education, that the current air power lessons are not interesting nor are they motivating and that more emphasis should be placed on understanding how the need to provide air power will affect graduates in their future roles. Suggestion was also made that a visit to the flightline may be an appropriate teaching method to include in the course.

1.29. Discussions with the CI indicate that a review of the air power components, in conjunction with APSC staff, is planned for 1995, and should rectify some of the problems highlighted by this study. In particular, the review will address the following:

- a. a thorough examination of the RTC air power phase with a view to developing a more extensive and effective air power study package;
- b. a needs analysis to ensure RTC graduates needs are met and that there is continuity between the RTC and other Airmen Education and Training System (AETS) courses;
- c. an effective strategy for air power education on the RTC;
- d. the establishment of links between the APSC and RAAFSMTT to ensure provision of adequate air power resources for the course;
- e. the need for prerequisite training in air power education for RTC instructors; and
- f. a methods/media analysis to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package, and that an appropriate level of interaction between student/instructor and student/student is incorporated into this phase.

SECTION TWO

CHAPTER TWO

CORPORAL PROMOTION COURSE

2.01. To assess the effectiveness of the teaching of air power on the Corporal Promotion Course (CPLPROMCSE), 45 recent graduates (since July 1992), the instructors and the Officer-In-Charge (OIC) CPLPROMCSE were surveyed and interviewed. As well, 55 Corporal supervisors were surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia.

2.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

2.03. The air power training strategy is one of encouragement, motivation and student discovery. Emphasis is on student understanding rather than simply reciting doctrine.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

2.04. There are two periods of air power on the CPLPROMCSE. The CTOs for the course are as follows:

- a. outline the maxims, imperatives and hierarchy of air power capabilities; and

- b. relate the doctrine of air power to its application by the RAAF.

2.05. This study found that the skills, knowledge and attitudes specified in the CTOs all contribute to the achievement of the aim of the course. Specifically, syllabus objectives have been developed from a task analysis and are cross-referenced with applicable CTOs. Syllabus objectives are sufficient in their scope and assessment codes have been applied and are appropriate to the aim of the course. Syllabus objectives are reviewed and updated on an annual basis. Proposed changes are examined and decided upon in conjunction with the APSC.

Do air power instructor guides meet RAAF training standards?

2.06. Instructor guides for the air power component of the CPLPROMCSE do exist, and have been developed in accordance with the RAAF Manual of Training (DI(AF) AAP 2002.001). The instructor guides, which are regularly updated and reviewed, are comprehensive and provide sufficient direction for instructors.

Do air power lesson plans meet RAAF training standards?

2.07. Comprehensive lesson plans exist, and provide sufficient direction for instructors.

Do air power instructional resources meet RAAF training standards?

2.08. Presently, the course makes use of unit produced handouts, the Air Power Manual, the Condensed Air Power Manual and resources at the Base Library. There are formal procedures in place to regularly review and update the air power education resources, and formal procedures are also in place to identify new resource material for the course. However, comment was made by RAAFSMTT staff that they have found it difficult in obtaining information and resources from the APSC.

Are instructors experienced and qualified in air power education?

2.09. The Advanced Instructional Technique Course is a pre-requisite to becoming a CPLPROMCSE instructor. However, no qualifications or experience, other than the experience gained from postings as a SNCO, are required to teach air power on the CPLPROMCSE. Discussions with OIC CPLPROMCSE indicate that this situation has led to some instructional standardisation problems with the air power elements on the course.

What reference material and assistance is available for air power training designers and instructors?

2.10. Each CPLPROMCSE centre has a dedicated air power reference section, and procedures are in place to obtain assistance with research in air power from various sources. However, comment was made that RAAFSMTT staff have found it difficult in obtaining reference material and assistance from the APSC. This comment is similar to the observation made at paragraph 2.08., regarding APSC assistance with air power resources and information.

TRANSACTIONS***What instructional strategies are used to teach air power on the course?***

2.11. Instructional strategies vary from lectures, to guided discussions and student presentations. The emphasis is one of student involvement as much as possible. Ninety-five per cent of graduates surveyed believe that these methods are effective and achieve the aim of the course. This is also supported by RAAFSMTT instructors who believe the methods are effective.

What level of interaction is there between instructor/student and student/student with regard to air power on each course? Is it enough/too much etc?

2.12. As discussed at paragraph 2.11., the primary instructional strategy for the CPLPROMCSE centres around student involvement. Lessons are interactive with time allocated for question and answer. Student/student interaction is achieved through group discussion and syndicate presentation.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

2.13. Ninety per cent of graduates surveyed believe that the existing air power lessons are motivating, 85 per cent believe the lessons are interesting and 80 per cent are satisfied or extremely satisfied with the methods used to teach air power on the course. In addition, 80 per cent of graduates surveyed believe that the air power elements on the CPLPROMCSE motivated them to continue to learn more about air power after the course had finished.

2.14. All instructors believe that the air power lessons are motivating and interesting for students, and that the methods used to teach air power on the course are effective.

How is air power knowledge assessed on the course?

2.15. Apart from continual assessment of each student, the major assessment activity for the air power element on the course is a student presentation. Each student's knowledge and understanding is assessed by the quality of information presented and their ability to answer questions during the question and answer period. All instructors are satisfied with this method of assessment.

In the opinion of graduates and instructors, is sufficient time allocated to air power in each course to achieve the aim of the course?

2.16. All instructors believe that enough time is allocated to the air power element on the course. In contrast, 35 per cent of graduates are dissatisfied with the amount of time spent on air power. Open-ended responses indicate that most believe that more time should be given for preparation, so that more emphasis could be placed on understanding air power doctrine and its application to RAAF operations, rather than simply reciting doctrine.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

2.17. All instructors are satisfied with the emphasis which is currently placed on understanding and applying air power doctrine. However, as for the discussion in paragraph 2.15., 30 per cent of graduates believe that if more preparation time were given for the air power syndicate presentation, a greater level of understanding would be achieved.

Does the CPLPROMCSE relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

2.18. Instructors were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students future employment in the RAAF?

2.19. All instructors were satisfied with the three propositions at paragraph 2.18.. However, discussion with several instructors indicated that a presentation on a topical air power issue by an APSC member may not only motivate students, but at the same time show the relevance of air power to students' future employment.

How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the CPLPROMCSE?

2.20. Discussions with OIC CPLPROMCSE indicate that the concept, - 'that a comprehension of air power doctrine is a personal responsibility', - is necessary, is encouraged on the course by emphasising the role that each student has to play in the provision of air power by the RAAF. In addition, students are encouraged to attend air power lectures, seminars and conferences. Comments from graduates and

supervisors suggest that more emphasis is required on encouraging the concept that each member has the responsibility as an NCO to ensure that their staff understand how their activities and the activities of others contribute to the provision of air power by the RAAF.

How does the CPLPROMCSE emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

2.21. This concept is achieved by emphasising to students that air power doctrine is the fundamental philosophy concerning the employment of the RAAF, and that doctrine is a body of central beliefs about war that guides the application of air power in combat.

OUTCOMES

How satisfied are you that graduates of the CPLPROMCSE are motivated and interested enough to further their understanding of air power and its relevance to their activities?

2.22. Eighty per cent of Corporal graduate supervisors surveyed believe that graduates of the CPLPROMCSE are motivated and interested enough to further their understanding of air power and its relevance to their activities. Written comments suggest that the CPLPROMCSE achieves its objectives in this area. Among the written comments received were the following:

Most CPL course graduates that have worked for me have a good working knowledge of the doctrine (air power).

In my opinion CPL course graduates are generally motivated enough to learn more about air power.

I am surprised at the level of knowledge the CPLPROMCSE graduates have with regard to air power.

2.23. These results are supported by graduate responses. Eighty per cent of graduates believe that the air power elements on the course motivated them to continue to learn more about air power.

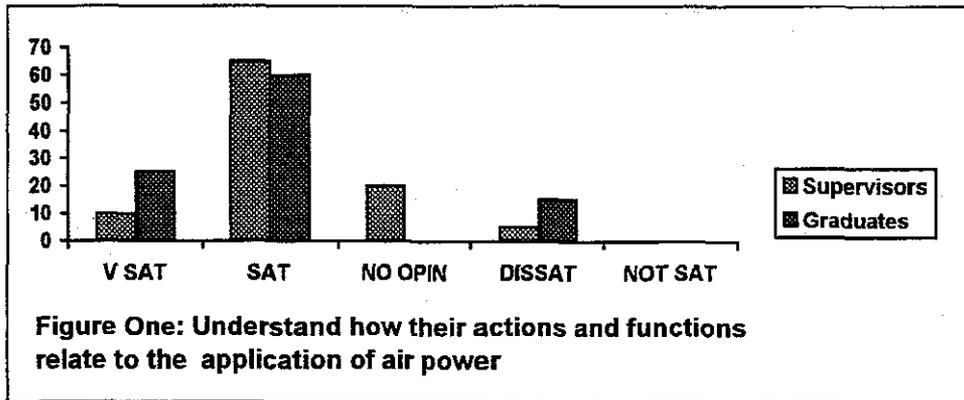
What is the Overall Knowledge and Understanding of Graduates?

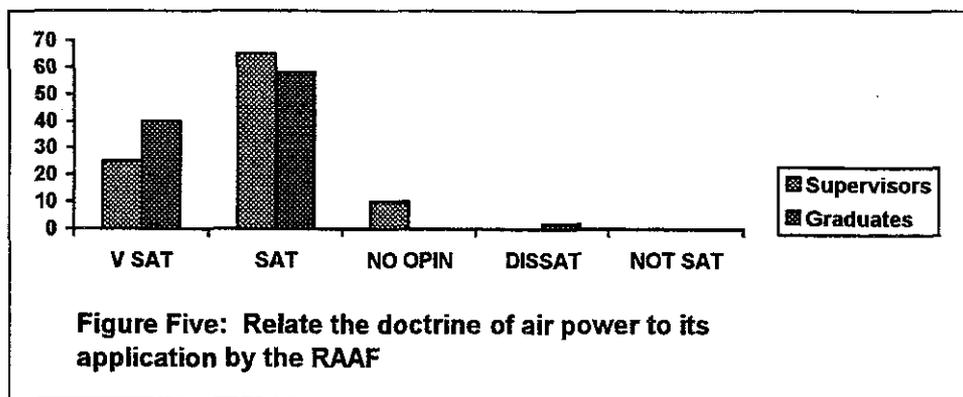
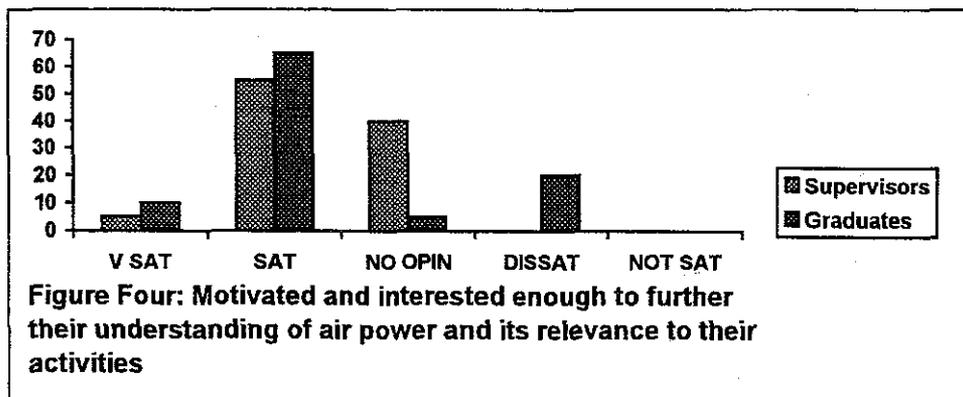
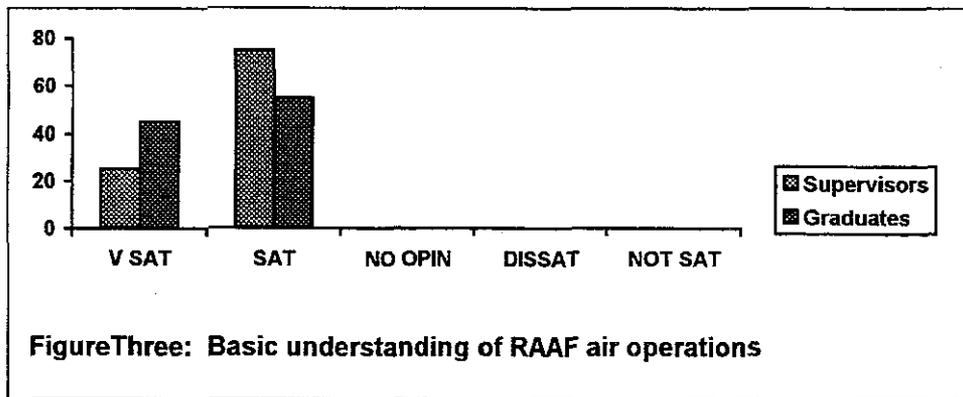
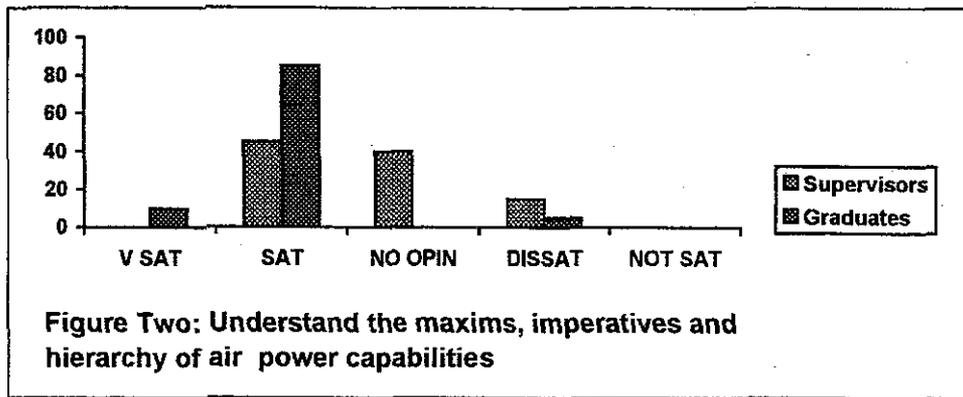
2.24. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

2.25. Supervisors and graduates were asked how satisfied they were that graduates:

- a. Understand how their actions and functions relate to the application of air power?
- b. Understand the maxims, imperatives and hierarchy of air power capabilities?
- c. Have a basic understanding of RAAF air operations?
- d. Are motivated and interested enough to further their understanding of air power and its relevance to their activities?
- e. Are able to relate air power doctrine to its application by the RAAF?

2.26. Responses to each of these items are tabulated in Figures One to Five respectively.





2.27. Overall, these results indicate a high level of satisfaction, both with graduate supervisors and with the graduates themselves, with the level of knowledge and understanding of the air power elements listed at paragraph 2.25..

CONCLUSION AND FINDINGS

2.27. Overall, the study found that the CPLPROMCSE air power component is effective and meets its stated aim. The course has a well defined air power training strategy and CTOs have been developed in accordance with RAAF training standards. In terms of the educational process, instructional strategies are appropriate, there is adequate interaction between instructor/student and student/student, the lesson material was judged to be both interesting and motivating, and assessment methods were found to be appropriate. Further, the course encourages the development of an understanding of air power and its application, rather than simply learning the doctrine itself.

2.28. In terms of outcomes, the majority of graduate supervisors and graduates themselves are satisfied that the course motivates students to further their understanding of air power. In addition, the majority of graduate supervisors believe that graduates achieve the course air power CTOs.

2.29. In terms of improvements to the course, discussions with the OIC CPLPROMCSE, instructors, graduates and supervisors indicate the following areas need to be examined:

- a. the effective provision of air power resources for the course,
- b. pre-requisite training required by air power instructors, and
- c. the emphasis which should be placed on encouraging the concept that each member has the responsibility as an NCO to ensure that their staff understands how their activities and the activities of others contribute to the use of air power by the RAAF.



SECTION TWO

CHAPTER THREE

SERGEANT PROMOTION COURSE

3.01. To assess the effectiveness of the teaching of air power on the Sergeant Promotion Course (SGTPROMCSE), 40 recent graduates (since July 1992), the instructors and the OIC SGTPROMCSE were surveyed and interviewed. As well, 35 Sergeant supervisors were surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia.

3.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

3.03. The air power training strategy is one of encouragement, motivation and student discovery. Emphasis is on student understanding rather than simply reciting doctrine.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

3.04. There are two periods of air power on the SGTPROMCSE. The CTO and associated syllabus objectives are as follows:

CTO:

Apply air power doctrine to the defence needs of Australia.

Syllabus Objectives:

- a. Outline the history and theory of air power.
- b. Outline the factors which influence the effectiveness of air power.
- c. Outline the Australian approach to war.
- d. Advocate RAAF air power doctrine in relation to Australian defence requirements.
- e. Display an appreciation of the need for air power.

3.05. The study found that the skills, knowledge and attitudes specified in the CTOs all contribute to the achievement of the aim of the course. Specifically, syllabus objectives have been developed from a task analysis and are cross-referenced with applicable CTOs. Syllabus objectives are sufficient in their scope and assessment codes have been applied and are appropriate to the aim of the course. Syllabus objectives are reviewed and updated on an annual basis. Proposed changes are examined and decided upon in conjunction with the APSC.

Do air power instructor guides meet RAAF training standards?

3.06. Instructor guides for the air power component of the SGTPROMCSE do exist, and have been developed in accordance with the RAAF Manual of Training (DI(AF) AAP 2002.001). The instructor guides, which are regularly updated and reviewed, are comprehensive and provide sufficient direction for instructors.

Do air power lesson plans meet RAAF training standards?

3.07. Comprehensive lesson plans exist, and provide sufficient direction for instructors.

Do air power instructional resources meet RAAF training standards?

3.08. Presently, the course makes use of unit produced handouts, the Air Power Manual, the Condensed Air Power Manual and resources at the Base Library. There are formal procedures in place to regularly review and update the air power education resources, and formal procedures are also in place to identify new resource material for the course. However, comment was made by RAAFSMTT staff that they have found it difficult in obtaining information and resources from the APSC.

Are instructors experienced and qualified in air power education?

3.09. The Advanced Instructional Technique Course is a pre-requisite to becoming a SGTPROMCSE instructor. However, no qualifications or experience, other than the experience gained from postings as a SNCO, are required to teach air power on the SGTPROMCSE.

What reference material and assistance is available for air power training designers and instructors?

3.10. RAAFSMTT has a dedicated air power reference section, and procedures are in place to obtain assistance with research in air power from various sources. However, comment was made that RAAFSMTT staff have found it difficult in obtaining reference material and assistance from the APSC. This comment is similar to the observation made at paragraph 3.08., regarding APSC assistance with air power resources and information.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

3.11. Instructional strategies vary from lectures, to guided discussions and student presentations. The emphasis is one of student involvement as much as possible. Ninety-five per cent of graduates surveyed believe that these methods are effective and achieve the aim of the course. This is also supported by RAAFSMTT instructors who believe the methods are effective.

What level of interaction is there between instructor/student and student/student with regard to air power on each course? Is it enough/too much etc?

3.12. As discussed at paragraph 3.11., the primary instructional strategy for the SGTPROMCSE centres around student involvement. Lessons are interactive with time allocated for question and answer. Student/student interaction is achieved through group discussion and syndicate presentation.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

3.13. Eighty per cent of graduates surveyed believe that the existing air power lessons are motivating, 90 per cent believe the lessons are interesting and 80 per cent are satisfied or extremely satisfied with the methods used to teach air power on the course. In addition, 85 per cent of graduates surveyed believe that the air power elements on the SGTPROMCSE motivated them to continue to learn more about air power after the course had finished.

3.14. All instructors believe that the air power lessons are motivating and interesting for students, and that the methods used to teach air power on the course are effective.

How is air power knowledge assessed on the course?

3.15. Apart from continual assessment of each student, the major assessment activity for the air power element on the course is a student presentation. Each student's knowledge and understanding is assessed by the quality of information presented and their ability to answer questions during the question and answer period. All instructors are satisfied with this method of assessment.

In the opinion of graduates and instructors is sufficient time allocated to air power in each course to achieve the aim of the course?

3.16. All instructors believe that enough time is allocated to the air power element on the course. The majority of graduates also believe that enough time is spent on air power, however as were reported for the CPLPROMCSE, a number of open-ended responses indicate that more time should be given for preparation, so that more emphasis could be placed on understanding air power doctrine and its application to RAAF operations, rather than simply reciting doctrine.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

3.17. All instructors are satisfied with the emphasis which is currently placed on understanding and applying air power doctrine. However, as previously discussed at paragraph 3.16., written comments suggest that if more preparation time were given for the air power syndicate presentation, a greater level of understanding would be achieved.

Does the SGT PROMCSE relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

3.18. Instructors were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students future employment in the RAAF?

3.19. All instructors were satisfied with the three propositions at paragraph 3.18.. However, discussion with several instructors indicated that a presentation on a topical air power issue by an APSC member,

may not only motivate students, but at the same time, show the relevance of air power to students' future employment.

How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the SGT PROMCSE?

3.20. Discussions with OIC SGT PROMCSE indicate that the concept, - 'that a comprehension of air power doctrine is a personal responsibility', - is necessary, is encouraged on the course by emphasising the role that each student has to play in the application of air power by the RAAF. In addition, students are encouraged to attend air power lectures, seminars and conferences. Comments from graduates and supervisors suggest that more emphasis is required on encouraging the concept that each member has the responsibility as an SNCO to ensure that their staff understands how their activities and the activities of others contribute to the use of air power by the RAAF. Typical comments include:

It is our (SNCOs) responsibility to make sure our staff know where they fit.

The most important thing a student should come away from the SGT PROMCSE is the belief that they have a role to play in teaching air power. It is fundamental to the future of the RAAF.

How does the SGT PROMCSE emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

3.21. This concept is achieved by emphasising to students that air power doctrine is the fundamental philosophy concerning the employment of the RAAF, and that doctrine is a body of central beliefs about war that guides the application of air power in combat.

OUTCOMES

How satisfied are you that graduates of the SGTPROMCSE are motivated and interested enough to further their understanding of air power and its relevance to their activities?

3.22. Eighty per cent of Sergeant graduate supervisors surveyed believe that graduates of the SGTPROMCSE are motivated and interested enough to further their understanding of air power and its relevance to their activities. Written comments suggest that the SGTPROMCSE achieves its objectives in this area. These results are supported by graduate responses. Eighty per cent of graduates believe that the air power elements on the course motivated them to continue to learn more about air power.

What is the Overall Knowledge and Understanding of Graduates

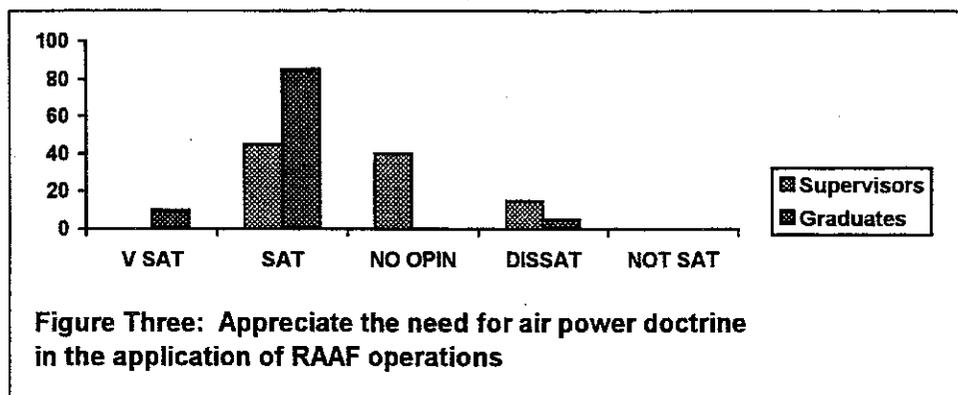
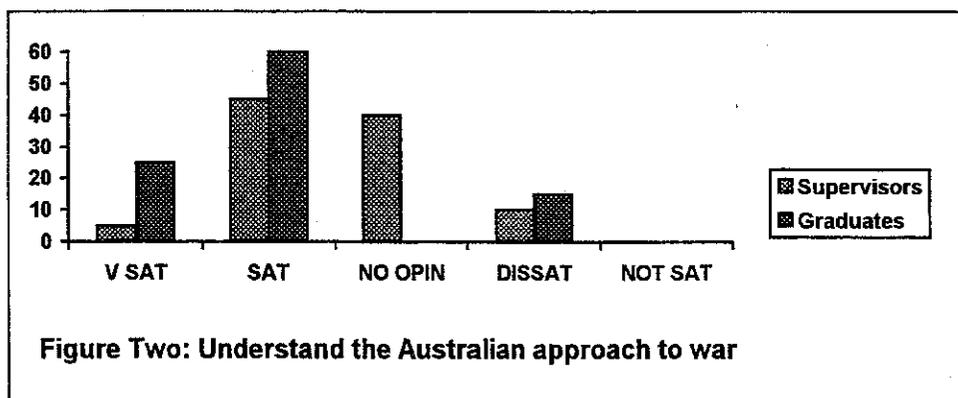
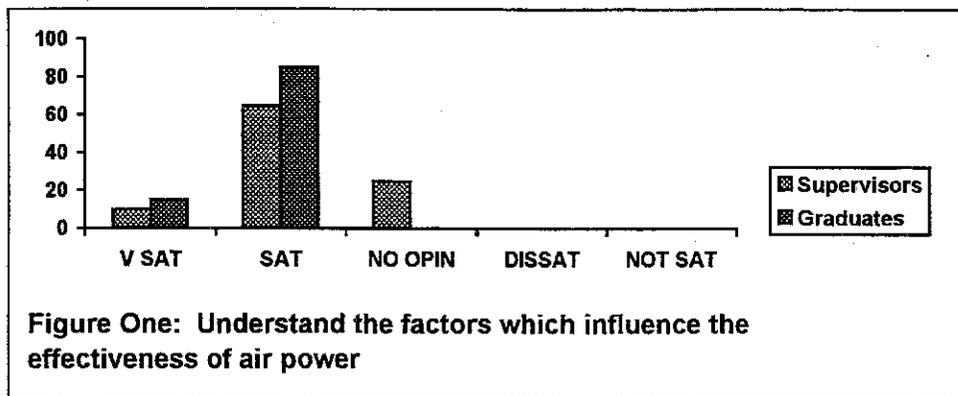
3.23. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

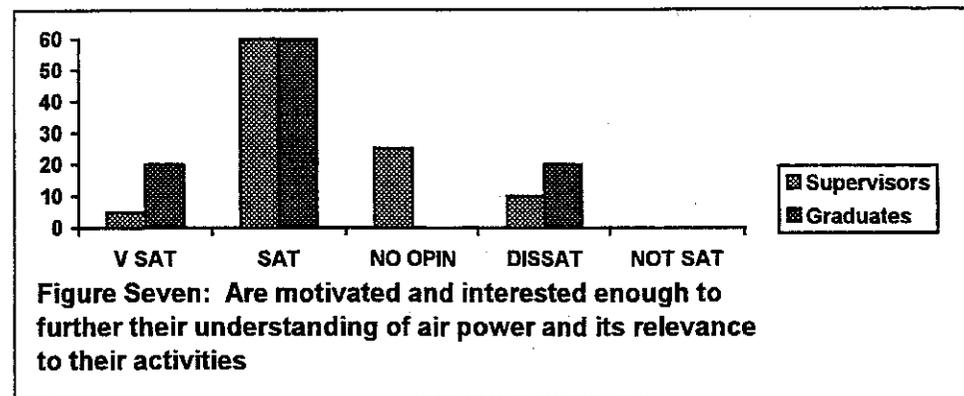
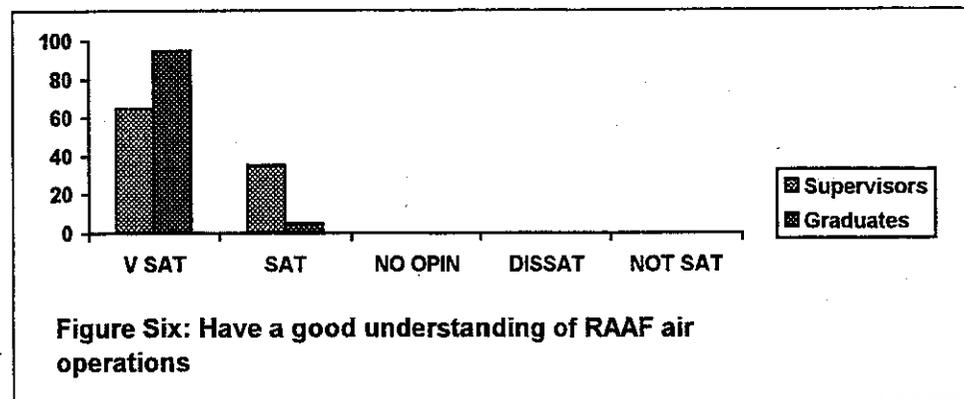
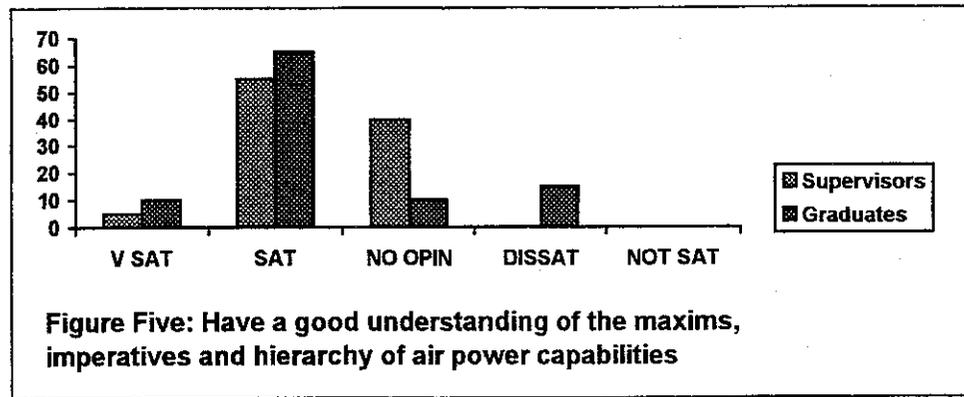
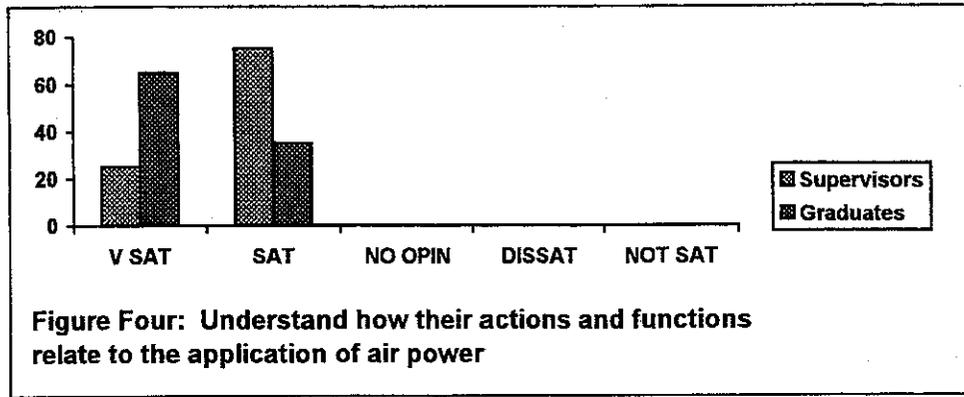
3.24. Supervisors and graduates were asked how satisfied they were that graduates:

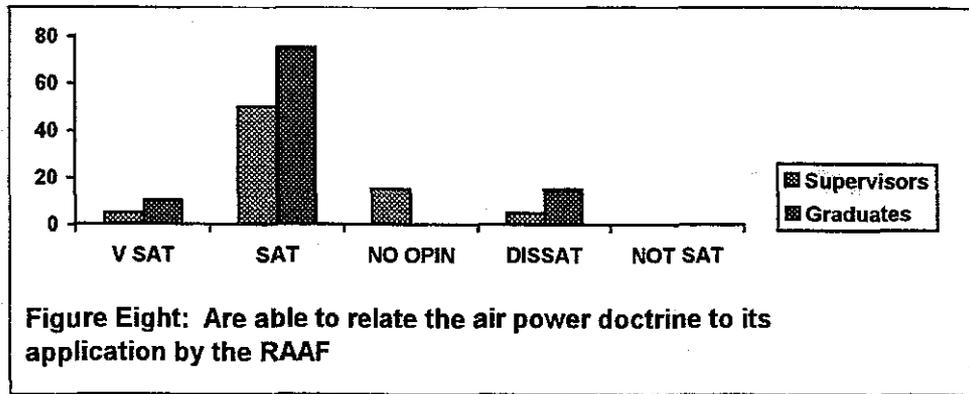
- a. Understand the factors which influence the effectiveness of air power?
- b. Understand the Australian approach to war?
- c. Appreciate the need for air power doctrine in the provision of RAAF operations?
- d. Understand how their actions and functions relate to the application of air power?
- e. Have a good understanding of the maxims, imperatives and hierarchy of air power capabilities?
- f. Have a good understanding of RAAF air operations?
- g. Are motivated and interested enough to further their understanding of air power and its relevance to their activities?

- h. Are able to relate the doctrine of air power to its application by the RAAF.

3.25. Responses to each of these items are tabulated in Figures One to Eight respectively.







3.26. Overall, these results indicate a high level of satisfaction, both with graduate supervisors and with the graduates themselves, with the level of knowledge and understanding of the air power elements listed at paragraph 3.24..

CONCLUSION AND FINDINGS

3.27. Overall, the study found that the SGTPROMCSE air power component is effective and meets its stated aim. The course has a well defined air power training strategy and CTOs have been developed in accordance with RAAF training standards. In terms of the educational process, instructional strategies are appropriate, there is adequate interaction between instructor/student and student/student, the lesson material was judged to be both interesting and motivating, and assessment methods were found to be appropriate. Further, the course encourages the development of an understanding of air power and its application, rather than simply learning the doctrine itself.

3.28. In terms of outcomes, the majority of graduate supervisors and graduates themselves are satisfied that the course motivates students to further their understanding of air power. In addition, the majority of graduate supervisors believe that graduates achieve the course air power CTOs.

3.29. In terms of improvements to the course, discussions with the OIC SGTPROMCSE, instructors, graduates and supervisors indicate the following areas need to be examined:

- a. the effective provision of air power resources for the course,

- b scheduling more preparation time for student presentation, and
- c. the emphasis which should be placed on encouraging the concept that each member has the responsibility as an SNCO to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.



SECTION TWO

CHAPTER FOUR

WARRANT OFFICER PROMOTION COURSE

4.01. To assess the effectiveness of the teaching of air power on the Warrant Officer Promotion Course (WOFFPROMCSE), 32 recent graduates (since July 1992), the instructors and the OIC WOFFPROMCSE were surveyed and interviewed. As well, 15 Warrant Officer supervisors were surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia.

4.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

4.03. The air power training strategy is one of encouragement, motivation and student discovery. Emphasis is on student understanding rather than simply reciting doctrine.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

4.04. There are four periods of air power on the WOFFPROMCSE.

The CTO and associated syllabus objectives are as follows:

CTO:

Apply air power doctrine to the defence needs of Australia.

Syllabus Objectives:

- a. Discuss the employment of air power in Australia's region of primary strategic interest.
- b. Outline the factors which influence the effectiveness of air power.
- c. Outline the Australian approach to war.
- d. Apply air power doctrine to the defence needs of Australia.

In addition, an attitudinal objective, 'The student chooses to display an appreciation of the need for air power', is included.

4.05. This study found that the skills, knowledge and attitudes specified in the CTOs all contribute to the achievement of the aim of the course. Specifically, syllabus objectives have been developed from a task analysis and are cross-referenced with applicable CTOs. Syllabus objectives are sufficient in their scope and assessment codes have been applied and are appropriate to the aim of the course. Syllabus objectives are reviewed and updated on an annual basis. Proposed changes are examined and decided upon in conjunction with the APSC.

Do air power instructor guides meet RAAF training standards?

4.06. Instructor guides for the air power component of the WOFFPROMCSE do exist, and have been developed in accordance with the RAAF Manual of Training (DI(AF) AAP 2002.001). The instructor guides, which are regularly updated and reviewed, are comprehensive and provide sufficient direction for instructors.

Do air power lesson plans meet RAAF training standards?

4.07. Comprehensive lesson plans exist, and provide sufficient direction for instructors.

Do air power instructional resources meet RAAF training standards?

4.08. Presently, the course makes use of unit produced handouts, the Air Power Manual, the Condensed Air Power Manual and resources at the Base Library. There are formal procedures in place to regularly review and update the air power education resources, and formal procedures are also in place to identify new resource material for the course. However, comment was made by RAAFSMTT staff that they have found it difficult in obtaining information and resources from the APSC.

Are instructors experienced and qualified in air power education?

4.09. The Advanced Instructional Technique Course is a pre-requisite to becoming a WOFFPROMCSE instructor. However, no qualifications or experience, other than the experience gained from postings as a SNCO and WOFF, are required to teach air power on the WOFFPROMCSE.

What reference material and assistance is available for air power training designers and instructors?

4.10. The WOFFPROMCSE has a dedicated air power reference section, and procedures are in place to obtain assistance with research in air power from various sources. However, comment was made that RAAFSMTT staff have found it difficult in obtaining reference material and assistance from the APSC. This comment is similar to the observation made at paragraph 4.08., regarding APSC assistance with air power resources and information.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

4.11. Instructional strategies vary from lectures, to guided discussions and student presentations. The emphasis is one of student involvement as much as possible. Ninety per cent of graduates surveyed believe that these methods are effective and achieve the aim of the course. This is also supported by RAAFSMTT instructors who believe the methods are effective.

What level of interaction is there between instructor/student and student/student with regard to air power on each course? Is it enough/too much etc?

4.12. As discussed at paragraph 4.11., the primary instructional strategy for the WOFFPROMCSE centres around student involvement. Lessons are interactive with time allocated for question and answer. Student/student interaction is achieved through group discussion and syndicate presentation.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

4.13. Ninety-five per cent of graduates surveyed believe that the existing air power lessons are motivating, 85 per cent believe the lessons are interesting and 90 per cent are satisfied or extremely satisfied with the methods used to teach air power on the course. In addition, 85 per cent of graduates surveyed believe that the air power elements on the WOFFPROMCSE motivated them to continue to learn more about air power after the course had finished.

4.14. All instructors believe that the air power lessons are motivating and interesting for students, and that the methods used to teach air power on the course are effective.

How is air power knowledge assessed on the course?

4.15. Apart from continual assessment of each student, the major assessment activity for the air power element on the course is a student presentation. Each student's knowledge and understanding is assessed by the quality of information presented and their ability to answer questions during the question and answer period. All instructors are satisfied with this method of assessment.

In the opinion of graduates and instructors, is sufficient time allocated to air power in each course to achieve the aim of the course?

4.16. All instructors and graduates believe that enough time is allocated to the air power element on the course.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

4.17. All instructors are satisfied with the emphasis which is currently placed on understanding and applying air power doctrine.

Does the WOFFPROMCSE relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

4.18. Instructors were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students future employment in the RAAF?

4.19. All instructors were satisfied with the three propositions at paragraph 4.18.. However, discussion with several instructors indicated that a presentation on a topical air power issue by an APSC member, may not only motivate students, but at the same time, show the relevance of air power to students' future employment.

How is the theme - 'that a comprehension of air power doctrine is a personal responsibility'- encouraged on the WOFFPROMCSE?

4.20. Discussions with OIC WOFFPROMCSE indicate that the concept, - 'that a comprehension of air power doctrine is a personal

responsibility' - , is necessary, is encouraged on the course by emphasising the role that each student has to play in the application of air power by the RAAF. In addition, students are encouraged to attend air power lectures, seminars and conferences. Comments from graduates and supervisors suggest that more emphasis is required on encouraging the concept that each member has the responsibility as an WOFF to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF. Discussions with OIC WOFFPROMCSE indicate that this issue is currently being addressed by RAAFSMTT.

How does the WOFFPROMCSE emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

4.21. This concept is achieved by emphasising to students that air power doctrine is the fundamental philosophy concerning the employment of the RAAF, and that doctrine is a body of central beliefs about war that guides the application of air power in combat.

OUTCOMES

How satisfied are you that graduates of the WOFFPROMCSE are motivated and interested enough to further their understanding of air power and its relevance to their activities?

4.22. Ninety per cent of Warrant Officer graduate supervisors surveyed believe that graduates of the WOFFPROMCSE are motivated and interested enough to further their understanding of air power and its relevance to their activities. Written comments suggest that the WOFFPROMCSE achieves its objectives in this area.

4.23. These results are supported by graduate responses. Eighty-five per cent of graduates believe that the air power elements on the course motivated them to continue to learn more about air power. Examples of typical written comments received were:

This is the first time I have done any air power, and it showed me how important it is to understand the fundamentals of the RAAF. It should have been done a long time ago.

I am surprised that I enjoyed the subject so much.

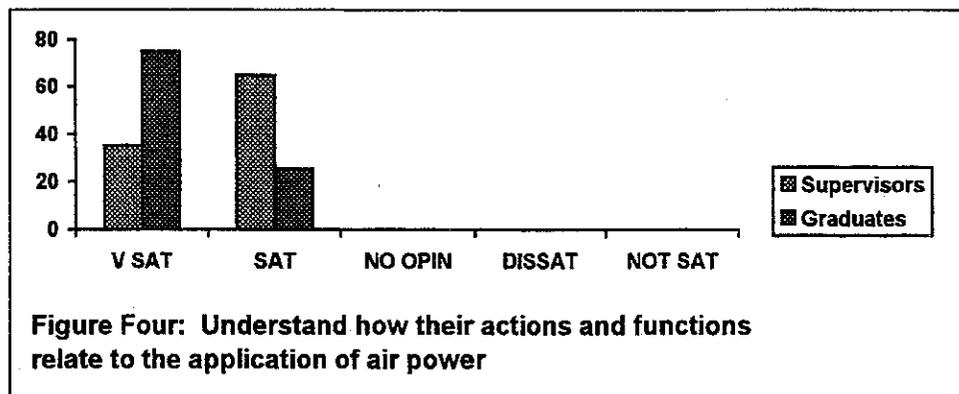
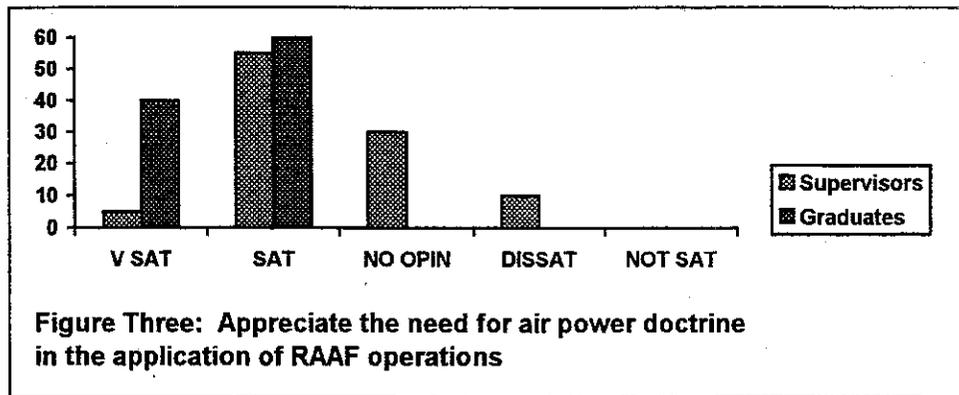
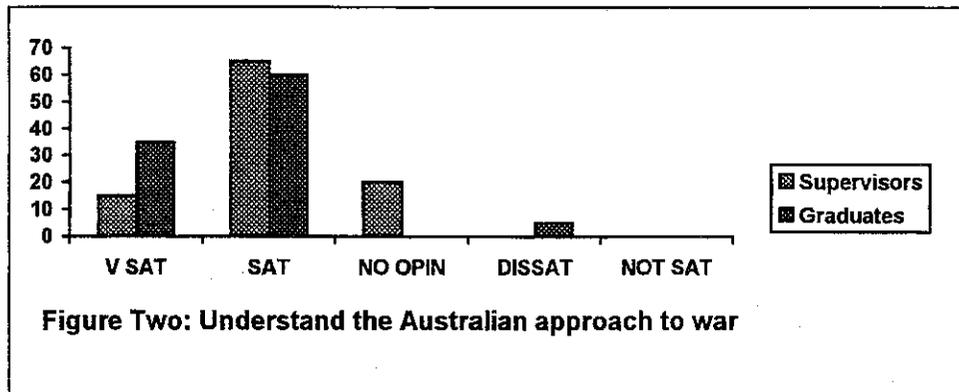
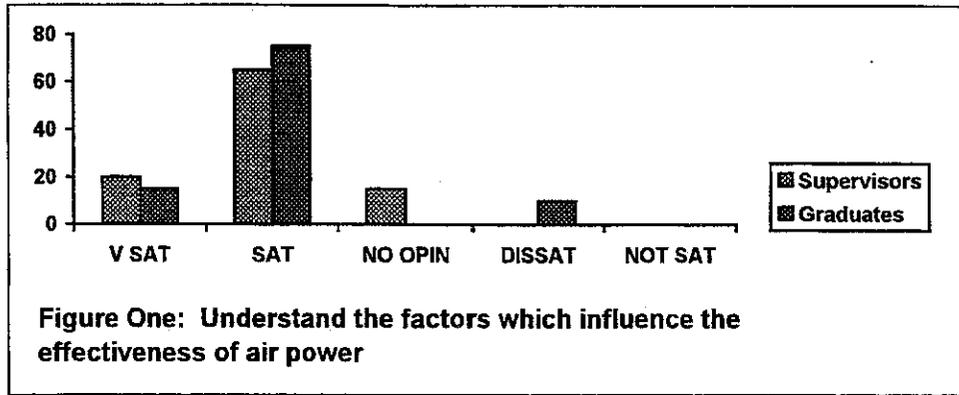
What is the Overall Knowledge and Understanding of Graduates?

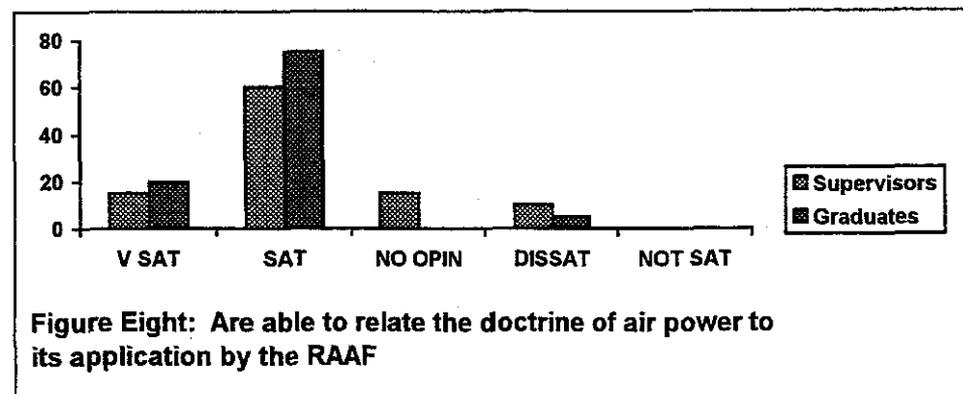
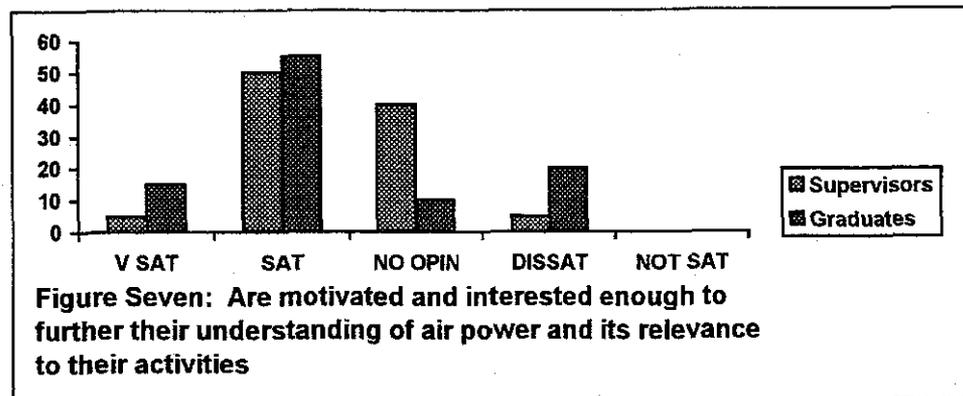
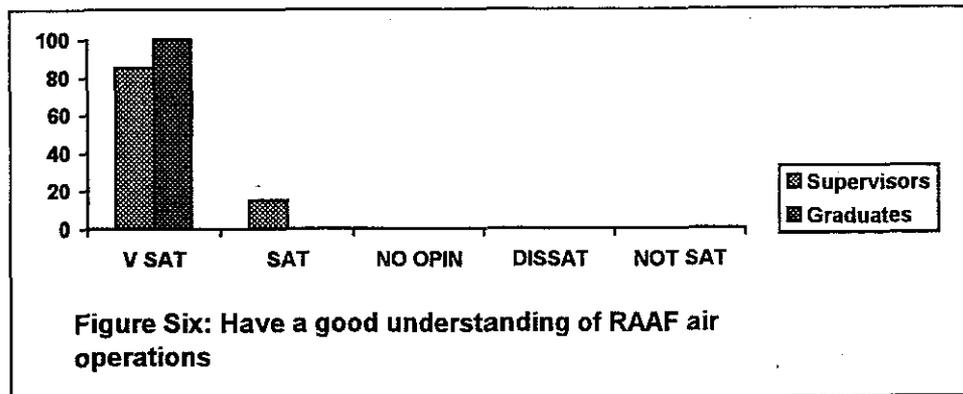
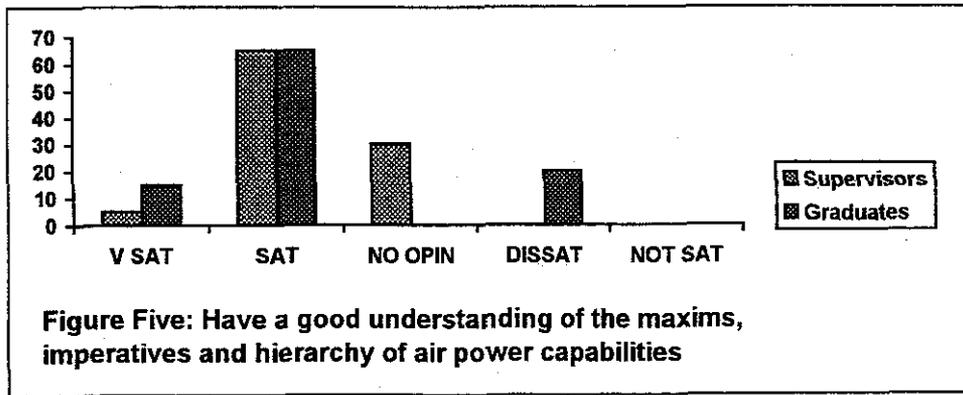
4.24. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

4.25. Supervisors and graduates were asked how satisfied they were that graduates:

- a. Understand the factors which influence the effectiveness of air power?
- b. Understand the Australian approach to war?
- c. Appreciate the need for air power doctrine in the application of RAAF operations?
- d. Understand how their actions and functions relate to the application of air power?
- e. Have a good understanding of the maxims, imperatives and hierarchy of air power capabilities?
- f. Have a good understanding of RAAF air operations?
- g. Are motivated and interested enough to further their understanding of air power and its relevance to their activities?
- h. Are able to relate the doctrine of air power to its application by the RAAF?

4.26. Responses to each of these items are tabulated in Figures One to Eight respectively.





4.27. Overall, these results indicate a high level of satisfaction, both with graduate supervisors and with the graduates themselves, with the level of knowledge and understanding of the air power elements listed at paragraph 4.25..

CONCLUSION AND FINDINGS

4.28. Overall, the study found that the WOFFPROMCSE air power component is extremely effective and meets its stated aim. The course has a well defined air power training strategy and CTOs have been developed in accordance with RAAF training standards. In terms of the educational process, instructional strategies are appropriate, there is adequate interaction between instructor/student and student/student, the lesson material was judged to be both interesting and motivating, and assessment methods were found to be appropriate. Further, the course encourages the development of an understanding of air power and its application, rather than simply learning the doctrine itself.

4.29. In terms of outcomes, the majority of graduate supervisors and graduates themselves are satisfied that the course motivates students to further their understanding of air power. In addition, the majority of graduate supervisors believe that graduates achieve the course air power CTOs.

4.30. In terms of improvements to the course, discussions with the OIC WOFFPROMCSE, instructors, graduates and supervisors indicate the only area which may require some attention is the provision of air power resources for the course.

SECTION TWO

CHAPTER FIVE

JUNIOR OFFICER INITIAL COURSE

5.01. To assess the effectiveness of the air power taught on the Junior Officer Initial Course (JOIC), 35 recent graduates (since July 1992) and the senior instructor were surveyed and interviewed. As well, 40 Junior Officer supervisors were also surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia.

5.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

5.03. The training strategy for the JOIC is to introduce students to the general concepts and campaigns of air power by motivating and encouraging a positive attitude towards air power and its application.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

5.04. There are 36 periods of air power on the JOIC. However, this phase could be more appropriately renamed *Military Studies*, as it includes law of armed conflict, the principles of war, an outline of the Australian Defence Force, Australia's strategic environment and Australia's defence policy. Of the 36 periods, nine periods are

dedicated to air power. The air power CTO and associated syllabus objectives are as follows:

CTO:

Apply air power doctrine to the defence needs of Australia.

Syllabus Objectives:

- a. Outline the:
 - (1) characteristics of air power,
 - (2) three air campaigns,
 - (3) maxims of air power,
 - (4) development of air power,
 - (5) hierarchy of air power, and
 - (6) the RAAF Imperatives.
- b. Apply air power to the defence needs of Australia.
(Achieved by way of a wargame)
- c. Relate air power doctrine to the following RAAF elements:
 - (1) Tactical Fighter Group,
 - (2) Maritime Patrol Group,
 - (3) Airlift Group,
 - (4) Strike/Reconnaissance Group,
 - (5) Operational Support Group, and
 - (6) Sustainment Units.

5.05. The study found that the skills, knowledge and attitudes specified in the CTOs all contribute to the achievement of the aim of the course. Specifically, syllabus objectives have been developed from a task analysis and are cross-referenced with applicable CTOs. Syllabus objectives are sufficient in their scope and assessment codes have been

applied and are appropriate to the aim of the course. Syllabus objectives are reviewed and updated on an annual basis. Proposed changes are examined and decided upon in conjunction with the APSC.

Do air power instructor guides meet RAAF training standards?

5.06. Instructor guides for the air power component of the JOIC do exist, and have been developed in accordance with the RAAF Manual of Training (DI(AF) AAP 2002.001). The instructor guides, which are regularly updated and reviewed, are moderately comprehensive with additional air power references indicated where necessary. The instructor guides provide sufficient direction for instructors.

Do air power lesson plans meet RAAF training standards?

5.07. Comprehensive lesson plans exist, and provide sufficient direction for instructors.

Do air power instructional resources meet RAAF training standards?

5.08. Presently, the course makes use of unit produced handouts, slides, videos, the Air Power Manual, the Condensed Air Power Manual, resources from the RAAF College Library and APSC supplied information. There are formal procedures in place to regularly review and update the air power education resources, however, apart from individual instructor initiative, there are no formal procedures in place to identify new resource material for the course.

Are instructors experienced and qualified in air power education?

5.09. The Instructional Technique Course is a pre-requisite to becoming an instructor at RAAF College. However, no specific qualifications or experience, are required to teach air power. Discussions with the senior air power instructor indicate that although no specific qualifications or experience, are required to teach air power, instructors must have a good understanding of air power and its application. In an effort to ensure this level of understanding pilots are usually used to instruct the air power components. However, this is no guarantee that instructors will have the required level of air power knowledge.

What reference material and assistance is available for air power training designers and instructors?

5.10. RAAF College has an extensive range of air power reference material. This includes air power packages, videos, and books etc. There are no formal procedures in place to obtain assistance with research in air power, other than the initiative of individual instructors.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

5.11. Instructional strategies vary from lectures, to guided discussions and student presentations. The air power phase culminates with a war-gaming exercise where students are given the opportunity to apply some of the concepts to which they have been exposed. The wargaming exercise has only recently been introduced, and appears to be quite successful. Of the graduates that had experienced the wargame, all are satisfied that it is an effective and motivating teaching method. In contrast, of those who had not experienced the war-gaming exercise, 95 per cent believe that the teaching methods were not effective and not motivating. Discussions with the senior air power instructor and the Director Officers' Training School support this view.

What level of interaction is there between instructor/student and student/student with regard to air power on each course? Is it enough/too much etc?

5.12. Lessons are interactive with time allocated for question and answer. Student/student interaction is achieved through group discussion and syndicate presentation. Discussions with the senior air power instructor indicate that the level of interaction is appropriate.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

5.13. Forty per cent of graduates surveyed believe that the existing air power lessons are not motivating, 35 per cent believe the lessons are not interesting and 45 per cent are not satisfied with the methods used to teach air power on the course. In addition, 35 per cent of graduates surveyed believe that the air power elements on the JOIC did not motivate them to continue to learn more about air power after the course had finished.

5.14. Further investigation to the cause of this level of dissatisfaction, revealed two distinct groups; those that had experienced the war-gaming exercise and those that had not (refer paragraph 5.11.). Members from the group that had not experienced the war-gaming exercise are generally more dissatisfied with the motivation and interest level of the methods used to teach air power. Members from this group also make up the majority of the 35 per cent of graduates who believe that the air power elements on the JOIC did not motivate them to continue to learn more about air power after the course had finished. Members from the group that had experienced the war-gaming exercise are generally more satisfied with the methods used to teach air power, and are more motivated to learn more about air power after the course had finished.

How is air power knowledge assessed on the course?

5.15. The air power elements on the course are assessed by a combination of exams, continuous assessment and the air power war-game. Discussions with the senior air power instructor indicate a high level of satisfaction with these methods of assessment.

In the opinion of graduates and instructors, is sufficient time allocated to air power in each course to achieve the aim of the course?

5.16. Instructors and graduates believe that enough time is allocated to the air power element on the course.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

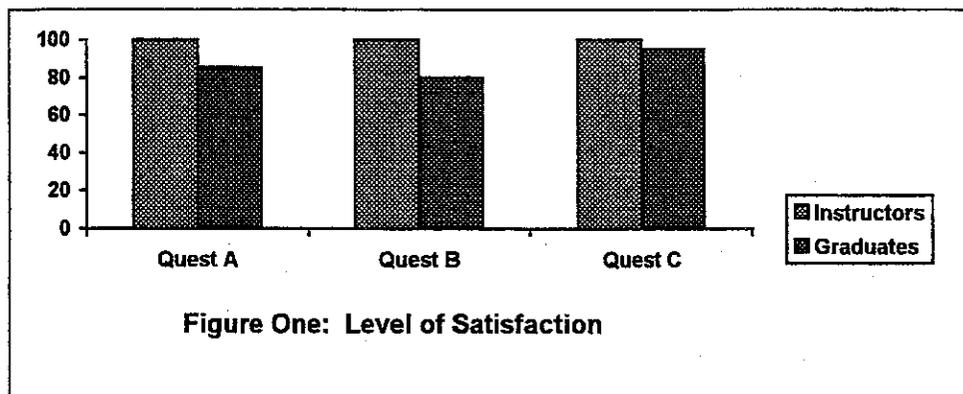
5.17. The JOIC air power training strategy seeks to introduce students to the general concepts and campaigns of air power by motivating and encouraging a positive attitude towards air power and its application. Although the strategy initially emphasises an indoctrination of air power principles, students are encouraged to ask questions to establish a good understanding. The air power war-game at the end of the course further develops students' understanding of air power concepts.

Does the JOIC relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

5.18. Instructors and graduates were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students future employment in the RAAF?

5.19. As shown in Figure One, all instructors and graduates are satisfied with the three propositions at paragraph 5.18..



How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the JOIC?

5.20. Discussions with the air power instructors indicate that the concept, - 'that a comprehension of air power doctrine is a personal responsibility' - is necessary, and is encouraged on the course by emphasising the role that each student has to play in the application of air power by the RAAF. Comments from graduates and supervisors suggest that more emphasis is required on encouraging the concept that each member has the responsibility as a junior officer to ensure that their staff understands how their activities and the activities of others contribute to the use of air power by the RAAF.

How does the JOIC emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

5.21. This concept is achieved by emphasising to students that air power doctrine is the fundamental philosophy concerning the employment of the RAAF, and that doctrine is a body of central beliefs about war that guides the application of air power in combat.

OUTCOMES

How satisfied are you that graduates of the JOIC are motivated and interested enough to further their understanding of air power and its relevance to their activities?

5.22. Eighty-five per cent of junior officer graduate supervisors surveyed believe that graduates of the JOIC are motivated and interested enough to further their understanding of air power and its relevance to their activities. Although these results are not as strongly supported by graduate responses (35 per cent of graduates are dissatisfied with the proposition), the cause for this dissatisfaction, which was discussed at paragraph 5.14., has been resolved by RAAF College.

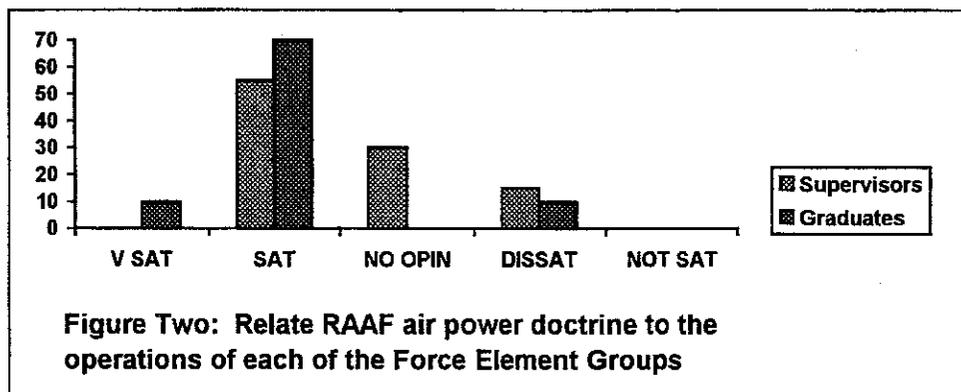
Overall Knowledge and Understanding of Graduates

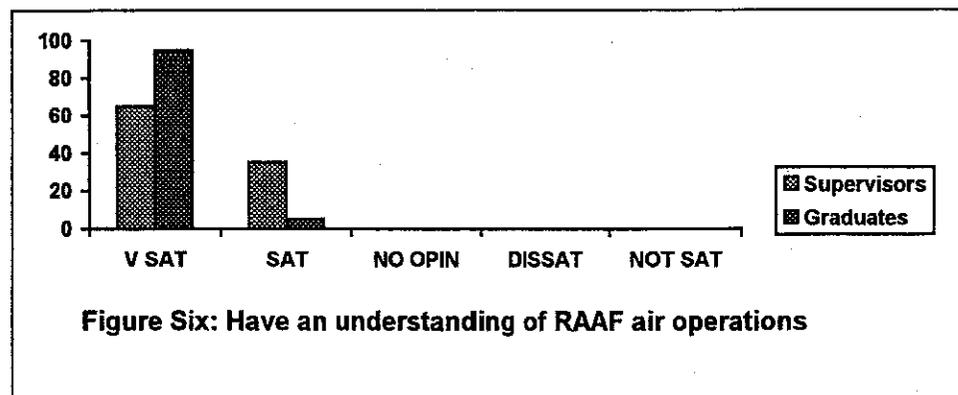
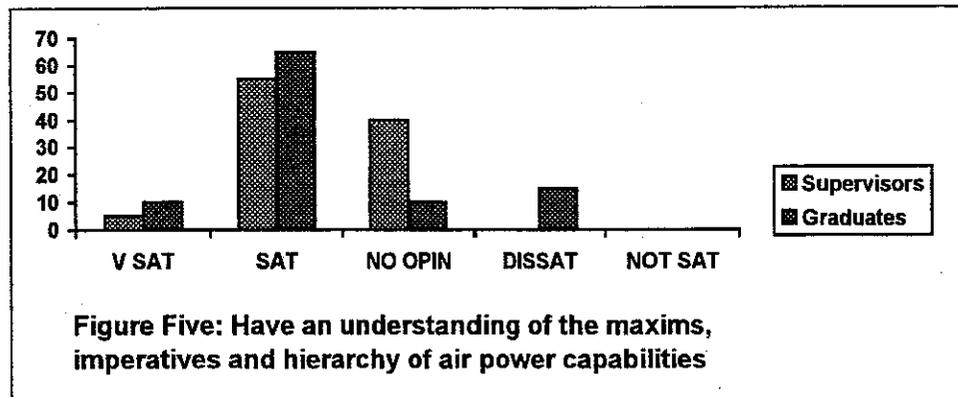
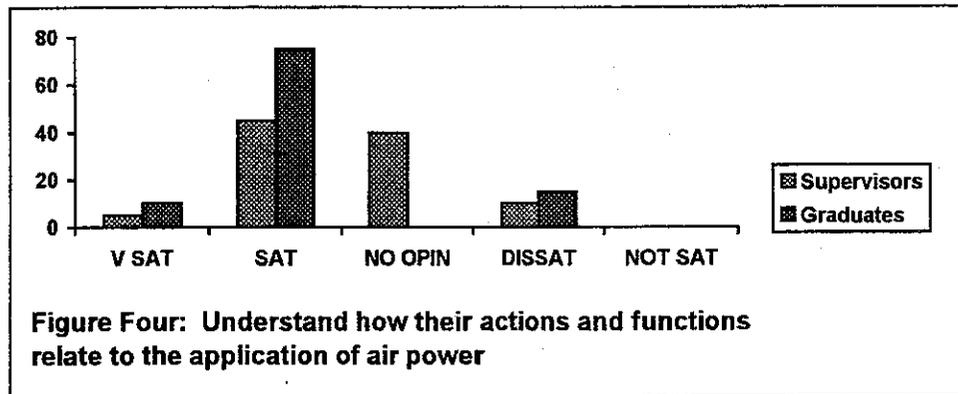
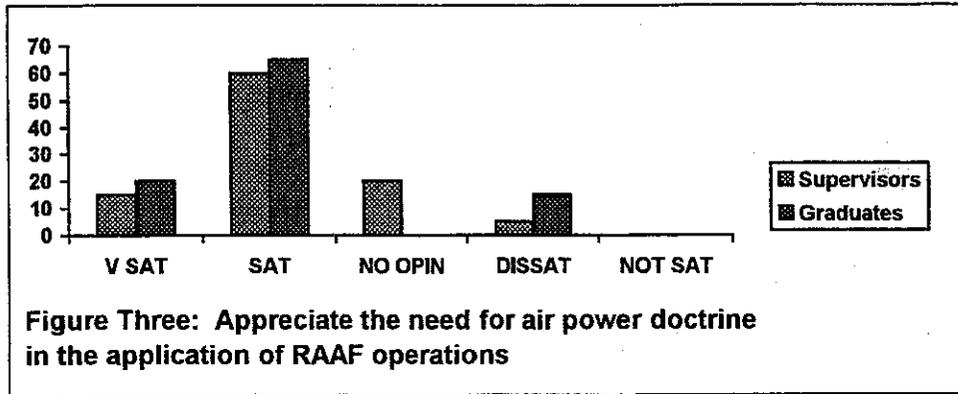
5.23. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

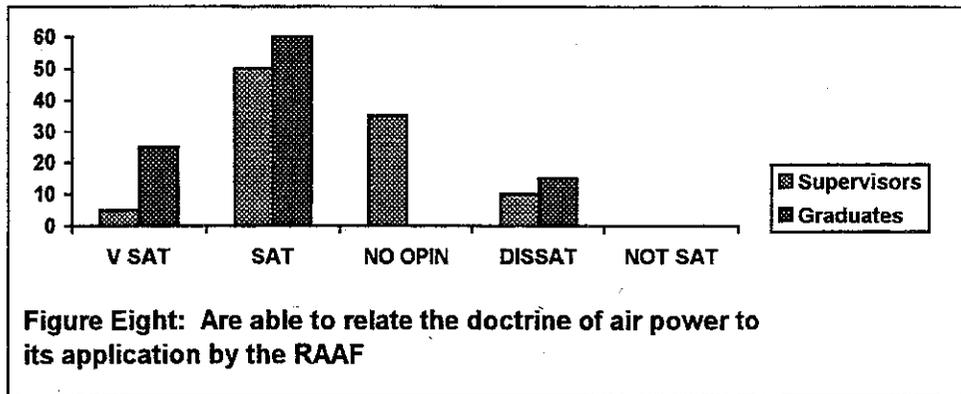
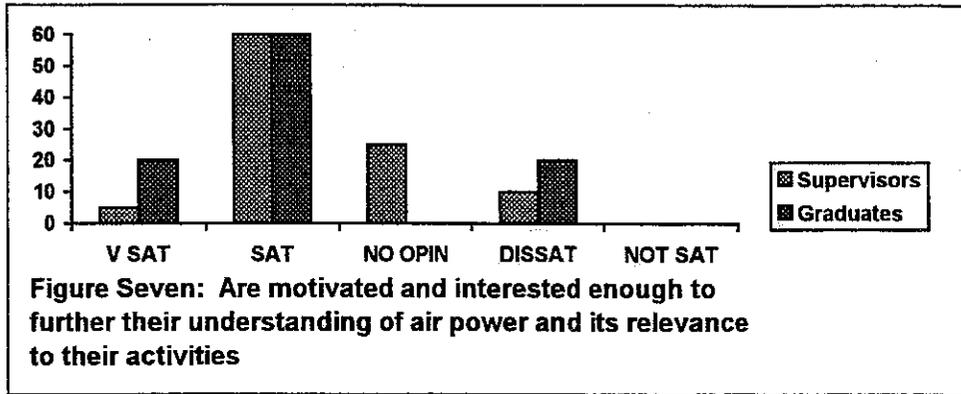
5.24. Supervisors and graduates were asked how satisfied they were that graduates:

- a. Are able to relate RAAF air power doctrine to the operations of each of the Force Element Groups?
- b. Appreciate the need for air power doctrine in the application of RAAF operations?
- c. Understand how their actions and functions relate to the application of air power?
- d. Have an understanding of the maxims, imperatives and hierarchy of air power capabilities?
- e. Have an understanding of RAAF air operations?
- f. Are motivated and interested enough to further their understanding of air power and its relevance to their activities?
- g. Are able to relate the doctrine of air power to its application by the RAAF?

5.25. Responses to each of these items are tabulated in Figures Two to Eight respectively.







5.26. Overall, these results indicate a high level of satisfaction, both with graduate supervisors and with the graduates themselves, with the level of knowledge and understanding of the air power elements listed at paragraph 5.24..

CONCLUSION AND FINDINGS

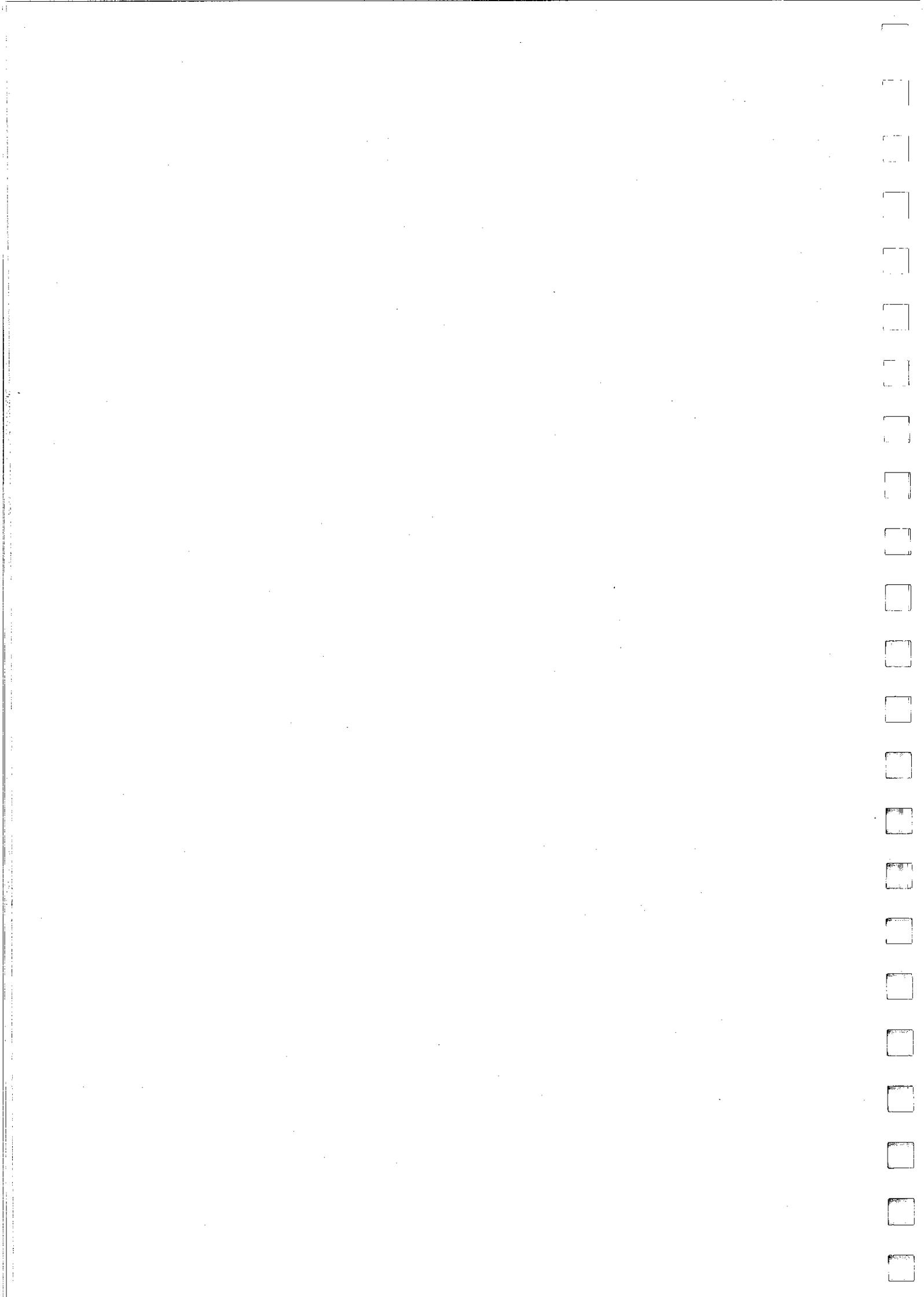
5.27. Overall, the study found that the JOIC air power component is effective and meets its stated aim. The course has a well defined air power training strategy and CTOs have been developed in accordance with RAAF training standards. In terms of the educational process, instructional strategies are appropriate, there is adequate interaction between instructor/student and student/student, the lesson material was judged to be both interesting and motivating, and assessment methods were found to be appropriate. Further, the course encourages, through practical application, the development of an understanding of air power and its application, rather than simply learning the doctrine itself.

5.28. In terms of outcomes, the majority of graduate supervisors and graduates themselves are satisfied that the course motivates students to

further their understanding of air power. In addition, the majority of graduate supervisors believe that graduates achieve the course air power CTOs.

5.29. In terms of improvements to the course, discussions with the senior instructor, graduates and supervisors indicate the following areas need to be examined:

- a. the effective provision of air power educational resources for the course,
- b. developing an instructor's air power package to assist with standardisation given the differing backgrounds of air power instructors, and
- c. the emphasis which should be placed on encouraging the concept that each member has the responsibility as a junior officer to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.



SECTION TWO

CHAPTER SIX

AUSTRALIAN DEFENCE FORCE ACADEMY

6.01. Graduates of the Australian Defence Force Academy (ADFA) complete two separate elements of air power study. The first element is an air power phase delivered during single service training at the beginning of the ADFA course. This phase is equivalent to the air power phase taught on JOIC. The second element is a three day advanced air power program conducted by the APSC during the third year of ADFA studies. This program also includes a presentation by the Chief of Air Staff. To assess the effectiveness of the air power taught on the ADFA course, 32 recent graduates (since July 1992), the senior single service air power instructor and APSC staff were surveyed and interviewed. As well, 40 Junior Officer supervisors were also surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia.

6.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

6.03. The training strategy for the single service training is to introduce students to the general concepts and campaigns of air power by motivating and encouraging a positive attitude towards air power and its application. The training strategy for the advanced air power program is to emphasise the importance of relating graduates' future RAAF activities to the pursuit of excellence in the projection of air power for the defence of Australia.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

6.04. There are 36 periods of air power taught on single service training. However, this phase could be more appropriately renamed *Military Studies*, as it includes law of armed conflict, the principles of war, an outline of the Australian Defence Force, Australia's strategic environment and Australia's defence policy. Of the 36 periods, nine periods are dedicated to air power. The air power CTO and associated syllabus objectives are as follows:

CTO:

Apply air power doctrine to the defence needs of Australia.

Syllabus Objectives:

- a. Outline the:
 - (1) characteristics of air power,
 - (2) three air campaigns,
 - (3) maxims of air power,
 - (4) development of air power,
 - (5) hierarchy of air power, and
 - (6) the RAAF Imperatives.
- b. Apply air power to the defence needs of Australia. Achieved by way of a war-game.
- c. Relate air power doctrine to the following RAAF elements:
 - (1) Tactical Fighter Group,
 - (2) Maritime Patrol Group,
 - (3) Airlift Group,
 - (4) Strike/Reconnaissance Group,

(5) Operational Support Group, and

(6) Sustainment Units.

6.05. An outline of the three day advanced air power program conducted by the APSC is as follows:

- a. introduction by CAS,
- b. history of the RAAF,
- c. public relations,
- d. aerospace strategy,
- e. history of RAAF doctrine,
- f. RAAF air power doctrine,
- g. air power technological issues and air law,
- h. wargaming,
- i. weapons systems of the Gulf war,
- j. lecture by RAF,
- k. student presentations, and
- l. closing address by CAS.

6.06. The study found that the skills, knowledge and attitudes specified in the CTOs all contribute to the achievement of the aim of the course. Specifically, syllabus objectives have been developed from a task analysis and are cross-referenced with applicable CTOs. Syllabus objectives are sufficient in their scope and assessment codes have been applied and are appropriate to the aim of the course. Syllabus objectives are reviewed and updated on an annual basis. Proposed changes are examined and decided upon in conjunction with the APSC.

Do air power instructor guides meet RAAF training standards?

6.07. Instructor guides for the air power component of the single service training do exist, and have been developed in accordance with the

RAAF Manual of Training (DI(AF) AAP 2002.001). The instructor guides, which are regularly updated and reviewed, are moderately comprehensive with additional air power references indicated where necessary. The instructor guides provide sufficient direction for instructors. Instructor guides are not necessary for the advanced air power program.

Do air power lesson plans meet RAAF training standards?

6.08. Comprehensive lesson plans exist for the single service training, and provide sufficient direction for instructors. In addition, extensive lesson plans and notes exist for the presentations delivered by the APSC at the three day advanced air power seminar.

Do air power instructional resources meet RAAF training standards?

6.09. Presently, the course makes use of unit produced handouts and slides, videos, the Air Power Manual, the Condensed Air Power Manual, and resources held at the RAAF College Library. There are formal procedures in place to review regularly and update the air power education resources, however, apart from individual instructor initiative, there are no formal procedures in place to identify new resource material for the course.

Are instructors experienced and qualified in air power education?

6.10. The Instructional Technique Course is a pre-requisite to becoming an instructor at RAAF College. However, no specific qualifications or experience, are required to teach air power. Discussions with the senior air power instructor indicate that although no specific qualifications or experience, are required to teach air power, instructors must have a good understanding of air power and its application. In an effort to ensure this level of understanding pilots are usually used to instruct the air power components. However, this by no means guarantees that instructors will have the required level of air power knowledge. APSC presenters are all experienced and qualified in air power.

What reference material and assistance is available for air power training designers and instructors?

6.11. RAAF College and ADFA have an extensive range of air power reference material. This includes air power packages, videos, and books etc. There are no formal procedures in place to obtain assistance with research in air power, other than the initiative of individual instructors.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

6.12. Instructional strategies vary from lectures, to guided discussions and student presentations. The single service air power phase culminates with a war-gaming exercise where students are given the opportunity to apply some of the concepts to which they have been exposed. The war-gaming exercise has only recently been introduced, and appears to be quite successful. Of the graduates that have experienced the war gaming exercise, all are satisfied that it is an effective and motivating teaching method. In contrast, of those who had not experienced the war-gaming exercise, 80 per cent are dissatisfied with the methods used to teach air power. Written comments indicate that graduates believe the lessons to be uninteresting, dry and presented without enthusiasm. A typical written comment is:

SST air power - bland material presented in a bland and uninspiring manner.

6.13. With regard to the three day advanced air power program conducted by the APSC, 85 per cent of ADFA graduates surveyed are satisfied with the teaching methods used. Examples of typical written comments are:

The air power presentations at ADFA were vastly better than those presented in the SST.

The air power presented at ADFA was much more interesting and worthwhile than that presented in SST.

What level of interaction is there between instructor/student and student/student with regard to air power on each course? Is it enough/too much etc?

6.14. Single service training air power lessons are interactive with time allocated for question and answer. Discussions with the senior air power instructor indicate that the level of interaction is appropriate. In contrast, 85 per cent of graduates are not satisfied with the level of interaction with the SST air power lectures. A typical written comment is:

SST air power lectures - death by OHT.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

6.15. Eighty five per cent of graduates surveyed believe that the existing single service training air power lessons are not motivating, 75 per cent believe the lessons are not interesting and 95 per cent are not satisfied with the methods used to teach air power on the course. In addition, 65 per cent of graduates surveyed believe that the air power elements on the single service training did not motivate them to continue to learn more about air power after the course had finished.

6.16. As discussed in Chapter Five, paragraph 5.11., this level of dissatisfaction is because the majority of graduates surveyed had completed the course before the interactive war-gaming exercise had been introduced. Of those graduates who had experienced the war-game, a much higher level of satisfaction was recorded for each of the propositions detailed at paragraph 6.15. Written comments indicate that graduates believe that the war-gaming exercise is an excellent way in which to motivate and develop an understanding of the basic air power principles. However, this satisfaction does not alleviate the problems already outlined with the methods used to teach the remaining air power lessons.

6.17. With regard to the advanced air power program, all graduates surveyed are satisfied with the teaching methods used, and all believe that the program is interesting and motivating.

How is air power knowledge assessed on the course?

6.18. The air power elements on the course are assessed by a combination of exams, continuous assessment, the air power war-game and student presentations. Discussions with the senior air power instructor and APSC staff indicate a high level of satisfaction with these methods of assessment.

In the opinion of graduates and instructors is sufficient time allocated to air power in each course to achieve the aim of the course?

6.19. Ninety per cent of the ADFA graduates surveyed believe that more time should be allocated to air power throughout their studies at ADFA. A comment which was consistently made was that there is too large a break between single service training and the three day advanced air power program conducted in third year. A number of graduates suggested that more lectures, similar to those presented by the APSC, be programmed into the Defence Studies phase of the ADFA curriculum. An example of a typical comment was:

Air power should be presented throughout the entire ADFA course so that air power is not delivered in one large dose.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

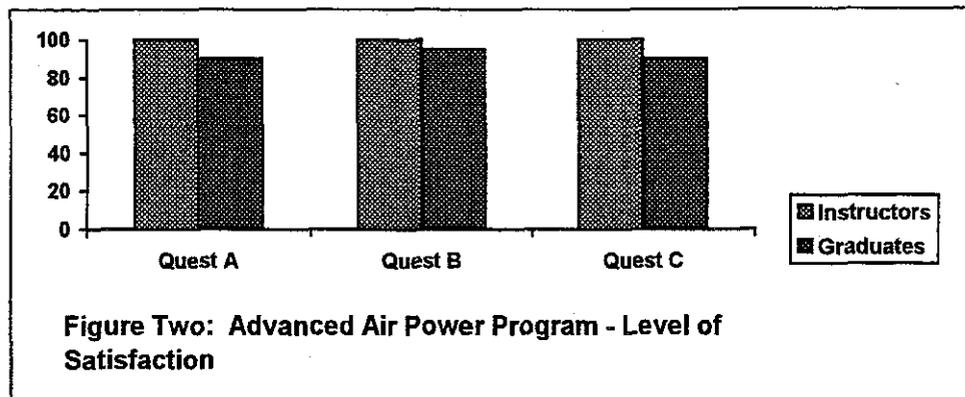
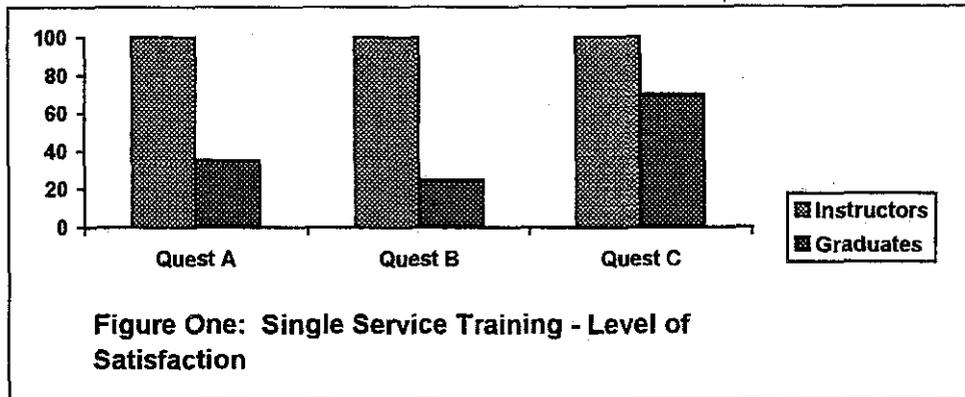
6.20. The single service air power training strategy seeks to introduce students to the general concepts and campaigns of air power by motivating and encouraging a positive attitude towards air power and its application. Although the strategy initially emphasises an indoctrination of air power principles, students are encouraged to ask questions to establish a good understanding. The air power war-game at the end of the single service training phase further develops students' understanding of air power concepts. Further, the training strategy for the advanced air power program emphasises the importance of relating graduates' future RAAF activities to the pursuit of excellence in the projection of air power for the defence of Australia.

Does the ADFA course relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

6.21. Instructors and graduates were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students future employment in the RAAF?

6.22. As shown in Figures One and Two, graduate responses for the propositions at paragraph 6.21. differ greatly for the single service training and the advanced air power program.



6.23. Written comments suggest that the low level of graduate satisfaction with the single service training can be attributed to the following factors:

- a. The methods used to teach the air power phase of the single service training. Although this appears to have been partially addressed by RAAF College with the introduction of the air power war-game.
- b. The perceived lack of enthusiasm by single service air power instructors.
- c. The lack of an integrated and continuous air power program throughout a student's studies at ADFA.

How is the theme 'that a comprehension of air power doctrine is a personal responsibility' encouraged on the ADFA course?

6.24. The concept, 'that a comprehension of air power doctrine is a personal responsibility', is encouraged on the single service training phase and the advanced air power program by emphasising the role that each student has to play in the application of air power by the RAAF. However, comments from graduates and supervisors suggest that more emphasis is required on encouraging the concept that each member has the responsibility as a junior officer to ensure that their staff understands how their activities and the activities of others contribute to the use of air power by the RAAF.

How does the ADFA course emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

6.25. This concept is achieved by emphasising to students that air power doctrine is the fundamental philosophy concerning the employment of the RAAF, and that doctrine is a body of central beliefs about war that guides the application of air power in combat.

OUTCOMES

How satisfied are you that ADFA graduates are motivated and interested enough to further their understanding of air power and its relevance to their activities?

6.26. Eighty per cent of ADFA graduate supervisors surveyed believe that the graduates are motivated and interested enough to further their understanding of air power and its relevance to their activities. In contrast, of the graduates surveyed 65 per cent do not believe that the air power elements of the ADFA course motivated or interested them enough to further their understanding of air power and its relevance to their activities. Investigation into the possible reasons for this high level of dissatisfaction revealed that the major causes were as follows:

- a. The methods used to teach the air power phase of the single service training. Although, as discussed at paragraph 6.23., this problem has been rectified by RAAF College with the introduction of the air power war-game.
- b. The perceived lack of enthusiasm by single service air power instructors.
- c. The lack of an integrated and continuous air power program throughout a student's studies at ADFA.

Overall Knowledge and Understanding of Graduates

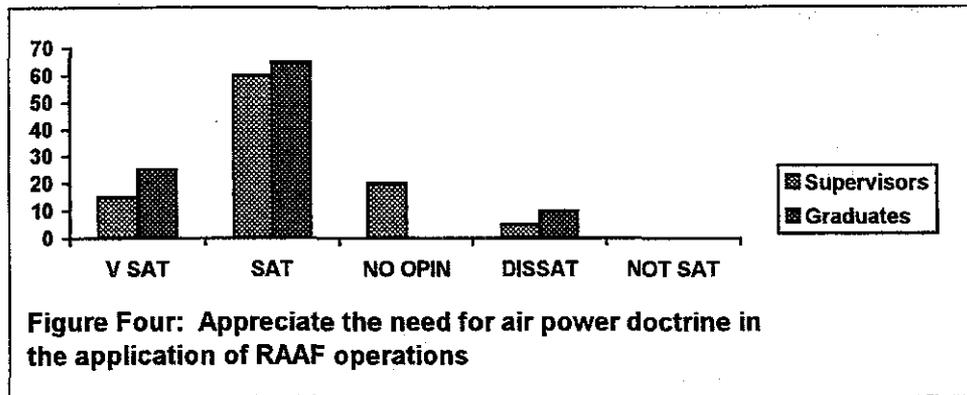
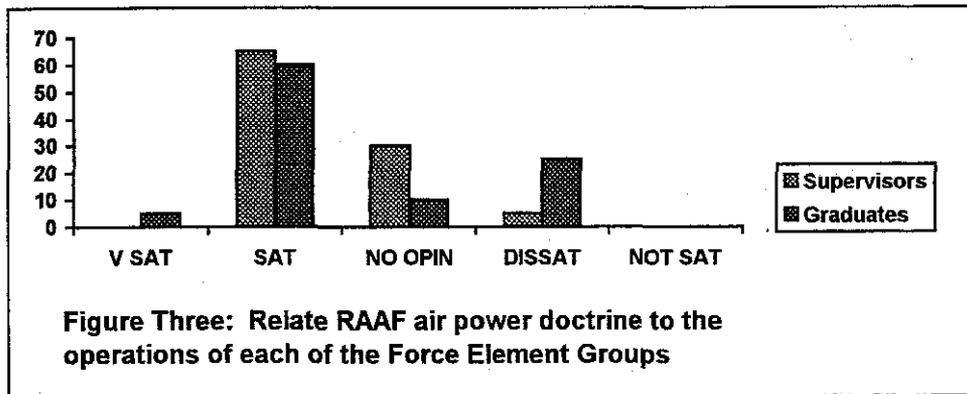
6.27. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

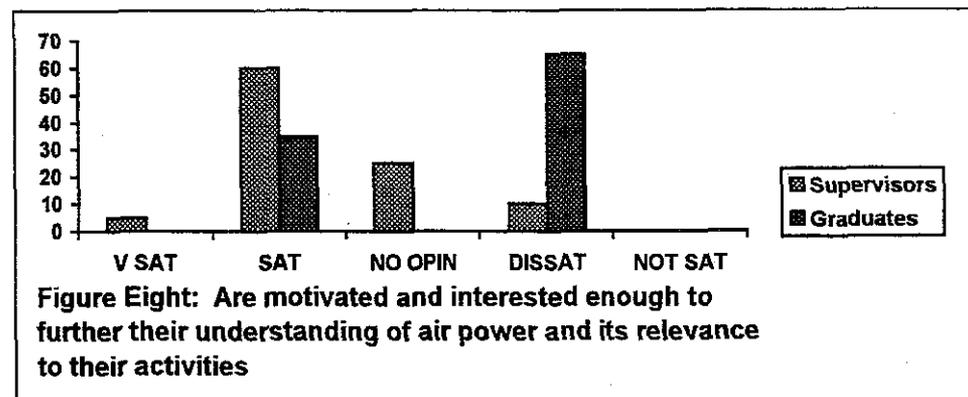
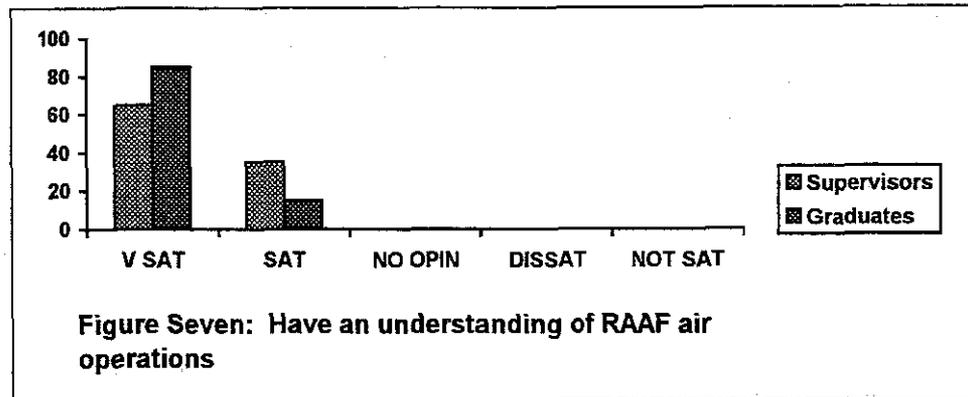
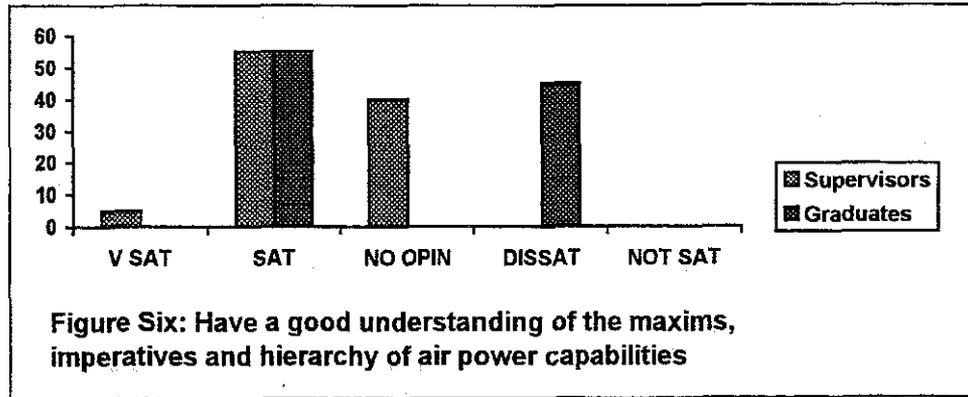
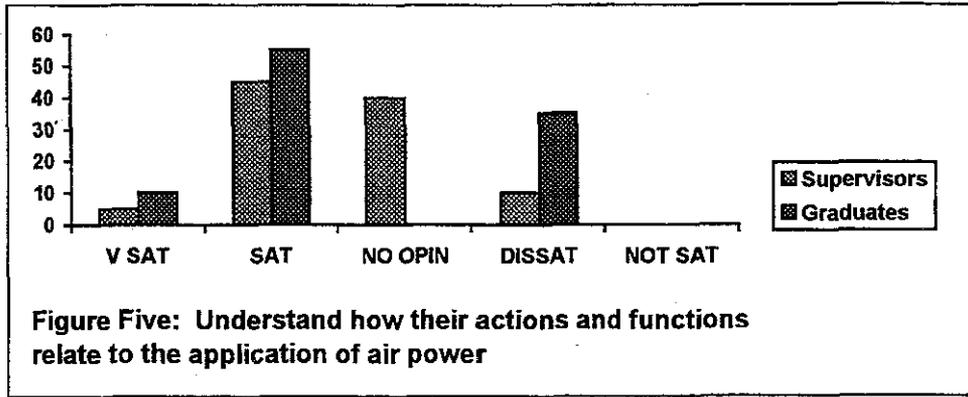
6.28. Supervisors and graduates were asked how satisfied they were that graduates:

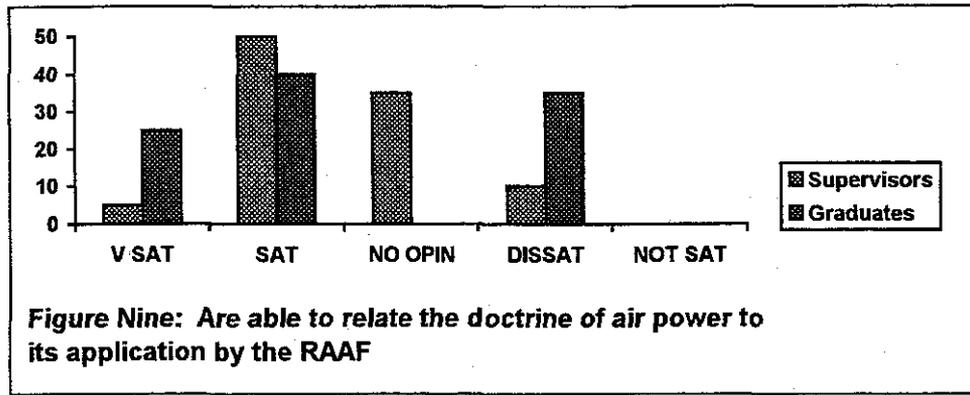
- a. Are able to relate RAAF air power doctrine to the operations of each of the Force Element Groups?
- b. Appreciate the need for air power doctrine in the application of RAAF operations?
- c. Understand how their actions and functions relate to the application of air power?

- d. Have an understanding of the maxims, imperatives and hierarchy of air power capabilities?
- e. Have an understanding of RAAF air operations?
- f. Are motivated and interested enough to further their understanding of air power and its relevance to their activities?
- g. Are able to relate the doctrine of air power to its application by the RAAF?

6.29. Responses to each of these items are tabulated in Figures Three to Nine respectively.







6.30. The high level of dissatisfaction recorded in Figures Five, Six, Eight and Nine can be explained by examining the antecedents and transactions listed at paragraphs 6.03. to 6.25.. This examination indicates that there are a number of factors which contribute to this dissatisfaction. These are:

- a. The methods that are used for teaching air power on single service training. Apart from the war-game, which has only been recently introduced, graduates are dissatisfied with the methods used to teach air power. The main criticisms relate to the lack of interest, motivation and challenge with the air power lessons.
- b. There is a need for an integrated air power phase throughout the ADFA course, rather than delivering air power in one or two study blocks.
- c. There is a need for prerequisite training for single service air power instructors. The fact that the air power phase is usually taught by a pilot does not necessarily guarantee the required knowledge and experience for the position.
- d. More emphasis is required on encouraging the concept that each member has the responsibility as an junior officer to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.
- e. More emphasis is required on relating students' future RAAF activities to the pursuit of excellence in the employment of air power for the defence of Australia.

CONCLUSION AND FINDINGS

6.31. Although the ADFA air power phases have been well researched and developed, the course has a number of shortcomings. The main shortcomings centre around the lack of an integrated approach to air power education throughout the course and the ineffective instructional strategies used on the single service training phase. The latter problem has been addressed by RAAF College, and initial indications suggest that it has been resolved. The issue of the lack of an integrated approach to air power is more complex and will require consultation among APSC, ADFA and RAAF College staff.

6.32. Apart from the two issues outlined in paragraph 6.31., discussions with the senior instructor, APSC staff, graduates and supervisors indicate the following areas also need to be examined:

- a. the effective provision of air power resources for the course,
- b. developing an instructor's air power package to assist with standardisation given the differing backgrounds of air power instructors, and
- c. the emphasis which should be placed on encouraging the concept that each member has the responsibility as an junior officer to ensure that their staff understands how their activities and the activities of others contribute to the use of air power by the RAAF.

SECTION TWO

CHAPTER SEVEN

BASIC STAFF COURSE

7.01. To assess the effectiveness of the air power taught on the Basic Staff Course (BSC), 36 recent graduates (since July 1992) and the senior air power instructor were surveyed and interviewed. As well, 32 senior officers were surveyed as to their opinion on the level of the BSC graduate knowledge and understanding of air power and its application to the defence needs of Australia.

7.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

7.03. The air power training strategy progresses students from the definitions of air power and doctrine, early air power theories and theorists, and their ideas, to current RAAF air power doctrine and its application. Finally, students are required to research and analyse a major air operation and assess the relevance of the lessons learnt to the defence of Australia.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

7.04. There are 34 periods of operations and air power on the BSC. Of these 34 periods, 28.5 are dedicated to air power. The air

power CTO and associated syllabus objectives are as follows:

CTO:

Apply air power doctrine to the defence needs of Australia.

Syllabus Objectives:

- a. Define:
 - (1) air power, and
 - (2) doctrine,
- b. Research the biographical details and theories of early air power theorists.
- c. Outline air power history.
- d. Research a major air operation.
- e. Analyse a major air operation.
- f. Describe air power.
- g. Analyse the types of air operations and the techniques for sustaining activities.
- h. Evaluate RAAF air power.

7.05 The study found that the skills, knowledge and attitudes specified in the CTOs all contribute to the achievement of the aim of the Course. Specifically, syllabus objectives have been developed from a task analysis and are cross referenced with applicable CTOs. Syllabus objectives are sufficient in their scope and assessment codes have been applied and are appropriate to the aim of the Course. Syllabus objectives are reviewed and updated on an annual basis. Proposed changes are examined and decided upon in conjunction with the APSC.

Do air power instructor guides meet RAAF training standards?

7.06. Instructor guides for the air power component of the BSC do exist, and have been developed in accordance with the RAAF Manual of Training (DI(AF) AAP 2002.001). The instructor guides, which are

regularly updated and reviewed, are moderately comprehensive with additional air power references indicated where necessary. The instructor guides provide sufficient direction for instructors.

Do air power lesson plans meet RAAF training standards?

7.07. Comprehensive lesson plans exist, and provide sufficient direction for instructors.

Do air power instructional resources meet RAAF training standards?

7.08. Presently, the course makes use of unit produced handouts, slides, film, videos, the Air Power Manual, the Condensed Air Power Manual, resources from the RAAF College Library and APSC supplied information. APSC staff also critique student presentations and deliver a number of briefs on current air power issues. There are formal procedures in place to regularly review and update the air power education resources, and in conjunction with the APSC, procedures are in place to identify new resource material for the course.

Are instructors experienced and qualified in air power?

7.09. Not all BSC air power instructors have completed the Instructional Technique Course. There are also no specific qualifications or experiences required to teach air power. Discussions with the senior air power instructor indicate that although no specific qualifications or experience are required to teach air power, all instructors are senior officers and bring a great deal of professional military experience to the course. This, however, does not guarantee that instructors will have the required level of air power knowledge. To overcome this problem, the detailed air power instructor study guides have been developed. These are reviewed and updated regularly by the senior air power instructor, who is usually a general duties officer with considerable experience of the application of air power. All visiting lecturers are subject matter experts.

What reference material and assistance is available for air power training designers and instructors?

7.10. RAAF College has an extensive range of air power reference material. This includes air power packages, videos, and books etc. As well, assistance is provided by the APSC.

Is there any undue overlap of air power doctrine between the BSC and Junior Officer Initial courses?

7.11. At present there is no overlap between the BSC and the Junior Officer Initial Course.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

7.12. Instructional strategies vary from lectures and seminars to guided discussions and student presentations. All graduates surveyed believe that these methods are effective and achieve the aim of the course. This is also supported by the senior air power instructor who believes the methods are effective.

What level of interaction is there between instructor-student and student-student with regard to air power on each course? Is it enough/too much etc?

7.13. There is a high level of interaction between instructor/student and student/student in all aspects of the air power phase. This is achieved by guided discussion periods, team presentations, discussion sessions with expert lecturers and informal discussion sessions between student and student, and student and instructor. Discussion with the senior air power instructor indicates that instructors have a high level of satisfaction with the interaction on the course.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

7.14. Ninety five per cent of graduates surveyed believe that the existing air power lessons are motivating, that the lessons are interesting and that they are satisfied or extremely satisfied with the methods used to teach air power on the course. In addition, 90 per cent of graduates surveyed believe that the air power elements on the BSC motivated them to continue to learn more about air power after the course had finished.

How is air power knowledge assessed on the course?

7.15. Apart from the continuous assessment of all students by instructors, there are two major exercises used to assess students' air power knowledge. First, Exercise TARAKAN, a major team presentation of a past air campaign, which is aimed at assessing students' ability to assess critically the application of air power and distil lessons for the future defence of Australia. Second, a written paper in which students are required to assess a threat to northern Australia and determine the necessary air operations needed to counter the threat.

In the opinion of graduates and instructors is sufficient time allocated to air power in each course to achieve the aim of the course?

7.16. As previously mentioned at paragraph 7.04, there are over 28 periods allocated to air power on the BSC. All instructors and graduates surveyed believe that the time allocated to air power is appropriate to achieve the aim of the course.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

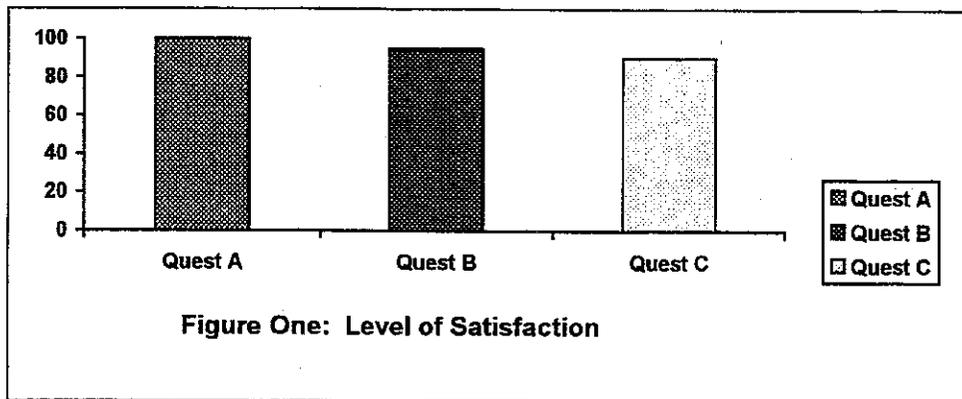
7.17. All the air power elements on the BSC are directed at a high cognitive level. The majority of exercises require some assessment, evaluation or synthesis on the part of the students. Discussions with the senior air power instructor indicate that instructors have a high level of satisfaction with this approach.

Does the BSC relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

7.18. Graduates were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the graduates appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to graduates future employment in the RAAF?

7.19. As shown in Figure One, all graduates are satisfied with the three propositions at paragraph 7.18..



How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the BSC?

7.20. Discussions with the senior air power instructor indicate that the concept, - 'that a comprehension of air power doctrine is a personal responsibility' - is necessary, and is encouraged on the course by emphasising the role that each student has to play in the application of air power by the RAAF. Comments from graduates and supervisors suggest that more emphasis is required on encouraging the concept that each member has the responsibility as an officer to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.

How does the BSC emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

7.21. Air power doctrine is the foundation by which BSC students develop an understanding of the threat and use of force, combat operations and their support, and all levels of conflict. This concept is achieved by emphasising to students that air power doctrine is the fundamental philosophy concerning the employment of the RAAF, and that doctrine is a body of central beliefs about war that guides the application of air power in combat.

OUTCOMES

How satisfied are you that graduates of the BSC are motivated and interested enough to further their understanding of air power and its relevance to their activities?

7.22. Ninety per cent of BSC graduate supervisors surveyed believe that graduates of the BSC are motivated and interested enough to further their understanding of air power and its relevance to their activities. Written comments suggest that the BSC achieves its objectives in this area. Among the written comments received were the following:

I think BSC does a very good job developing students (sic) understanding and ability to analyse air operations.

BSC graduates that have worked for me all had a good understanding of air power and its application.

7.23. These results are supported by graduate responses. All graduates believe that the air power elements on the course motivated them to continue to learn more about air power.

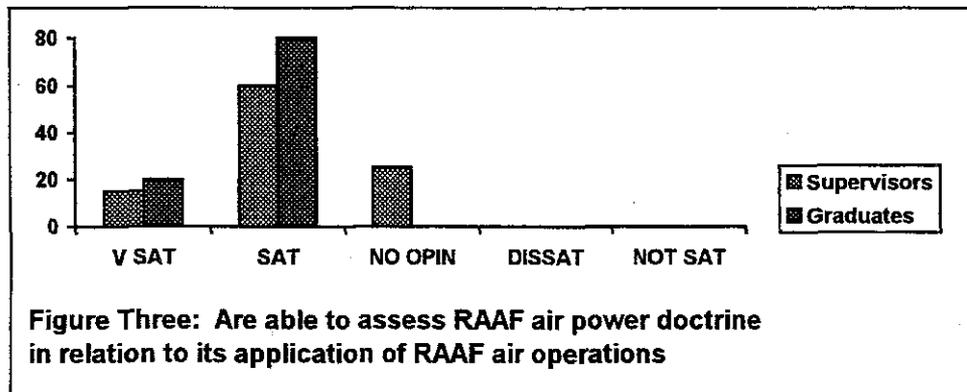
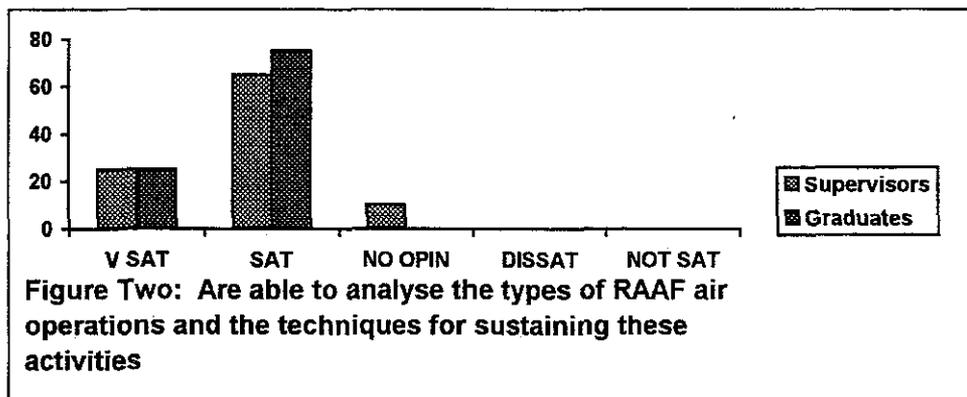
Overall Knowledge and Understanding of Graduates

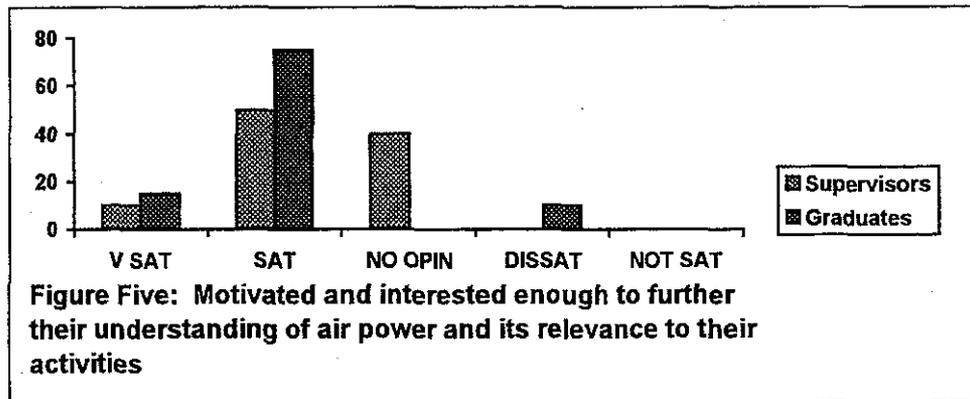
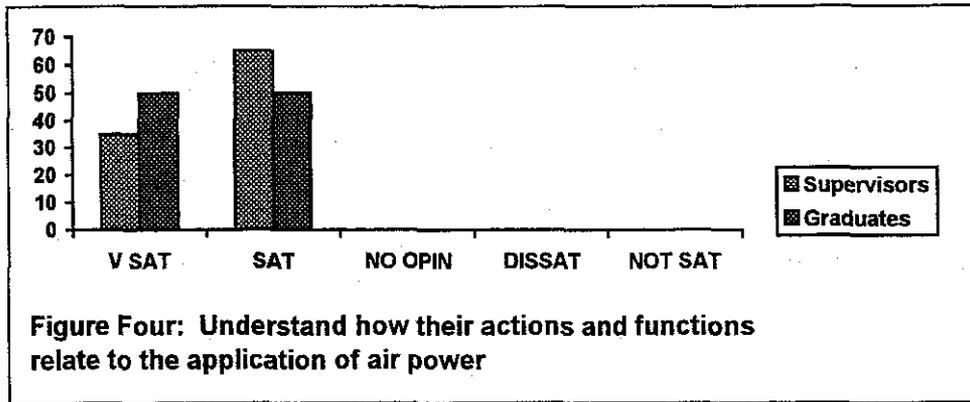
7.24. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

7.25. Supervisors and graduates were asked how satisfied they were that graduates:

- a. Are able to analyse the types of RAAF air operations and the techniques for sustaining these activities?
- b. Are able to assess RAAF air power doctrine in relation to its application of RAAF air operations?
- c. Understand how their actions and functions relate to the application of air power?
- d. Are motivated and interested enough to further their understanding of air power and its relevance to their activities?

7.26. Responses to each of these items are tabulated in Figures Two to Five respectively.





7.27. Overall, these results indicate a high level of satisfaction, both with graduate supervisors and with the graduates themselves, with the level of knowledge and understanding of the air power elements listed at paragraph 7.25..

CONCLUSION AND FINDINGS

7.28. Overall, the study found that the air power taught on the BSC is highly effective and meets its stated aim. The course has a well defined air power training strategy, CTOs have been developed in accordance with RAAF training standards, instructors are given adequate guidance, reference material is available to training designers and instructors, and instructional resources are regularly reviewed. In terms of the educational process, instructional strategies are appropriate, there is adequate interaction between instructor-student and student-student, the lesson material was judged to be both interesting and motivating, and assessment methods were found to be appropriate. Further, the course encourages the development of an understanding of air power and its application, rather than simply learning the doctrine itself.

7.29. In terms of outcomes, the majority of graduate supervisors and graduates themselves are satisfied that the Course motivates students to further their understanding of air power. In addition, the majority of graduate supervisors believe that graduates achieve the Course air power CTOs. Finally, the graduates and supervisors believe the Course meets its stated aim to graduate officers who understand air power in the context of ADF military power.

7.30. There is one issue, however, reported by the study which merits further investigation. Comments from graduates and supervisors suggest that more emphasis is required on encouraging the concept that each member has the responsibility as an officer to ensure that their staff understands how their activities and the activities of others contribute to the use of air power by the RAAF. This suggestion is common to all courses evaluated by the study and should be further investigated.

SECTION TWO

CHAPTER EIGHT

COMMAND AND STAFF COURSE

8.01. To assess the effectiveness of the teaching of air power on the RAAF Command and Staff Course (CSC), 35 graduates and eight Directing Staff (DS) were surveyed and interviewed as to their opinion of the quality of the CSC air power elements. As well, 40 graduate supervisors were also surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia. Data regarding the course itself were collected by discussion with Plans-Air Power (AP).

8.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

8.03. The air power training strategy progresses students from the early air power theorists, and their ideas, to current RAAF air power doctrine, including the effect technology has on air power. Finally, the strategy introduces students to joint and single service operations with a view to refining students' knowledge regarding command and control of the air.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

8.04. There are over 420 periods of air power on the CSC. The CTOs for the course are as follows:

- a. analyse the influence of the various theories of air power on Australia's air power doctrine;
- b. assess the implications of Australia's economic, industrial and technological resources for the development of air power in Australia's nearer region;
- c. analyse the factors which limit or enhance the effectiveness of air power in Australia;
- d. evaluate the employment of air power in Australia's nearer region; and
- e. evaluate the current operation of the ADF, and in particular, the RAAF.

8.05. This study found that the skills, knowledge and attitudes specified in the CTOs all contribute to the achievement of the aim of the course. Specifically, syllabus objectives, developed from a task analysis conducted in 1989, are cross-referenced with applicable CTOs. Syllabus objectives are sufficient in their scope and assessment codes have been applied and are appropriate to the aim of the course. Syllabus objectives are reviewed and updated on an on-going basis. Proposed changes are examined and decided upon by the Board of Studies, which meets every two months.

Do air power instructor guides meet RAAF training standards?

8.06. RAAF Staff College's (RAAFSC) approach to the CSC is one of adult learning. As such, DS do not formally instruct, rather they facilitate the learning process. As a result there are no formal instructor guides. However, guides are produced to assist DS with guided discussion periods. In conjunction with DS the guides are updated and reviewed for each course by Plans-AP.

Do air power instructional resources meet RAAF training standards?

8.07. Presently, the course makes use of the following air power resources:

- a. College library books and data bases, including Internet;
- b. access to other Defence libraries;
- c. access to the APSC;
- d. College produced pre-reading handouts;
- e. a video library;
- f. the Funnell library;
- g. subject matter experts for lectures and seminars; and
- h. knowledge within the student body.

All resources are subject to on-going and/or annual review except for the video library. Attempts are made to ensure there is also a mix of student backgrounds within each syndicate. Plans-AP ensures the resources are up to date, and that there are procedures in place to identify new resource material for the course. These include, regular review of new air power articles, library listings of new books and articles, attendance at air power seminars and informal mechanisms such as networking. Assessment, therefore, is that CSC instructional resources do meet RAAF training standards.

Are DS experienced and qualified in air power?

8.08. Although all DS bring a wealth of professional military experience to the course, this does not guarantee they have the requisite skills and knowledge to facilitate air power on course. To ensure all DS have this knowledge and skills, Plans-AP, who must be a graduate of the RAAF CSC and preferably be a general duties officer, produces DS guidance for syndicate guided discussions. All visiting lecturers are subject matter experts.

What reference material and assistance is available for air power training designers and DS?

8.09. RAAF Staff College has an extensive air power reference section, including the Wrigley Centre and the Funnell air power collection. As well, assistance is available from the APSC.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

8.10. Instructional strategies vary from lectures, seminars and workshops to guided discussions, student briefings and visits. Ninety per cent of graduates surveyed believe that these methods are effective and achieve the aim of the course. This is also supported by RAAFSC DS who believe the methods are effective.

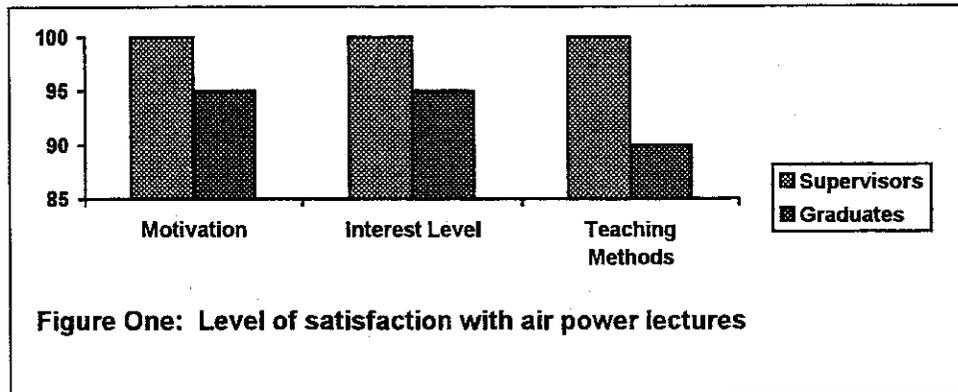
What level of interaction is there between DS-student and student-student with regard to air power on each course? Is it enough/too much etc?

8.11. There is a high level of interaction between DS-student and student-student in all aspects of the air power stream. This is achieved by guided discussion periods, team presentations, discussion sessions with expert lecturers and informal discussion sessions between student and student and student and DS. Responses from DS indicate a high level of satisfaction with the interaction on the course.

What is the opinion of graduates and DS of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

8.12. Ninety five per cent of graduates surveyed believe that the existing air power lessons are motivating, that the lessons are interesting and that they are satisfied or extremely satisfied with the methods used to teach air power on the course. In addition, 90 per cent of graduates surveyed believe that the air power elements on the CSC motivated them to continue to learn more about air power after the course had finished.

8.13. With respect to the DS surveyed, all believe that the air power lessons are motivating and interesting for the students and all are satisfied with the methods used to teach air power on the course. A summary of these responses is shown in Figure One.



8.14. Although written comments from both DS and graduates support these findings, there were a number of responses which suggested improvements to the air power elements of the course. A summary of these is as follows:

Pre-reading for air power needs over-hauling and updating.

More use could be made of syndicate presentations.

More time could be given to employment of air power in the near region.

More time could be spent on application of air power by FEGs.

How is air power knowledge assessed on the course?

8.15. Apart from the continuous assessment of all students by DS, there are two major exercises used to assess students' air power knowledge. First, Exercise XENOPHON, a major team presentation of a past air campaign aimed at assessing students' ability to critically assess the application of air power and distil lessons for the future defence of Australia. Second, Exercise REYNOLDS, a written paper in which students identify a perceived air power deficiency in the ADF and propose a solution. Survey results indicate that all DS are satisfied with the assessment methods used on the CSC.

In the opinion of graduates and DS, is sufficient time allocated to air power to achieve the aim of the course?

8.16. As previously mentioned at paragraph 8.04, there are over 420 periods allocated to air power on the CSC. All DS and graduates surveyed believe that the time allocated to air power is appropriate to achieve the aim of the course.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

8.17. All the air power elements on the CSC are directed at a high cognitive level. The majority of exercises require some assessment, evaluation or synthesis on the part of the students. Responses from DS indicate a high level of satisfaction with this approach.

How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the CSC?

8.18. Advice from Plans-AP indicates that the concept 'that a comprehension of air power doctrine is a personal responsibility' is assumed of CSC students. However, students are encouraged by DS to broaden continually their knowledge and understanding of air power and its application.

How does the CSC emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

8.19. Air power doctrine is the foundation by which CSC students develop an understanding of the threat and use of force, combat operations and their support, and all levels of conflict. This is achieved by relating air power doctrine to the operations of the other Services, and then providing students with a practical emphasis via Joint operations' workshops. All DS surveyed are satisfied that the emphasis placed on the relevance of air power doctrine to the use of force, operations and levels of conflict is appropriate.

OUTCOMES

How satisfied are you that graduates of the CSC are motivated and interested enough to further their understanding of air power and its relevance to their activities?

8.20. Eighty five per cent of CSC graduate supervisors surveyed believe that graduates of the CSC are motivated and interested enough to further their understanding of air power and its relevance to their activities. Written comments suggest that the CSC achieves its objectives in this area. Among the written comments received were the following:

Of the CSC graduates that have worked for, and with me, I have been impressed, firstly, with their level of understanding of air power and its application, and secondly, with their enthusiasm to improve themselves in this area.

CSC graduates appear motivated and interested in the way in which air power is applied by the RAAF.

I am surprised at the level of knowledge the 'non-operator' CSC graduates have with regard to air power.

8.21. These results are supported by graduate responses. Ninety five per cent of graduates believe that the air power elements on the course motivated them to continue to learn more about air power.

What is the Overall Knowledge and Understanding of Graduates?

8.22. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

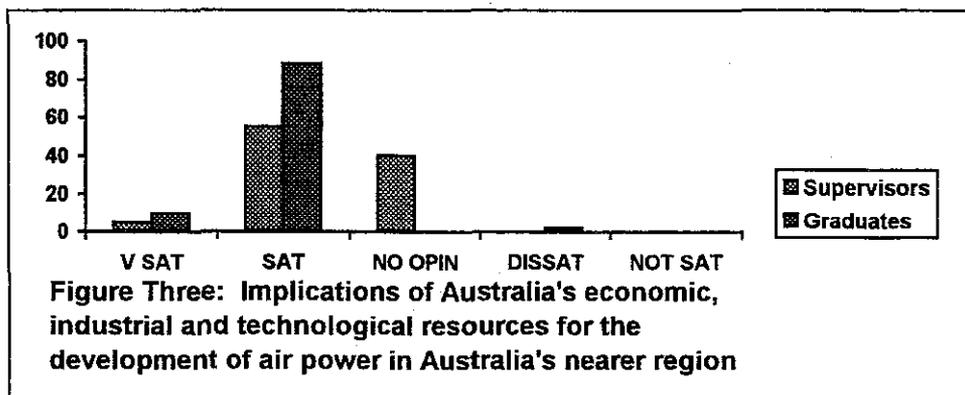
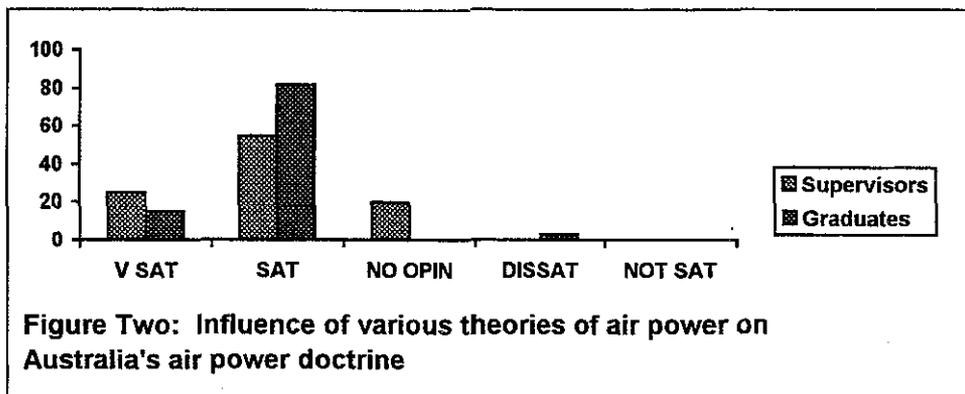
8.23. Supervisors and graduates were asked how satisfied they were that graduates could:

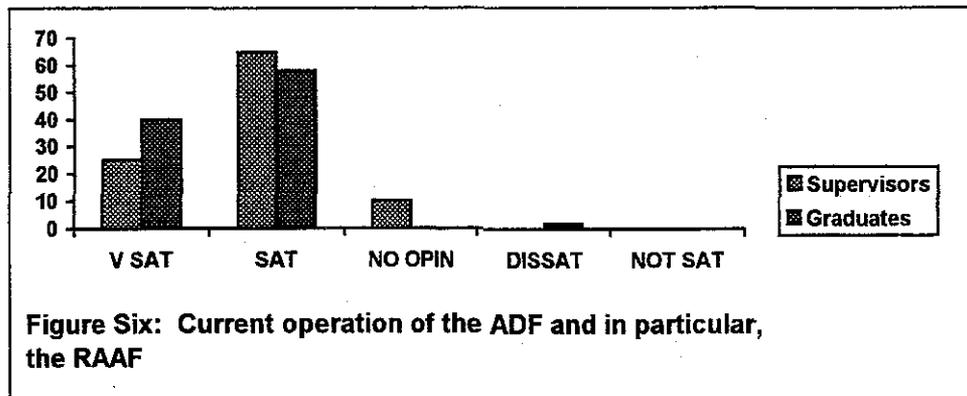
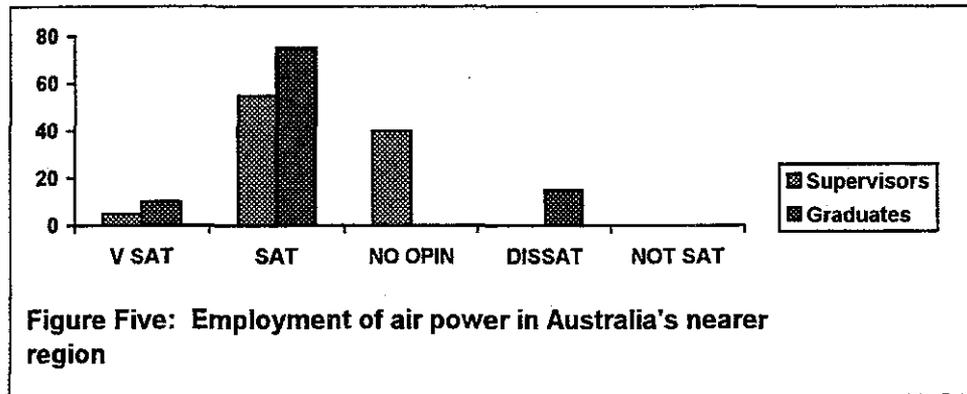
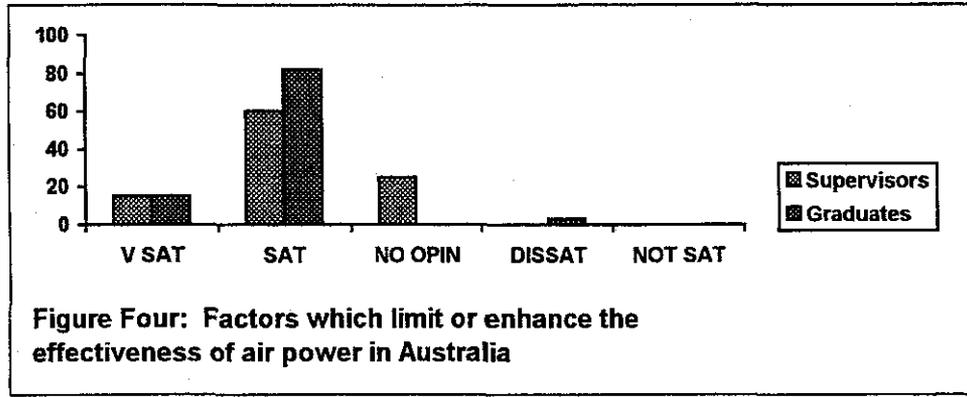
- a. Analyse the influence of the various theories of air power on Australia's air power doctrine at the end of the course?
- b. Assess the implications of Australia's economic, industrial and technological resources for the

development of air power in Australia's nearer region at the end of the course?

- c. Analyse the factors which limit or enhance the effectiveness of air power in Australia at the end of the course?
- d. Evaluate the employment of air power in Australia's nearer region at the end of the course?
- e. Evaluate the current operation of the ADF, and in particular, the RAAF at the end of the course?

Responses to each of these items are tabulated in Figures Two to Six respectively.





8.24. Overall, these results indicate a high level of satisfaction, both with graduate supervisors and with the graduates themselves, with the level of knowledge and understanding of the air power elements listed at paragraph 8.22..

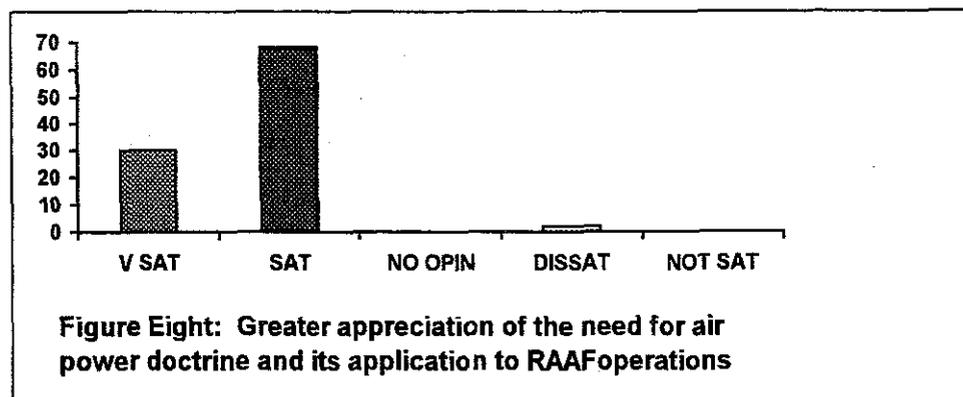
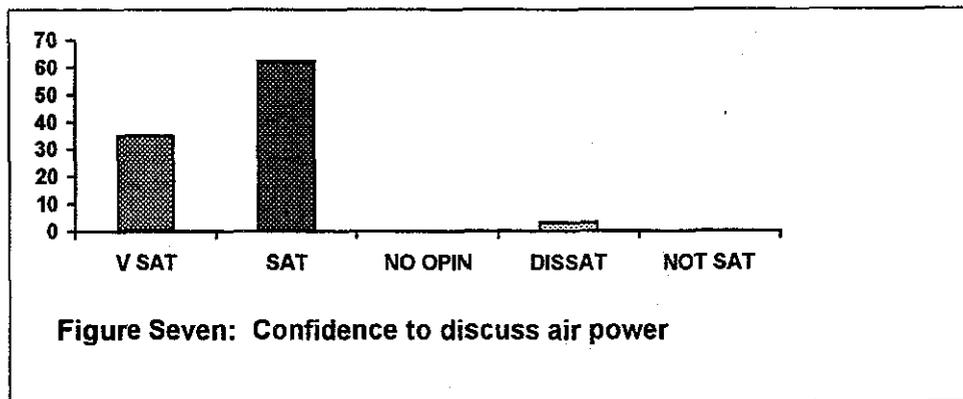
Has the CSC air power stream achieved its aim?

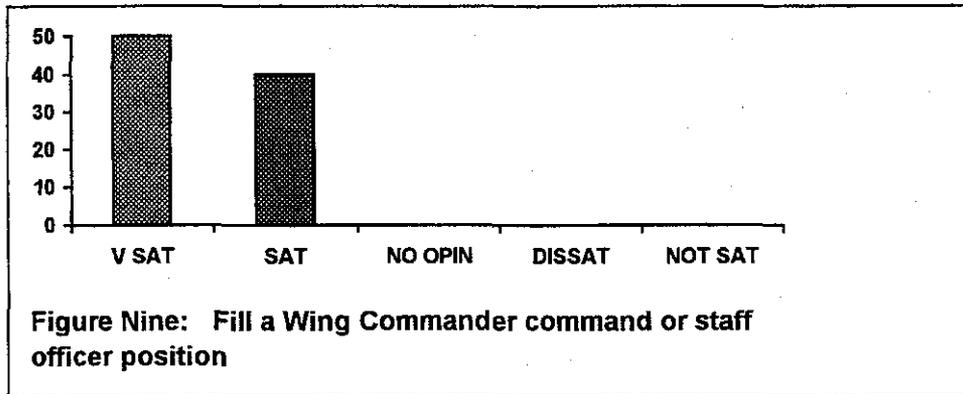
8.25. The aim of the CSC air power stream is to graduate officers who understand air power in the context of ADF military power. With

respect to this aim, graduates were asked how satisfied that as a result of the course, they:

- a. felt more confident to discuss, with their peers and their staff, RAAF air power doctrine in relation to Australian defence requirements at the end of the course,
- b. had a greater appreciation of the need for air power doctrine in its application to RAAF operations, and
- c. would be able to fill a Wing Commander command or staff position which requires a thorough understanding of air power doctrine and its application to RAAF operations.

8.26. Responses indicate a high level of satisfaction with each of these propositions. Results are tabulated in Figures Seven to Nine respectively.

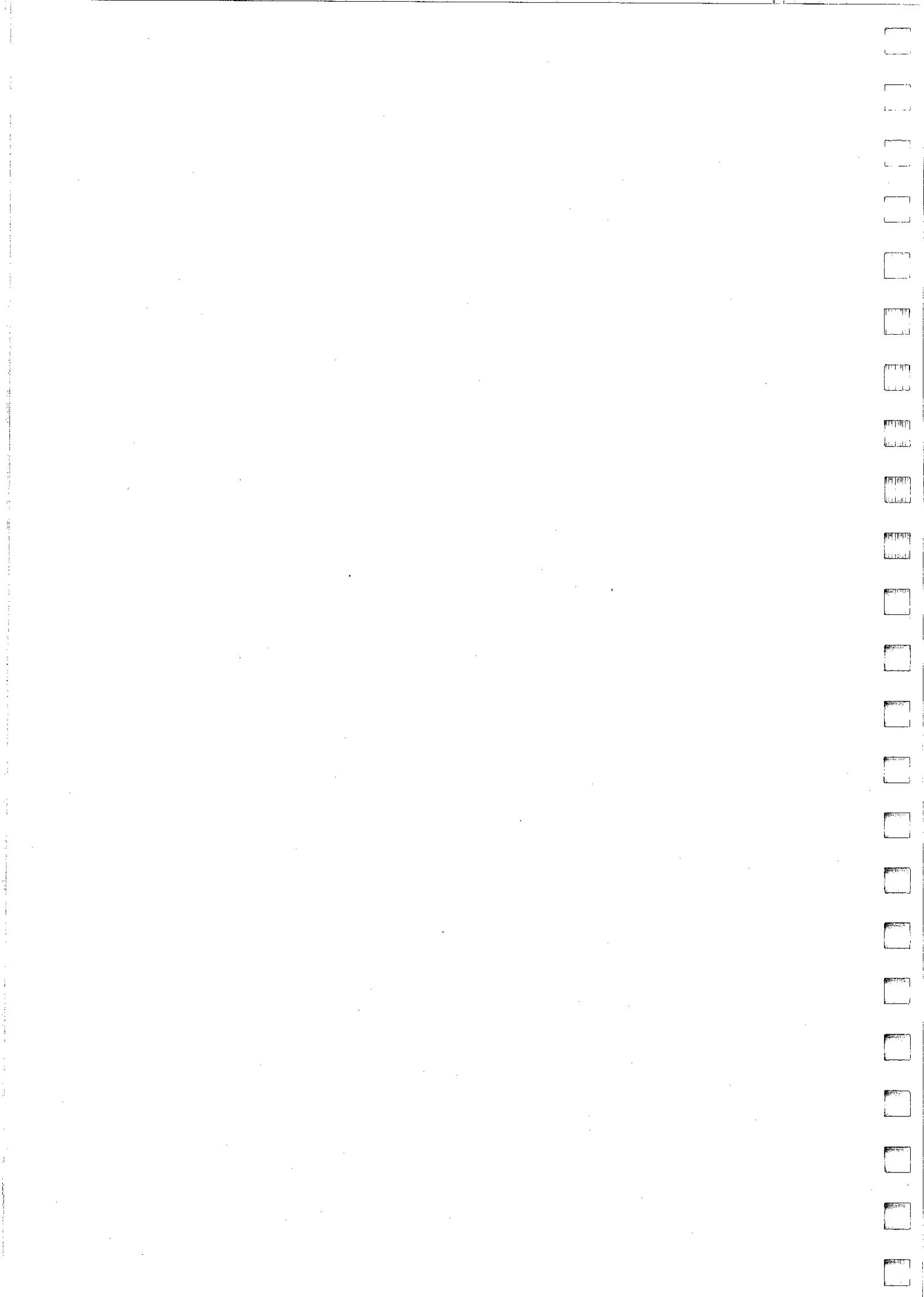




CONCLUSION AND FINDINGS

8.27. Overall, the study found that the CSC air power stream is highly effective and meets its stated aim. The course has a well defined air power training strategy, CTOs have been developed in accordance with RAAF training standards, DS are given adequate guidance, reference material is available to training designers and DS, and instructional resources are regularly reviewed. In terms of the educational process, instructional strategies are appropriate, there is adequate interaction between DS-student and student-student, the lesson material was judged to be both interesting and motivating, and assessment methods were found to be appropriate. Further, the course encourages the development of an understanding of air power and its application, rather than simply learning the doctrine itself.

8.28. In terms of outcomes, the majority of graduate supervisors and graduates themselves are satisfied that the course motivates students to further their understanding of air power. In addition, the majority of graduate supervisors believe that graduates achieve the course air power CTOs. Finally, the graduates believe the course meets its stated aim to graduate officers who understand air power in the context of ADF military power.



SECTION TWO

CHAPTER NINE

PILOT COURSE

9.01. To assess the effectiveness of the air power taught on the Pilot Course, 31 recent graduates (since July 1992) and the senior ground instructor were surveyed and interviewed. As well, 32 officers were surveyed as to their opinion on the level of the pilot graduate knowledge and understanding of air power and its application to the defence needs of Australia.

9.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

9.03. The training strategy for the delivery of air power on the pilot course provides a consolidation of air power concepts previously learnt on the JOIC. In addition, the training strategy seeks to ensure students have a sound understanding of the relationship between air power doctrine and their future employment as pilots.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

9.04. There are 23 periods of air power on the pilot course. The air

power doctrine CTO and syllabus objectives for the courses are as follows:

CTO:

Apply air power doctrine to the defence needs of Australia.

Syllabus Objectives:

Military Aviation in Australia

- a. Discuss the history of military aviation in Australia, with emphasis on the development of the RAAF.
- b. Describe recent developments in the command and control of:
 - (1) Joint force operations, and
 - (2) RAAF operational elements.

RAAF Air Power Doctrine

- a. Define the Australian Defence Force requirements as outlined in the Defence White Paper.
- b. Explain the applications of Air Campaigns to Australia's defence requirements.
- c. Explain the application of maxims of air power to Australia's defence requirements.

Campaign Case Study

- a. Identify the key strategies employed during an Australian military campaign of historical significance.
- b. Discuss how the present-day doctrine of air power could have been successfully applied to the military campaign.

RAAF Operational Aircraft

Describe the roles, capabilities and weapon systems of each RAAF operational aircraft type.

Presentations

Prepare a syndicate brief outlining the roles of any RAAF operational flying unit in the provision of air power in support of Australia's defence.

9.05. Syllabus objectives have been developed through a task analysis, appropriate assessment codes have been applied and syllabus objectives are regularly updated and reviewed. However, there is significant overlap between the JOIC and the air power components of the Pilot Course.

9.06. This view is supported by graduates. Eighty per cent of graduates believe that there is too much overlap, with regard to air power, between basic and operator courses. Further, 60 per cent believe that too much time is devoted to air power on the course

Do air power instructor guides meet RAAF training standards?

9.07. Instructor guides for the course exist, and have been developed in accordance with the RAAF Manual of Training Procedures (DI(AF) AAP 2002.001). The instructor guides, which are regularly updated and reviewed, are comprehensive and provide sufficient direction for instructors.

Do air power lesson plans meet RAAF training standards?

9.08. Comprehensive lesson plans exist, provide sufficient direction for instructors, and are regularly reviewed and updated.

Do air power instructional resources meet RAAF training standards?

9.09. Presently, the course makes use of unit produced handouts, tactical procedures, the Air Power Manual and the Condensed Air Power Manual. There are currently no formal procedures in place to review

regularly and update the air power education resources, nor are there any procedures in place to identify new resource material for the course.

Are instructors experienced and qualified in air power?

9.10. The Instructional Technique Course is a pre-requisite to becoming an instructor at 2FTS. However, no qualifications or experience, other than the experience gained from postings as a pilot, are required to teach air power.

What reference material and assistance is available for air power training designers and instructors?

9.11. No. 2FTS does not have a dedicated air power reference section, nor are there any procedures in place to obtain assistance with research in air power, other than from the Base Training Centre.

Is there any undue overlap of air power doctrine between the Pilot and Junior Officer Initial courses?

9.12. As discussed at paragraph 9.05., there is too much overlap between the air power components of the Pilot Course and the JOIC. The following syllabus objectives require examination:

- a. Define the Australian Defence Force requirements as outlined in the Defence White Paper.
- b. Explain the applications of Air Campaigns to Australia's defence requirements.
- c. Explain the application of maxims of air power to Australia's defence requirements.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

9.13. Instructional strategies vary from lectures, videos and discussions groups, student briefings and visits. Twenty-five per cent of graduates surveyed are not satisfied with the requirement for presentations by the students. Investigation revealed that this dissatisfaction was mainly due to the frustration many felt because of the amount of overlap with the JOIC course.

What level of interaction is there between instructor-student and student-student with regard to air power on each course? Is it enough/too much etc?

9.14. There is a high level of interaction between instructor-student and student-student in the air power stream. This is achieved by discussion periods, team presentations, and informal discussion sessions between student and student, and student and instructor.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

9.15. Thirty per cent of graduates surveyed believe that the existing air power lessons are not motivating, 25 per cent believe the lessons are not interesting and 30 per cent are not satisfied with the methods used to teach air power on the course. In addition, 30 per cent of graduates surveyed believe that the air power elements on the course, did not motivate them to continue to learn more about air power after the course had finished. Responses from open-ended questions suggest that much of this dissatisfaction centres around the already discussed overlap of the air power components of the basic and operator courses.

How is air power knowledge assessed on the course?

9.16. Students are required to prepare, in syndicate, a presentation which analyses an air campaign. In addition to the syndicate presentation, students are assessed on their performance in a question and answer session at the end of the presentation.

In the opinion of graduates and instructors, is sufficient time allocated to air power in each course to achieve the aim of the course?

9.17. Discussions with the senior instructor indicate that he believes that enough time is currently allocated to air power on the course, however, he believes if the syllabus were to be revised to avoid overlap with basic courses then the allocated time for the air power elements could be reduced. On the other hand, 80 per cent of graduates believe that too much time is allocated to air power. As discussed at paragraph 9.05., this dissatisfaction by graduates is mainly due to the overlap with basic courses. Open-ended responses indicate that most believe that more emphasis should be placed on developing an understanding of the role individuals play in the application of air power for the defence of Australia.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

9.18. The senior instructor indicated that an emphasis on understanding and applying air power doctrine is developed through the students' syndicate presentations.

Does the Pilot Course relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

9.19. Instructors were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students future employment in the RAAF?

9.20. Although the majority of students are satisfied that they appreciate the need for air power doctrine in the application of RAAF operations, 25 per cent are not satisfied.

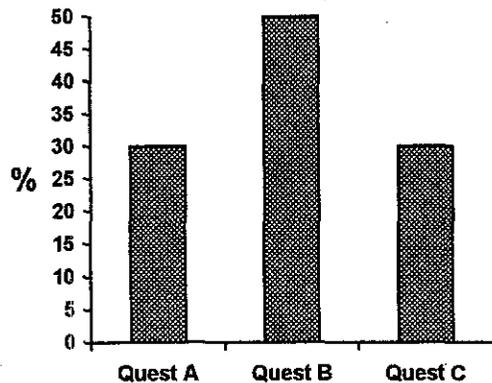


Figure One: Instructors Level of Dissatisfaction

Seventy per cent believe that the air power instructional material is not pitched at the correct level, and 35 per cent are not satisfied that the air power elements on the course are relevant to students future employment in the RAAF. These

results are shown in Figure One. Written responses indicate that this level of dissatisfaction is predominantly due to the similarity of course content to the JOIC, and that more emphasis is required on the contribution a course graduate will make to the RAAF. What is required is a needs analysis to determine exactly what air power should be included in the course.

How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the Pilot course?

9.21. The senior air power instructor indicated that the concept, - 'that a comprehension of air power doctrine is a personal responsibility' - is encouraged by emphasising to the students that throughout their careers many of them will be in positions of responsibility which will require a thorough understanding of air power doctrine and its application in the defence of Australia.

How does the Pilot Course emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

9.22. Air power doctrine is emphasised through examples of recent air operations, discussions and practical scenarios.

OUTCOMES

How satisfied are you that graduates of the Pilot Course are motivated and interested enough to further their understanding of air power and its relevance to their activities?

9.23. The majority of Pilot supervisors surveyed believe that graduates of the Pilot Course are motivated and interested enough to further their understanding of air power and its relevance to their activities. This motivation and interest may not, however, be as a result of the air power taught on course. As previously discussed at paragraph 9.15, 30 per cent of graduates surveyed believe that the air power elements on the Pilot Course, did not motivate them to continue to learn more about air power after the course had finished. Written comments suggest that much of this dissatisfaction is because of the already discussed overlap of the air power components of the basic and operator courses.

9.24. The interest and motivation observed by the supervisors is, therefore, unlikely to have been generated by the air power components of the Pilot course. The more likely reason is that graduates are better placed at the squadron to understand the role they play in the application of air power for the defence of Australia. This finding adds further support to the suggestion that the air power component of each course must be relevant to the students future role in the RAAF.

Overall Knowledge and Understanding of Graduates

9.25. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

9.26. Supervisors and graduates were asked how satisfied they were that graduates understand the following:

- a. the relationship between air power doctrine and its application by the RAAF?
- b. the application of air power campaigns to Australia's defence requirements?

- c. the application of air power maxims to Australia's defence requirements?
- d. the roles, capabilities and weapons systems of each of the operational aircraft type?
- e. the current and potential employment of RAAF assets in the following operations:
 - (1) counter air;
 - (2) independent strike;
 - (3) aerial reconnaissance, surveillance and electronic warfare;
 - (4) airlift;
 - (5) combat air support;
 - (6) sustainment?

9.27. The majority of supervisors surveyed indicated that they are satisfied with the five propositions at paragraph 9.26.. By contrast, there was significant dissatisfaction amongst graduates with the propositions at paragraphs 9.26.a, 9.26.b and 9.26.c. Thirty per cent of graduates are not satisfied that they can effectively relate air power doctrine to its application by the RAAF, 25 per cent are dissatisfied that they do not adequately understand the application of air power campaigns to Australia's defence requirements and 30 per cent do not understand the application of air power maxims to Australia's defence requirements. Written comments indicate that graduates believe that more emphasis should be placed on making the air power component of each course relevant to the students future role in the RAAF.

CONCLUSION AND FINDINGS

9.28. The air power components of the Pilot Course have been designed and developed in accordance with RAAF training procedures. In addition, 2FTS is implementing the air power elements of the courses effectively: effective instructional material is in place, but no there is no dedicated resource library; instructors are well trained and motivated and training resources and facilities are excellent. However, there are a

number of the training outcomes which are not being achieved. These all relate to the application of air power doctrine to the students' future roles in the RAAF. A significant number of responses from graduates indicate that they are dissatisfied with the overlap between JOIC and the Pilot course. Written comments suggested that more emphasis is required on relating air power doctrine to the graduates' future role.

9.29. Discussions with the senior instructor indicate that a comprehensive review of the air power component of the course is required. The review should address the following:

- a. a thorough examination of the extent of overlap between the JOIC and the Pilot Course;
- b. the establishment of links with the APSC, SAN, 3CRU and RAAF Staff College to ensure provision of adequate air power resources for the Course;
- c. a needs analysis to ensure pilot needs are met and that there is continuity between the Pilot Course and the JOIC; and
- d. a methods/media analysis to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated into this phase.

SECTION TWO

CHAPTER TEN

AIRMEN AIRCREW, AIR TRAFFIC AND NAVIGATOR COURSES

10.01. The air power components of the, Airmen Aircrew, Air Traffic and Navigator courses are all taught by the School of Air Navigation (SAN), and are treated together in this chapter. To assess the effectiveness of the teaching of air power on Airmen Aircrew, Air Traffic and Navigator courses, 32 recent graduates (since July 1992) and the senior instructor were surveyed and interviewed. As well, 35 Airmen Aircrew, Air Traffic and Navigator supervisors were also surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia.

10.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

10.03. The training strategy for the delivery of air power on the courses provides a consolidation of air power concepts previously learnt on the JOIC and the Sergeant Promotion Course. In addition, the training strategy seeks to ensure students have a sound understanding of the relationship between air power doctrine and their future employment as airmen aircrew, air traffic controllers and navigators.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

10.04. The air power doctrine CTO and syllabus objectives for the courses are as follows:

CTO:

Apply air power doctrine to the defence needs of Australia.

Syllabus Objectives:

RAAF Air Power Doctrine

- a. Define the Australian Defence Force requirements as outlined in the Defence White Paper.
- b. Explain the applications of air campaigns to Australia's defence requirements.
- c. Explain the application of maxims of air power to Australia's defence requirements.

Employment of Air Power

- a. Describe the current and potential employment of RAAF assets in the following operations:
 - (1) counter air;
 - (2) independent strike;
 - (3) aerial reconnaissance, surveillance and electronic warfare;
 - (4) airlift;
 - (5) combat air support; and
 - (6) sustainment.
- b. Describe the employment of air power in relation to the capabilities of regional powers.

- c. Analyse the employment of air power in the context of a selected case study.
- d. Discuss the future operational requirements for RAAF air power with respect to the imperatives of air power.

RAAF Operational Aircraft

Describe the roles, capabilities and weapon systems of each RAAF operational aircraft type.

10.05. The air power component on each course is 12 periods. Syllabus objectives have been developed through a task analysis, appropriate assessment codes have been applied and syllabus objectives are regularly updated and reviewed. However, there is significant overlap between the JOIC and the Air Traffic and Navigator courses and the Sergeant Promotion and the Airmen Aircrew courses.

10.06. This view is supported Airmen Aircrew, Air Traffic and Navigator graduates. Ninety-five per cent of graduates believe that there is too much overlap, with regard to air power, between basic and operator courses. Further, 75 per cent believe that too much time is devoted to air power on the Airmen Aircrew, Air Traffic and Navigator courses. Typical comments were:

The air power part of the air traffic course was a waste of valuable study time.

It [the air power component] was a repeat of JOIC.

We just did all this stuff [air power] on the SGT Promo course.

Air power needs to be more relevant to our jobs in the future.

With regard to the final comment, 55 per cent believe more emphasis should be placed on developing an understanding of the role individuals play in the application of air power for the defence of Australia.

Do air power instructor guides meet RAAF training standards?

10.07. Instructor guides for the course exist, and have been developed in accordance with the RAAF Manual of Training Procedures (DI(AF) AAP 2002.001). The instructor guides, which are regularly updated and

reviewed, are comprehensive and provide sufficient direction for instructors.

Do air power lesson plans meet RAAF training standards?

10.08. Comprehensive lesson plans exist, provide sufficient direction for instructors, and are regularly reviewed and updated.

Do air power instructional resources meet RAAF training standards?

10.09. Presently, the course makes use of unit produced handouts, tactical procedures, the Air Power Manual and the Condensed Air Power Manual. There are currently no formal procedures in place to regularly review and update the air power education resources, nor are there any procedures in place to identify new resource material for the course.

Are instructors experienced and qualified in air power?

10.10. The Instructional Technique Course is a pre-requisite to becoming an instructor at SAN. However, no qualifications or experience, other than the experience gained from postings as a navigator, are required to teach air power.

What reference material and assistance is available for air power training designers and instructors?

10.11. The SAN Library does have a dedicated air power reference section, however there are no procedures in place to obtain assistance with research in air power, other than from the Base Training Centre.

Is there any undue overlap of air power doctrine between the Airmen Aircrew, Air Traffic and Navigator and Junior Officer Initial and Sergeant Promotion courses?

10.12. As discussed at paragraph 10.06, there is too much overlap between the air power components of Airmen Aircrew, Air Traffic and Navigator courses and the JOIC and Sergeant Promotion courses.

The following syllabus objectives require examination:

- a. Define the Australian Defence Force requirements as outlined in the Defence White Paper.
- b. Explain the applications of air campaigns to Australia's defence requirements.
- c. Explain the application of maxims of air power to Australia's defence requirements.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

10.13. Instructional strategies vary from lectures, videos and discussions groups, student briefings and visits. Thirty-five per cent of graduates surveyed are not satisfied with the requirement for presentations by the students. Investigation revealed that this dissatisfaction was mainly due to the frustration many felt because of the amount of overlap with the JOIC course.

What level of interaction is there between instructor-student and student-student with regard to air power on each course? Is it enough/too much etc?

10.14. There is a high level of interaction between instructor-student and student-student in the air power stream. This is achieved by discussion periods, team presentations, and informal discussion sessions between student and student and student and instructor.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

10.15. Thirty per cent of graduates surveyed believe that the existing air power lessons are not motivating, 25 per cent believe the lessons are not interesting and 30 per cent are not satisfied with the methods used to teach air power on the course. In addition, 30 per cent of graduates surveyed believe that the air power elements on the courses, did not

motivate them to continue to learn more about air power after the course had finished. Responses from open-ended questions suggest that much of this dissatisfaction centres around the already discussed overlap of the air power components of the basic and operator courses.

10.16. These findings are supported by the SAN senior air power instructor, and senior staff from the School of Air Traffic Control.

How is air power knowledge assessed on the course?

10.17. Students are required to prepare, in syndicate, a presentation which analyses an air campaign. In addition to the syndicate presentation, students are assessed on their performance in a question and answer session at the end of the presentation.

In the opinion of graduates and instructors, is sufficient time allocated to air power in each course to achieve the aim of the course?

10.18. Discussions with the senior instructor indicate that he believes that enough time is currently allocated to air power on the course, however, he believes if the syllabus were to be revised to avoid overlap with basic courses then the allocated time for the air power elements could be reduced. On the other hand, 75 per cent of graduates believe that too much time is allocated to air power. As discussed at paragraph 10.06, this dissatisfaction by graduates is mainly due to the overlap with basic courses. Open-ended responses indicate that most believe that more emphasis should be placed on developing an understanding of the role individuals play in the application of air power for the defence of Australia.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

10.19. Sixty per cent of instructors believe that more emphasis should be placed on understanding and applying air power doctrine, rather than simply repeating material from the JOIC or Sergeant Promotion Course. Written responses support this, and suggest that the reason for this dissatisfaction is the overlap between the basic courses and the Airmen Aircrew, Air Traffic and Navigator courses.

Do the Airmen Aircrew, Air Traffic and Navigator courses relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

10.20. Students were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students future employment in the RAAF?

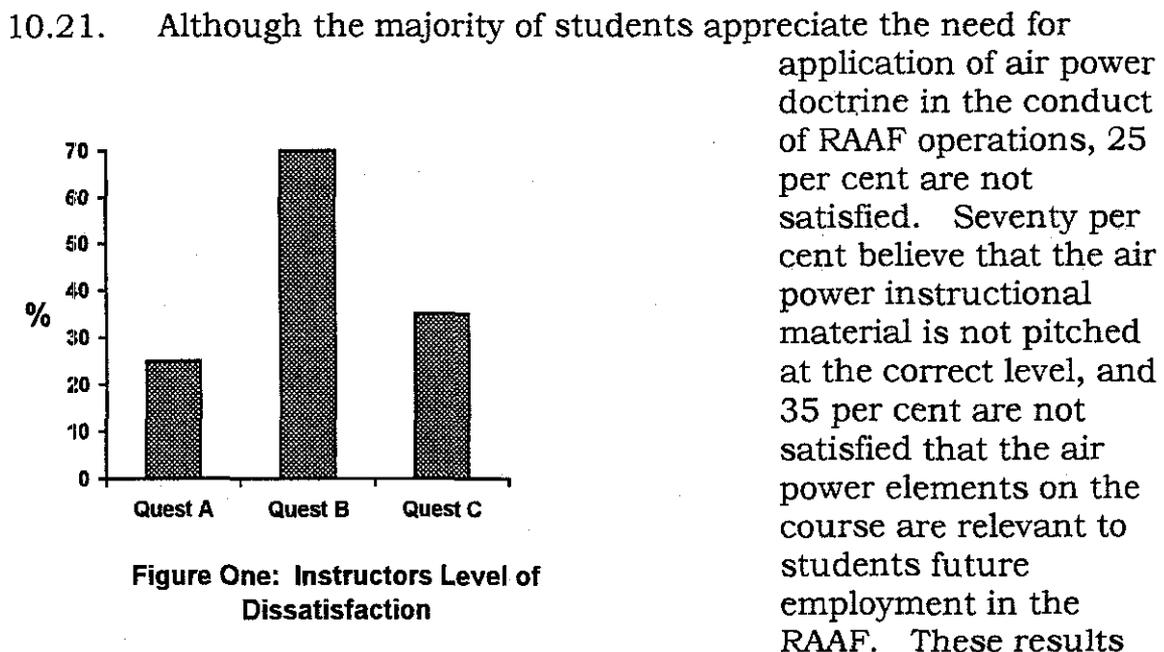


Figure One: Instructors Level of Dissatisfaction

are shown in Figure One. Written responses indicate that this level of dissatisfaction is predominantly due to the similarity of course content to the JOIC and Sergeant Promotion courses, and that more emphasis is required on the contribution a course graduate will make to the RAAF. What is required is a needs analysis to determine what air power should be included in the course.

How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the Navigator, Air Traffic and Airmen Aircrew courses?

10.22. The senior air power instructor indicated that the concept - 'that a comprehension of air power doctrine is a personal responsibility', - is encouraged by emphasising to the students that throughout their careers, many of them will be in positions of responsibility which will require a thorough understanding of air power doctrine and its application in the defence of Australia.

How do the Airmen Aircrew, Air Traffic and Navigator courses emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

10.23. Air power doctrine is emphasised through examples of current air operations, discussions and practical scenarios.

OUTCOMES

How satisfied are you that graduates of the Airmen Aircrew, Air Traffic and Navigator courses are motivated and interested enough to further their understanding of air power and its relevance to their activities?

10.24. The majority of Airmen Aircrew, Air Traffic and Navigator supervisors surveyed believe that graduates of the various courses are motivated and interested enough to further their understanding of air power and its relevance to their activities. This motivation and interest may not, however, be as a result of the air power taught on course. As previously discussed at paragraph 10.06, 30 per cent of graduates surveyed believe that the air power elements on the courses, did not motivate them to continue to learn more about air power after the course had finished. Written comments suggest that much of this dissatisfaction is because of the already discussed overlap of the air power components of the basic and operator courses.

10.25. The interest and motivation observed by the supervisors is, therefore, unlikely to have been generated by the air power components of either the Airmen Aircrew, Air Traffic and Navigator courses. The more likely reason is that graduates are better placed at the squadron

to understand the role they play in the application of air power for the defence of Australia. This finding adds further support to the suggestion that the air power component of each course must be relevant to the students' future role in the RAAF.

Overall Knowledge and Understanding of Graduates

10.26. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

10.27. Supervisors and graduates were asked how satisfied they were that graduates understand the following:

- a. the relationship between air power doctrine and its application by the RAAF?
- b. the application of air power campaigns to Australia's defence requirements?
- c. the application of air power maxims to Australia's defence requirements?
- d. the roles, capabilities and weapons systems of each of the operational aircraft type?
- e. the current and potential employment of RAAF assets in the following operations:
 - (1) counter air;
 - (2) independent strike;
 - (3) aerial reconnaissance, surveillance and electronic warfare;
 - (4) airlift;
 - (5) combat air support; and
 - (6) sustainment?

10.28. The majority of supervisors surveyed indicated that they are satisfied with the five propositions at paragraph 10.27. By contrast,

there was significant dissatisfaction amongst graduates with the propositions at paragraphs 10.27a, 10.27b and 10.27c. Thirty five per cent of graduates are not satisfied that they can effectively relate air power doctrine to its application by the RAAF, 25 per cent are dissatisfied that they do not adequately understand the application of air power campaigns to Australia's defence requirements and 30 per cent do not understand the application of air power maxims to Australia's defence requirements. Written comments indicate that graduates believe that more emphasis should be placed on making the air power component of each course relevant to the students future role in the RAAF. Typical comments were:

Less theory, more practical examples.

Too much the same as JOIC...more required on air power doctrine's relevance to the real world.

CONCLUSION AND FINDINGS

10.29. The air power components of the Airmen Aircrew, Air Traffic and Navigator courses have been designed and developed in accordance with RAAF training procedures. In addition, SAN is implementing the air power elements of the courses effectively; effective instructional material is in place, instructors are well trained and motivated and training resources and facilities are excellent. However, there are a number of the training outcomes which are not being achieved. These all relate to the application of air power doctrine to the students' future roles in the RAAF. A significant number of responses from graduates indicate that they are dissatisfied with the overlap between JOIC, the Sergeant Promotion course and the Airmen Aircrew, Air Traffic and Navigator courses. Written comments suggested that more emphasis is required on relating air power doctrine to the graduates' future role.

10.30. Discussions with the senior instructor indicate that a comprehensive review of the air power components of each course is required. The review should address the following:

- a. a thorough examination of the extent of overlap between between the JOIC, the Sergeant Promotion course and the Airmen Aircrew, Air Traffic and Navigator courses;

- b. the establishment of links with the APSC, 2FTS, 3CRU and RAAF Staff College to ensure provision of adequate air power resources for the course;
- c. a needs analysis to Airmen Aircrew, Air Traffic and Navigator needs are met and that there is continuity between the Air Traffic and Navigator courses and the JOIC, and that there is continuity between the Airmen Aircrew and Sergeant Promotion courses;
- d. a methods/media analysis to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated into this phase.



SECTION TWO

CHAPTER ELEVEN

AIR DEFENCE BASIC COURSE

11.01. To assess the effectiveness of the teaching of air power on the Air Defence Basic Course (ADBC), 12 of the 15 graduates since July 1992 and all seven instructors were surveyed and interviewed. As well, 22 Air Defence Controller supervisors were surveyed as to their opinion on the level of graduate knowledge and understanding of air power and its application to the defence of Australia.

11.02. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

ANTECEDENT CONDITIONS

What is the air power training strategy?

11.03. Although the 1991 Working Party Report on Air Power Education recommended that air power be included in the ADBC, the course has no formal air power training strategy nor has a formal air power component been included in the course.

Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the course?

11.04. There is no air power doctrine CTO, and as a result, this question was unable to be answered. However, students are given a brief overview of fighter operations and the National Air Defence and Airspace Control System (NADACS). Emphasis is also placed on the role of an air defence controller in this environment.

Do air power instructor guides meet RAAF training standards?

11.05. Instructor guides for NADACS and fighter operations study packages do exist, and have been developed in accordance with the RAAF Manual of Training Procedures (DI(AF) AAP 2002.001). The instructor guides, which are regularly updated and reviewed, are comprehensive and provide sufficient direction for instructors.

Do air power lesson plans meet RAAF training standards?

11.06. For the fighter operations and NADACS study packages, comprehensive lesson plans exist, and provide sufficient direction for instructors.

Do air power instructional resources meet RAAF training standards?

11.07. Presently, the ADBC makes use of unit produced handouts, tactical procedures, the Air Power Manual and the Condensed Air Power Manual. There are currently no formal procedures in place to regularly review and update the air power education resources, nor are there any procedures in place to identify new resource material for the course.

Are instructors experienced and qualified in air power?

11.08. The Instructional Technique Course is a pre-requisite to becoming an instructor at No. 3 Control and Reporting Unit. However, no qualifications or experience, other than the experience gained from postings as an Air Defence officer, are required to teach fighter operations and the NADACS components.

What reference material and assistance is available for air power training designers and instructors?

11.09. The Air Defence Training Section does not have a dedicated air power reference section, nor are there any procedures in place to obtain assistance with research in air power, other than from the Base Training Centre.

Is there any undue overlap of air power doctrine between the Air Defence Basic and Junior Officer Initial courses?

11.10. At present there is no overlap between the ADBC and the Junior Officer Initial Course.

TRANSACTIONS

What instructional strategies are used to teach air power on the course?

11.11. There is no formal air power instructional strategy for the Air Defence Course.

What level of interaction is there between instructor/student and student/student with regard to air power on each course? Is it enough/too much etc?

11.12. Apart from the limited use of discussion groups for some theory elements of fighter operations and the NADACS, there is little interaction between student and instructor on air power issues.

What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?

11.13. Ninety per cent of graduates surveyed believe that the existing NADACS and fighter operations lessons are motivating, 80 per cent believe the lessons are interesting and 75 per cent are satisfied or extremely satisfied with the methods used to teach air power on the course. However, 30 per cent of graduates surveyed believe that the air power elements on the Air Defence course, although individually motivating, did not motivate them to continue to learn more about air power after the course had finished.

11.14. With respect to the instructors surveyed, 66 per cent believe that the NADACS and fighter operations lessons are motivating for students and 60 per cent believe the lessons are interesting for the students. However, unlike the graduates, 60 per cent of instructors are not satisfied with the methods used to teach air power on the course. Written comments indicate that the majority of instructors are concerned

about the general lack of air power content on the course, and the adherence to the traditional teaching methods such as lectures which afford little interaction between student and instructor.

How is air power knowledge assessed on the course?

11.15. The NADACS and fighter operations elements on the course are assessed by a combination of exams and continuous assessment. Eighty-three per cent of instructors are not satisfied that the assessment procedures are appropriate to the syllabus objectives for air operations and NADACS. Written comments revealed that this is largely due to the lack of a training and an instructional strategy for air power on the course.

In the opinion of graduates and instructors, is sufficient time allocated to air power in each course to achieve the aim of the course?

11.16. Sixty-six per cent of instructors believe that there is not enough time allocated to air power on the course. Open-ended responses indicate that most believe that more emphasis should be placed on understanding air power doctrine and its application to RAAF operations. On the other hand, 80 per cent of graduates believe there is enough time currently allocated to air power. Further investigation of this discrepancy revealed that the graduates do not have a broad enough understanding of air power doctrine and its application to make an informed judgement as to the time required for air power on the ADBC.

What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself?

11.17. Sixty per cent of instructors are not satisfied with the lack of emphasis which is currently placed on understanding and applying air power doctrine. Written responses support this, and suggest that the reason for this dissatisfaction is the general lack of air power taught on the course.

Does the ADBC relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?

11.18. Instructors were asked three questions which related to the issue of the relevance of air power doctrine to the job, the RAAF, the ADF and the wider Defence community. These were:

- a. How satisfied are you that the students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course?
- b. How satisfied are you that the air power instructional material on the course was pitched at the correct level?
- c. How satisfied are you that the air power elements on the course are relevant to students' future employment in the RAAF?

11.19. Although the majority of instructors are satisfied that students appreciate the need for air power doctrine in the application of RAAF operations, 30 per cent are not satisfied (refer Figure One). Fifty per cent believe that the air power instructional material is not pitched at the correct level, and 30 per cent are not satisfied that the air power elements on the course are relevant to students' future

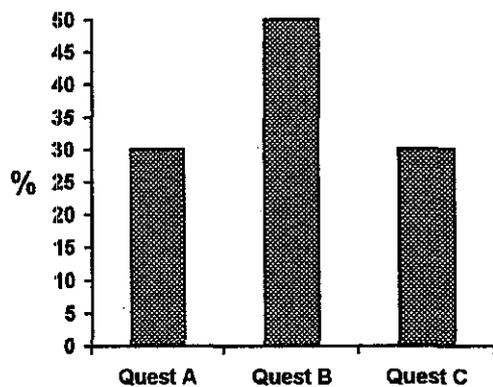


Figure One: Instructors Level of Dissatisfaction

employment in the RAAF. Written responses indicate that this level of dissatisfaction is predominantly due to the paucity of air power on the course. However, comments were made that the air power which is currently taught on the course is relevant, and should remain. What is required is a needs analysis to determine what air power should be included in the course.

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How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged on the ADBC?

11.20. The Chief Instructor (CI) and 60 per cent of instructors believe the concept - 'that a comprehension of air power doctrine is a personal responsibility' - is necessary, but is not encouraged on the course.

How does the ADBC emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

11.21. Air power doctrine is currently emphasised through examples of current fighter operations, discussions and practical scenarios.

OUTCOMES

How satisfied are you that graduates of the ADBC are motivated and interested enough to further their understanding of air power and its relevance to their activities?

11.22. Fifty per cent of Air Defence supervisors surveyed believe that graduates of the ADBC are not motivated and interested enough to further their understanding of air power and its relevance to their activities. Written comments suggest that the ADBC does not place enough emphasis on this aspect of air power education. Among the written comments received were:

A lot more emphasis is required in this area.

Air power should be taught in a more interesting way.

Graduates should be encouraged to gain an understanding of how air power affects them at their job.

11.23. These results are supported by graduate responses. Thirty per cent of graduates believe that the air power elements on the course did not motivate them to continue to learn more about air power. Again, written comments were similar to those of the supervisors. If the course is to motivate students in air power, then steps must be taken to ensure the course emphasises what relevance air power doctrine and its application have to the role of an Air Defence controller.

Overall Knowledge and Understanding of Graduates

11.24. The overall graduate knowledge and understanding of air power and its application were measured by surveying the subjective judgements of supervisors and graduates.

11.25. Supervisors and graduates were asked how satisfied they were that graduates understand the following:

- a. the relationship between air power doctrine and its application by the RAAF;
- b. the history of military aviation in Australia;
- c. the application of air power campaigns to Australia's defence requirements;
- d. the application of air power maxims to Australia's defence requirements;
- e. the roles, capabilities and weapons systems of each of the operational aircraft type; and
- f. the current and potential employment of RAAF assets in the following roles:
 - (1) counter air;
 - (2) independent strike;
 - (3) aerial reconnaissance, surveillance and electronic warfare;
 - (4) airlift;
 - (5) combat air support; and
 - (6) sustainment?

11.26. All supervisors indicated that they are satisfied that the graduates of the ADBC understand the roles, capabilities and weapons systems of each of the operational aircraft type and that they understand the current and potential employment of RAAF assets in the

operations listed at paragraph 11.25, sub-paragraph f. In addition, all graduates surveyed were equally satisfied with both these propositions.

11.27. Such unilateral satisfaction, however, was not evidenced for the other questions at paragraph 11.25. All supervisors surveyed believe that graduates have difficulty in relating air power doctrine to its application by the RAAF, that

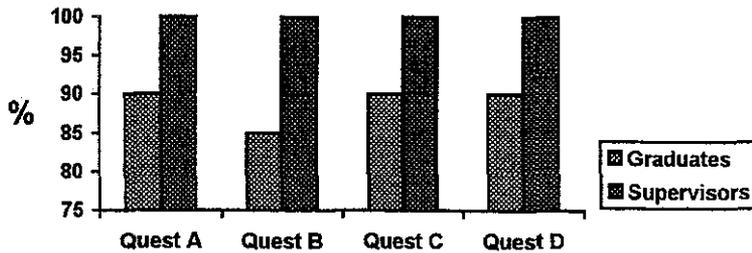


Figure Two: Graduate and Supervisor Level of Dissatisfaction

graduates do not have an understanding of the history of military aviation in Australia, that graduates do not understand the application of air power campaigns to Australia's defence requirements and that graduates do not understand the application of air power maxims to Australia's defence requirements. Similar results were recorded for graduate responses to the same questions. A comparison of supervisor and graduate responses to these questions is shown at Figure Two.

CONCLUSION AND FINDINGS

11.28. Overall the objectives of the 1991 Working Party Report on Air Power Education have not been achieved for the ADBC. Although the Report recommended the inclusion of a substantial air power element into the course, this has not been done. The only air power component is a study package which comprises fighter operations and NADACS. Consequently, supervisor assessments of graduates' understanding and knowledge of many of the issues raised by this study are poor. On a more positive note, the air operations and NADACS study package has been developed in accordance with DI(AF) AAP 20002.002 procedures and has been effectively implemented.

11.29. Discussions with the CI indicate that a comprehensive review of the air power components is planned for 1995, and should rectify many of the problems highlighted by this study. The CI intends to implement the following:

- a. a thorough examination of air power education with a view to developing a more extensive and effective air power

study package that places an emphasis on understanding and applying air power doctrine rather than simply learning doctrine itself, and encourages the concept that a comprehension of air power doctrine is a personal responsibility;

- b. the establishment of links with the APSC, 2FTS, SAN and RAAF Staff College to ensure provision of adequate air power resources and reference material for the course;
- c. an assessment of the pre-requisite knowledge and experience air power instructors will require;
- d. an assessment of the training which should be provided to instructors in air power;
- e. a needs analysis to ensure Air Defence Controller needs are met and that there is continuity between the ADBC and the JOIC;
- f. a methods/media analysis to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated into this phase.



SECTION TWO

CHAPTER TWELVE

RAAF AIR POWER EDUCATION AT UNIT LEVEL

12.01. The evaluation of RAAF Air Power Education Program at unit level requires a focus not only on the achievement of outcomes and the relationships these outcomes have with inputs and processes, but also on any unintended or incidental outcomes of the Program. This is important because the Program seeks, in broad terms, to promote an understanding and to raise the awareness of air power through largely informal means. The emphasis in this evaluation is not on the educational process nor on the inputs to the Program, rather on the overall effect of the Program. As discussed in Section One, Chapter Two, paragraph 2.33., Scriven's evaluation model provides this mechanism.

12.02. The emphasis with Scriven's evaluation model is to appraise or evaluate goals or objectives of the Program by selecting criteria of achievement and collecting data on each of these selected criteria. With this evaluation complete, a judgement on the overall value of the Program can be made.

ASSESSMENT OF THE PROGRAM

12.03. The objectives of the RAAF Air Power Education Program at unit level are to provide:

- a. informal and non-intrusive input that complements the formal education Program to promote a broad understanding of the nature of air power and the application of air power doctrine, and
- b. RAAF members with an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF.

12.04. To determine if the Program's objectives have been achieved, over 330 personnel across seven RAAF bases and Air Force Office were interviewed and surveyed on various issues relating to air power

education at the unit level. A breakdown by rank of those surveyed is as follows:

- | | | |
|----|-----------------|---------|
| a. | AC/LAC | 55, |
| b. | CPL | 42, |
| c. | SGT | 35, |
| d. | WOFF | 30, |
| e. | Junior Officer | 65, |
| f. | SQNLDR | 68, and |
| g. | WGCDR and above | 35. |

12.05. Three five-point scale items were used to elicit the opinions of members on the following:

- a. That enough is being done at unit level to promote a broad understanding of air power and the application of air power doctrine.
- b. That enough is being done at unit level to explain how the members activities and the activities of others contribute to the use of air power by the RAAF.
- c. That members understand how their actions and the functions of their unit relate to the application of air power.

With regard to the five-point Likert scale items, a general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue.

That enough is being done at unit level to promote a broad understanding of air power and the application of air power doctrine

12.06. Seventy per cent of respondents indicated that they were dissatisfied or not satisfied at all with what is being done at unit level to promote a broad understanding of air power and the application of air power doctrine. The majority of this group were from units which were indirectly involved with operations. Only eight per cent indicated that they were satisfied or very satisfied with the proposition. This eight per cent represented members from operational units. The remaining 22 per cent indicated that they did not have an opinion. Further questioning as to why they did not have an opinion revealed that the majority were simply unaware of what was being done at their unit, which itself suggests that not enough is being done. The percentage responses by base for this item are detailed in Table One. Figure One provides a graphical representation of the level of dissatisfaction recorded at each base.

BASE	VERY SAT %	SAT %	NO OPIN %	DISSAT %	NOT SAT %
WLM	2	9	28	55	6
EDN	0	5	25	65	5
ESL	2	6	15	67	10
WAG	0	5	30	55	10
RIC	2	5	25	58	10
AMB	3	8	12	67	10

Table One: Percentage Responses by Base

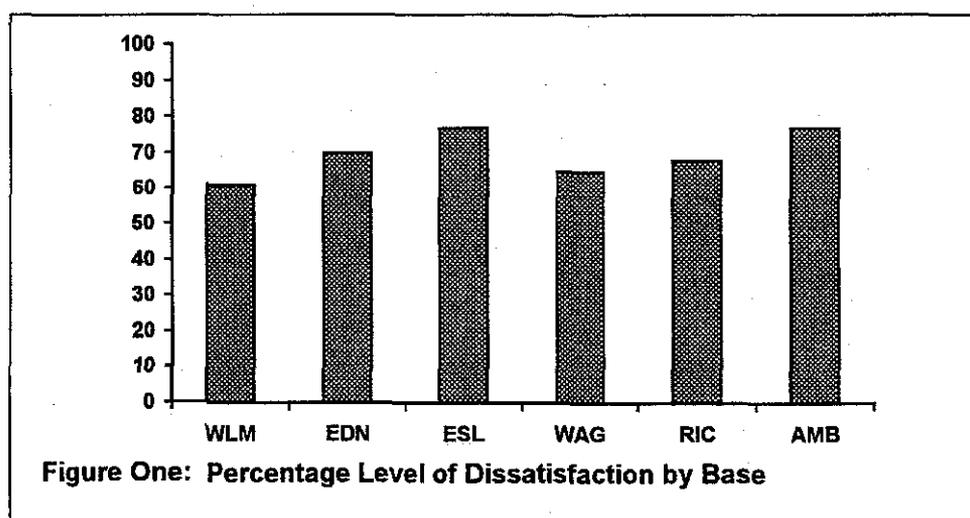


Figure One: Percentage Level of Dissatisfaction by Base

That enough is being done at unit level to explain how the members activities and the activities of others contribute to the use of air power by the RAAF

12.07. Seventy-seven per cent of respondents indicated that they were dissatisfied or not satisfied at all with what is being done at unit level to explain how the members activities and the activities of others contribute to the use of air power by the RAAF. The majority of this group were from units which were indirectly involved with operations. Only five per cent indicated that they were satisfied or very satisfied with the proposition. This seven per cent represented members from operational units. The remaining 25 per cent indicated that they did not have an opinion. Further questioning as to why they did not have an opinion again revealed that the majority were simply unaware of what was being done at their unit. The percentage responses by base for this item are detailed in Table Two. Figure Two provides a graphical representation of the level of dissatisfaction recorded at each base.

BASE	VERY SAT %	SAT %	NO OPIN %	DISSAT %	NOT SAT %
WLM	2	5	36	45	12
EDN	0	3	22	70	5
ESL	0	5	35	50	10
WAG	0	5	20	65	10
RIC	0	5	15	75	5
AMB	0	6	24	60	10

Table Two: Percentage Responses by Base

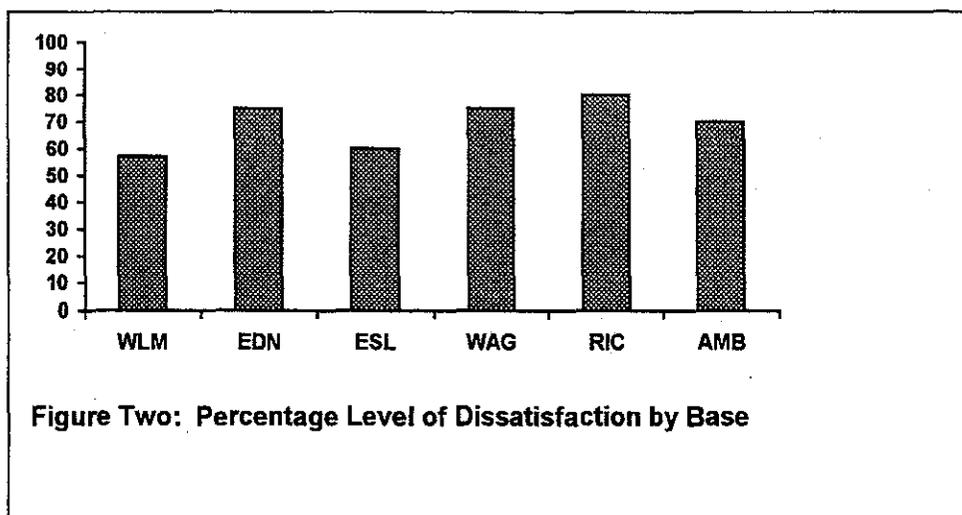


Figure Two: Percentage Level of Dissatisfaction by Base

That members understand how their actions and the functions of their unit relate to the application of air power

12.08. Forty-four per cent of respondents indicated that they were dissatisfied or not satisfied at all with their level of understanding of how their actions and the functions of their unit relate to the application of air power. The majority of this group were from units which were indirectly involved with operations. Thirty-six per cent, representing mainly operational units, indicated that they were satisfied or very satisfied with the proposition. The remaining twenty per cent did not have an opinion on the proposition. The percentage responses by base for this item are detailed in Table Two. Figure Two provides a graphical representation of the level of dissatisfaction recorded at each base.

BASE	VERY SAT %	SAT %	NO OPIN %	DISSAT %	NOT SAT %
WLM	6	24	30	30	10
EDN	15	25	25	35	10
ESL	5	15	25	35	20
WAG	5	25	10	50	10
RIC	10	35	25	20	10
AMB	15	35	20	25	5

Table Three: Percentage Responses by Base

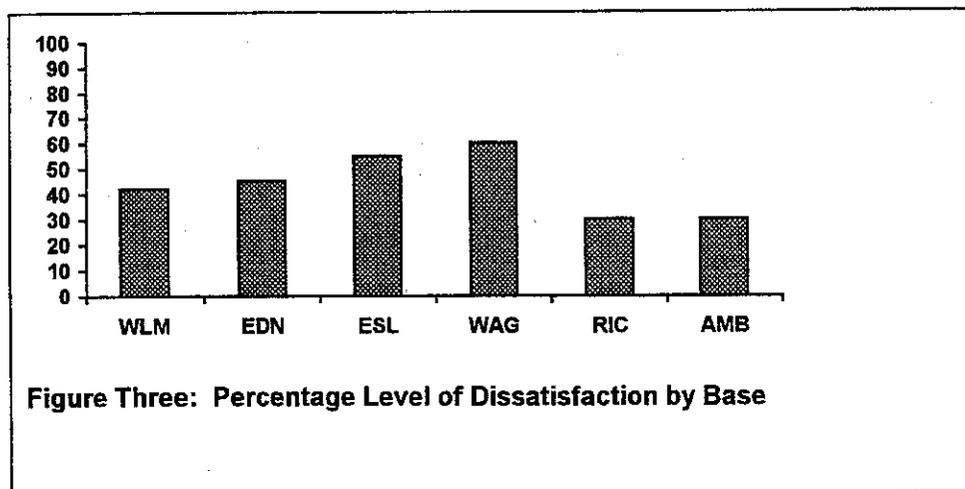


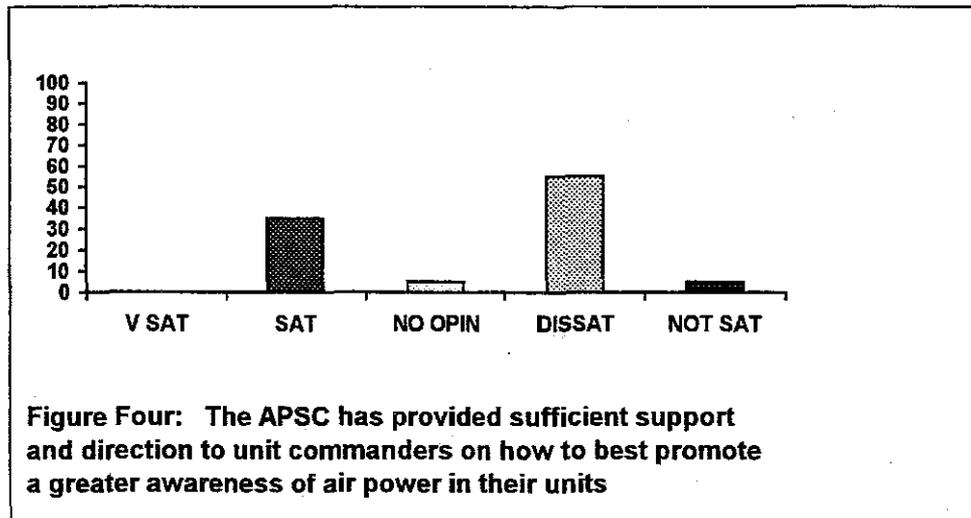
Figure Three: Percentage Level of Dissatisfaction by Base

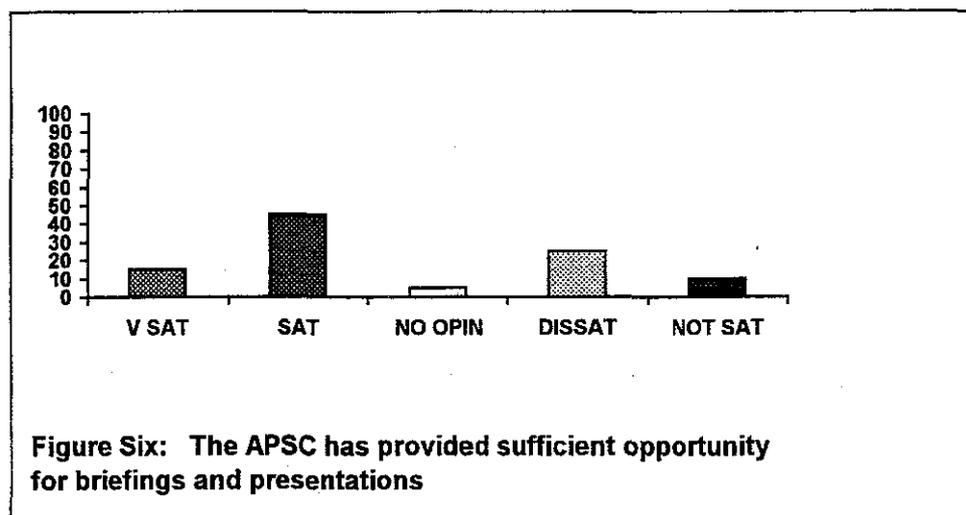
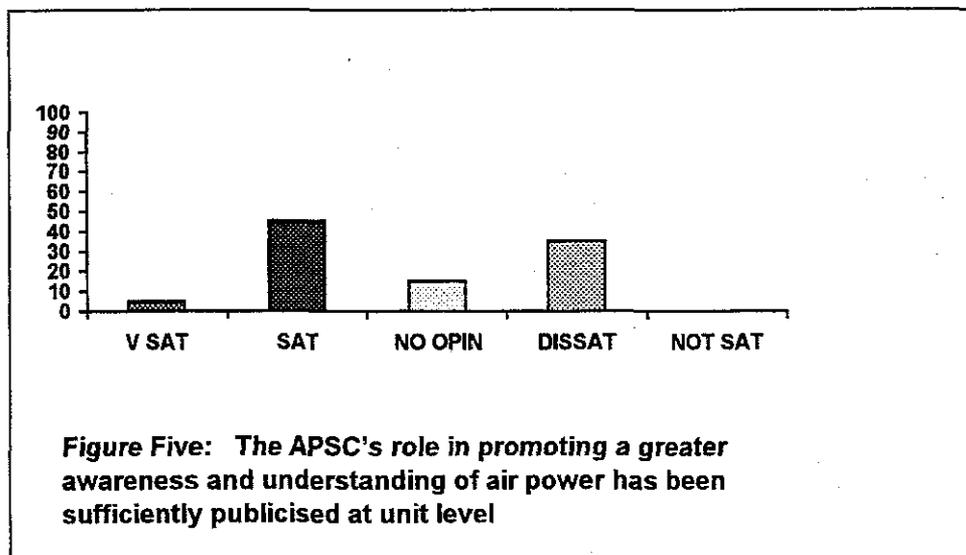
RAAF Commanders

12.09. As well as the three five-point scale items reported in paragraphs 12.06. to 12.08., three other five-point scale items were put to RAAF Commanders to elicit their opinions of the air power education system at unit level. A total of 35 RAAF commanders were interviewed and surveyed. A list of these personnel is at Annex T. The propositions on which commanders were asked to comment were:

- a. That the APSC has provided sufficient support and direction to unit commanders on how to promote best a greater awareness of air power in their units.
- b. That the APSC's role in promoting a greater awareness and understanding of air power has been sufficiently publicised at unit level.
- c. That the APSC has provided sufficient opportunity for briefings and presentations.

12.10. A summary of the results for each item is shown in Figures Four to Six.





12.11. These results indicate that at unit level the APSC has had little impact. Although the Unit Level Education Program is intended to be largely informal, RAAF commanders are not satisfied with the support and direction provided by the APSC on how to promote best a greater awareness of air power in their units. Further, commanders are not satisfied that enough has been done to publicise the APSC's role in promoting a greater awareness and understanding of air at unit level. This evidence suggests that the APSC, in conjunction with unit level commanders, needs to develop a more effective strategy that focuses on raising air power awareness at unit level.

Additional Open-Ended Questions

12.12. In addition to the five-point scale items a number of open-ended questions were also used to elicit responses on the issue of air power education at the unit level. A brief summary of the responses to these questions follows.

What processes or systems are in place at your squadron/unit to promote a broad understanding of air power and the application of air power doctrine?

RAAF WLM

None	25
Very little	12
CO talks	8
Lectures	3

RAAF EDN

None	31
Very little	9
CO talks	8
Lectures	1

RAAF ESL

None	34
Very little	5
CO talks	3
Lectures	0

RAAF WAG

None	34
Very little	3
CO talks	0
Lectures	0

RAAF RIC

None	34
Very little	18
CO talks	0
Lectures	0

RAAF AMB

None	26
Very little	20
CO talks	4
Lectures	4

Typical responses

At my squadron very little is directed at tradespersons in the way of air power concepts. All focus is on getting the aircraft ready for flight. No thought is given to explaining why the missions are important. Most junior members give no thought as to why they were asked to perform the functions they were asked to do.

Nothing is done at my unit.

Apart from some APSC publications on the CO's coffee table, air power is not emphasised.

Do you consider enough is being done at your unit to promote a broad understanding of air power and the application of air power doctrine? If not, what do you believe should be done to rectify the situation?

12.13. Over 330 RAAF personnel were asked if they consider enough is being done at their unit to promote a broad understanding of air power and the application of air power doctrine. Of the 330 personnel surveyed 294, (89 per cent) believe that not enough is being done at the unit level. This high level of dissatisfaction was uniform across all rank levels.

12.14. When asked what should be done to rectify the situation the following responses were consistently recorded across the RAAF:

- a. The central element for any air power education program must be the AETS and the OETS. Unit level air power education should remain informal and at the discretion of the unit commander. However, the APSC must play a greater role in assisting unit commanders with this Program. The emphasis at unit level should be on raising the awareness of the application of air power rather than theory of air power.

- b. More emphasis is required on both the AETS and the OETS on encouraging the concept that each member has the responsibility as an officer or airmen to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.
- c. Air power education should not be included as part of unit continuation training nor should compulsory unit based lectures be adopted. If lectures are to be conducted, they should be conducted by the APSC in conjunction with the unit, they should not be compulsory and they must be relevant to the environment in which they are being delivered.
- d. The APSC should facilitate debate, at the highest levels, to encourage operational units to provide feedback to their support elements on the effectiveness of the support elements activities in support of day-to-day operations, exercises and deployments.
- e. The APSC should publish regular articles on the use of air power in contemporary situations in the RAAF news.

CONCLUSION

12.15. The second element of the RAAF Air Power Education System is informal education at unit level. Responsibility for ongoing air power training at unit level currently lies with individual commanders, while the APSC provides support and direction. Data collected by this study show that this approach has not been successful, and that the strategy for air power education at unit level should be revised.

12.16. In particular, the study found that of the 330 personnel surveyed RAAF wide:

- a. Seventy per cent of personnel are dissatisfied with what is currently being done at unit level to promote a broad understanding of air power and the application of air power doctrine.

- b. Seventy-seven per cent of personnel are dissatisfied with what is currently being done at unit level to explain how their activities and the activities of others contribute to the use of air power by the RAAF.
- c. Forty-four per cent of personnel do not fully understand how their actions and the functions of their unit relate to the application of air power.

12.17. In addition, RAAF commanders were surveyed to elicit their opinions on the APSC's role in the Unit Level Air Power Education Program. Of those commanders surveyed, 60 per cent believe that the APSC has not provided sufficient support and direction to unit commanders on how to promote best a greater awareness of air power in their units, 35 per cent believe that the APSC's role in promoting a greater awareness and understanding of air power has not been sufficiently publicised at unit level, and 35 per cent believe that the APSC has not provided sufficient opportunity for briefings and presentations.

12.18. Open-ended responses to a number of questions support the findings outlined in paragraphs 12.15. and 12.16. Consistent evidence was found to support the proposition that the current strategy for air power education at unit level has failed, and the APSC, in conjunction with unit commanders, should develop and implement a more effective education strategy. Evidence from this study suggests that the most effective strategy for unit level air power education would be one that facilitates the development of both the long and short term air power needs of unit personnel.

Long Term Cultural Change

12.19. If personnel are to understand how their functions and activities relate to the application of air power, then more emphasis is required on both the AETS and the OETS with regard to encouraging the concept that each member has the responsibility as an officer or an airman to ensure that their staff understands how their activities and the activities of others contribute to the use of air power by the RAAF. This concept is ostensibly based on the assumption that effective employee communication is best achieved by the immediate supervisor discussing local workplace issues; an assumption which is supported by a rigorous study of 800 Australian workers by Sentry Holdings ¹.

¹ Quoted in Larkin, T.J., *Communicating with Employees - what works, what doesn't*, Readings in Human Resource Management, John Wiley & Sons, Brisbane, 1991, p 148.

12.20. The second element of the longer term strategy requires the APSC to facilitate greater interaction between operational units and the support elements. The APSC should encourage debate at the highest levels that aims at encouraging a more formalised system to provide non-operational elements with feedback on the effectiveness of their activities in support of day-to-day operations, exercises and deployments. This currently does not happen with any regularity.

More Immediate Response

12.21. Apart from the long term strategy, a program should be developed and implemented that has an immediate impact at the unit level. The major objectives of this program should be to:

- a. motivate and raise the interest levels of personnel at unit level with regards to air power,
- b. relate the contemporary application of air power to unit level functions and activities,
- c. facilitate discussion and debate of contemporary air power issues,
- d. provide unit level commanders with the support and direction on how to best promote a greater awareness of air power in their units, and
- e. provide a media awareness campaign directed at the unit level.

12.22. The APSC should take a much more active role in unit level air power education if these objectives are to be achieved. This will mean a change of focus for APSC activities, and a redirection of some of its resources. There are a variety of approaches that could be adopted to achieve the objectives, however, as discussed at paragraph 12.20., contemporary human resource management thinking is that the most effective method to communicate with employees is the immediate supervisor discussing local workplace issues. If this proposition is accepted, the APSC will need to focus its energy on providing supervisors with the skills, knowledge and resources to explain to their staff how their activities and the activities of others contribute to the use of air power by the RAAF.

12.23. One approach which was consistently supported by unit commanders throughout the study was that the APSC should conduct air power workshops and discussion sessions at each RAAF base to provide the initial impetus from which unit commanders could develop individual unit based air power education programs. Specific details of such an approach could be:

- a. The APSC would visit each base every two to three years providing lectures and discussion sessions to homogenous groups (such as groups of technical personnel) of approximately 20-30 personnel.
- b. The presentations would be tailored to the functions and activities of the particular group, i.e. they must be relevant to the workplace. For example, if the target audience were Air Base Wing support personnel, an appropriate lecture may be the role administrative support played in effective air operations in the Gulf War.
- c. The presentations would be conducted in the workplace, where possible, at a convenient time agreed by the unit commander.
- d. The presentations would be as interactive as possible.
- e. The APSC would provide unit commanders and supervisors with the support, direction and resources to continue the momentum of the Program.
- f. The APSC presentation team would need to be cognisant of its credibility. To this end, relevant personnel (such as Air Defence, Intelligence, Ground Defence and General Duties officers) may need to be 'shadow posted' to the APSC for individual visits.



SECTION TWO

CHAPTER THIRTEEN

NAVY, ARMY, THE DEFENCE ORGANISATION, WIDER COMMUNITY AND REGIONAL NATIONS AIR POWER EDUCATION PROGRAM

13.01. The evaluation of the program to provide air power education to the Navy, Army, Defence Organisation, wider community and regional nations requires a focus not only on the achievement of outcomes and the relationships these outcomes have with inputs and processes, but also on any unintended or incidental outcomes of the program. This is important because the program seeks, in broad terms, to promote an understanding and to raise the awareness of air power through largely informal means. The emphasis in this evaluation is not on the educational process nor on the inputs to the Program, rather on the overall effect of the Program. As discussed in Section One, Chapter Two, paragraph 2.33., Scriven's evaluation model provides this mechanism.

13.02. The emphasis with Scriven's evaluation model is to appraise or evaluate goals or objectives of the program by selecting criteria of achievement and collecting data on each of these selected criteria. With this complete a judgement on the overall value of the Program can be made.

ASSESSMENT OF THE PROGRAM

13.03. The objectives of the program to provide air power education to the Navy, Army, Defence Organisation, wider community and regional nations are to:

- a. raise the awareness of the community on the role air power plays in the defence of Australia,
- b. promote an understanding in the community of the ADF resource requirements needed for the application of air power,
- c. project the importance of the ADF to national and regional security with emphasis on air power contribution,

- d. advise regional nations in the methods they can use to promote the role of air power in the defence of their nations,
- e. advise regional nations in the methods they can use to promote an understanding of the resource requirements needed for the application of air power, and
- f. promote an understanding by regional nations on maritime operations.

13.04. To assess if the program's objectives have been achieved, 130 personnel across Navy, Army, Defence Organisation and wider community were surveyed and interviewed as to their opinion on the following three broad issues (a list of areas from which these personnel were selected is at Annex R):

- a. understanding of air power doctrine and its application,
- b. the effectiveness of the APSC's role in the promotion of air power doctrine, and
- c. the effectiveness of assistance for regional nations.

To elicit the opinions of respondents, a number of five-point Likert scale items were used. A general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue. Objective data were also used to assess each of these issues.

UNDERSTANDING OF AIR POWER DOCTRINE AND ITS APPLICATION

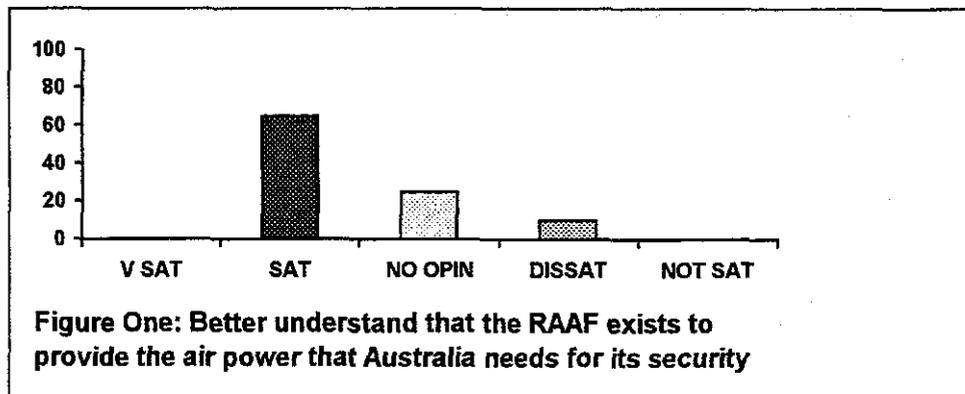
Navy

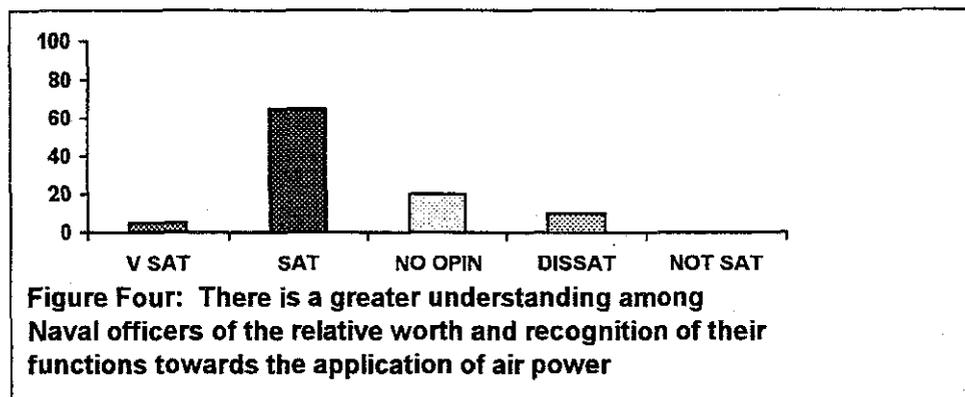
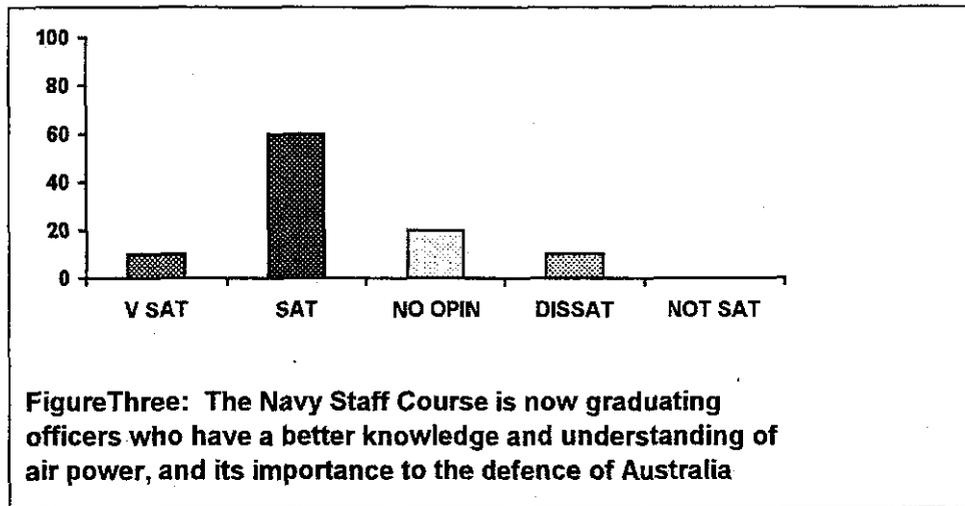
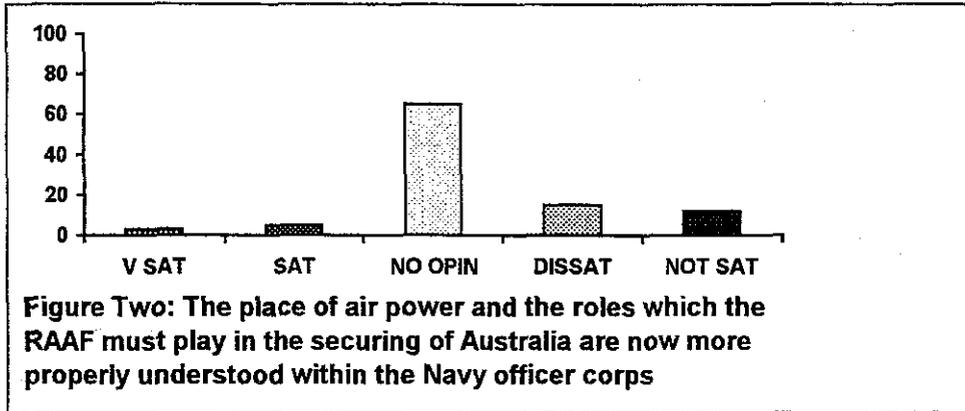
13.05. Respondents were asked how satisfied they were that since the Air Force put in place initiatives to promote the wider understanding and proper

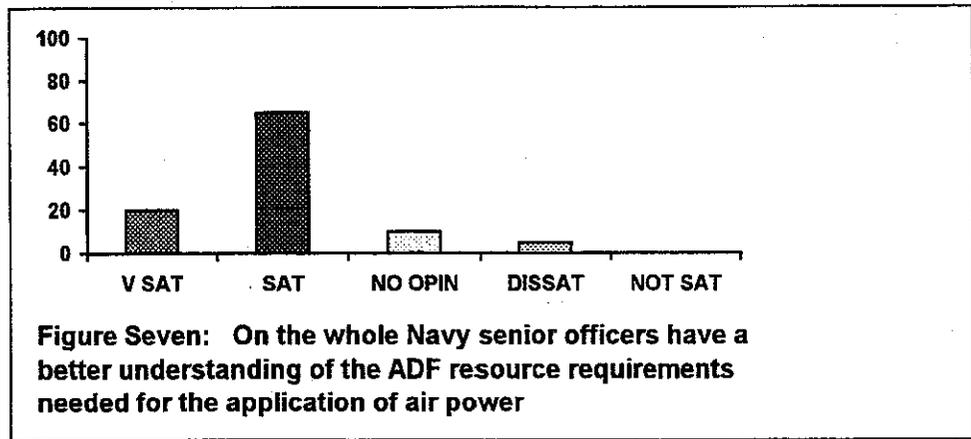
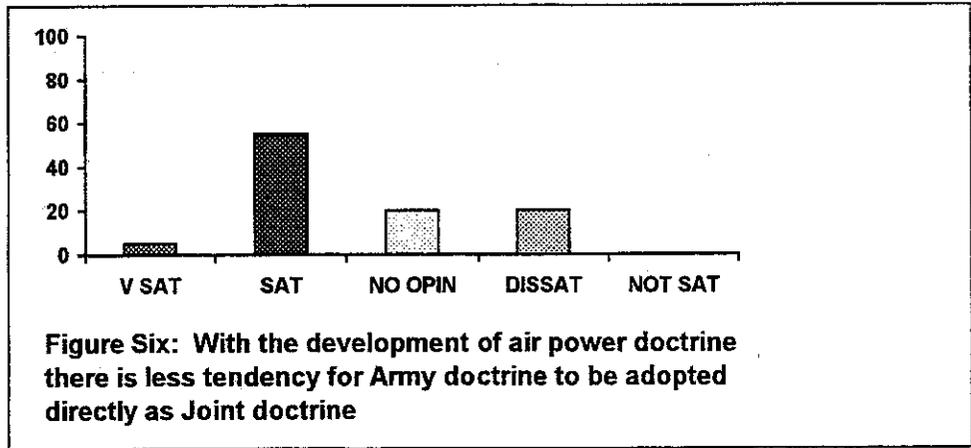
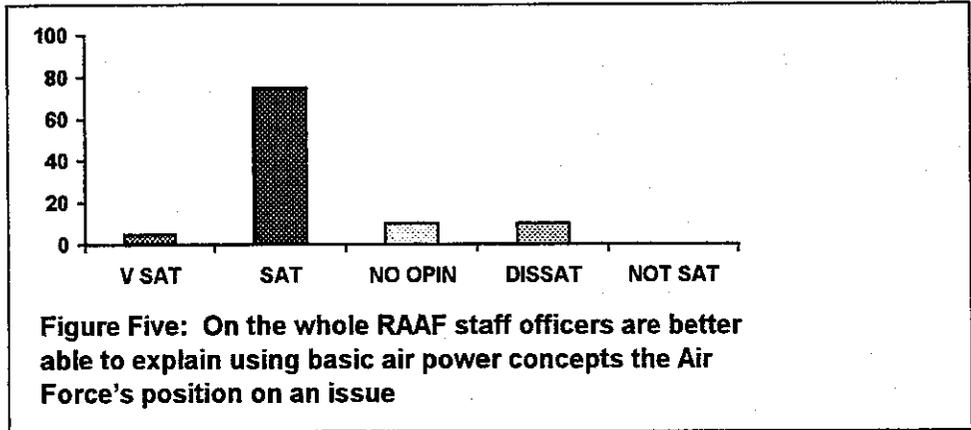
application of air power in 1989:

- a. on the whole senior Navy officers better understand that the RAAF exists to provide the air power that Australia needs for its security?
- b. the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the Navy officer corps?
- c. the Navy Staff Course is now graduating officers who have a better knowledge and understanding of air power, and its importance to the defence of Australia?
- d. there is a greater understanding among Navy officers of the relative worth and recognition of their functions towards the application of air power?
- e. on the whole RAAF staff officers are better able to explain, using basic air power concepts, the Air Force's position on an issue?
- f. with the development of air power doctrine there is less tendency for Army doctrine to be adopted directly as Joint doctrine?
- g. on the whole senior Naval officers have a better understanding of the ADF resource requirements needed for the application of air power?

13.06. Responses to each of these items are tabulated in Figures One to Seven respectively.







General Comments - Navy

13.07. As shown in Figures One to Seven, the majority of Navy personnel surveyed and interviewed are satisfied with the propositions listed at paragraph 13.05. In addition to these five-point scale items, respondents were asked to suggest ways in which the understanding of air power doctrine and its application could be more effectively conveyed

to Navy personnel. Two suggestions received wide support. First, make better use of Navy Staff Course as a forum for full and free debate of air power issues. This may include conducting a separate workshop for DS at the beginning of the course. Second, include an air power phase on the Navy's Initial Officers' Course and the Navy's Senior Sailors' Courses. The one caveat to both these suggestions was that caution should be observed when promoting air power to ensure that it is not construed as RAAF propaganda. As one respondent commented:

There is a danger of dismissal of the concepts (or some of them) of air power because the plethora of outputs tends to overwhelm. I find myself disagreeing with some propositions just because they are so frequently and arduously put, i.e. some outputs come across as propaganda.

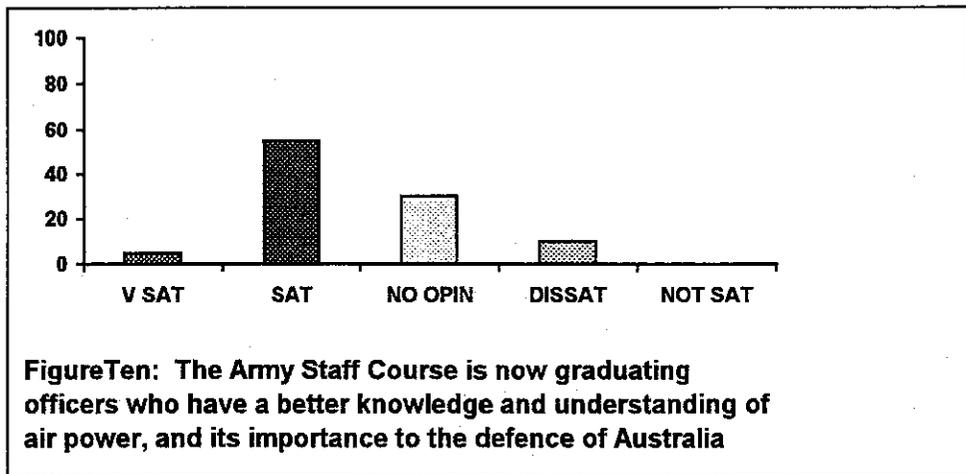
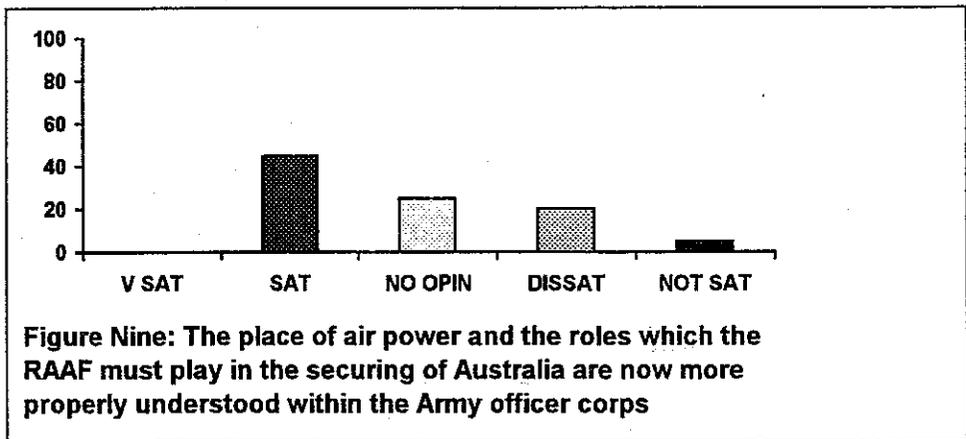
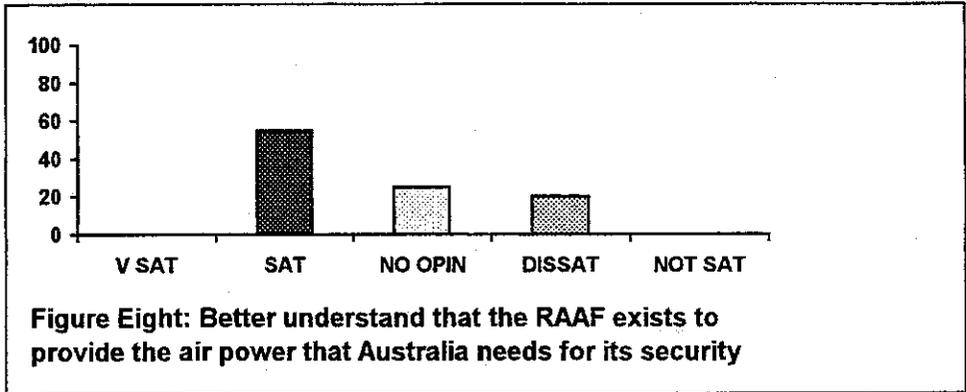
Army

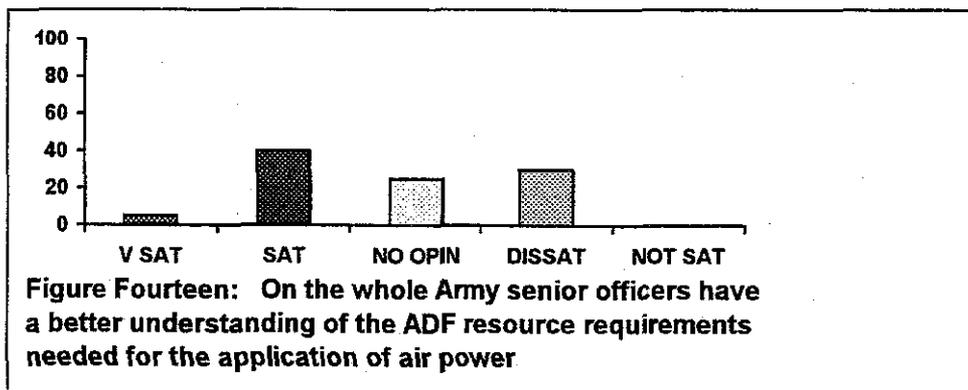
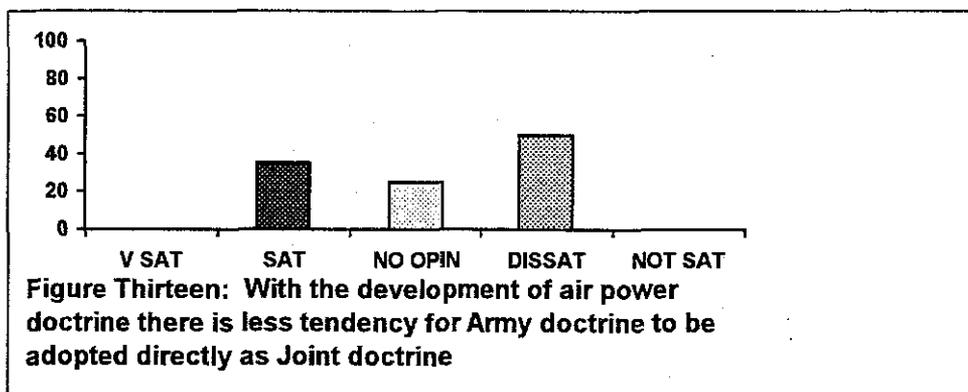
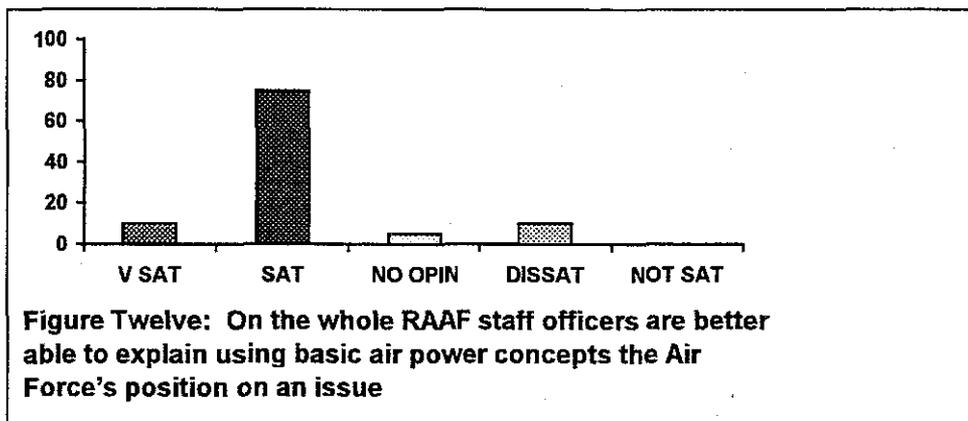
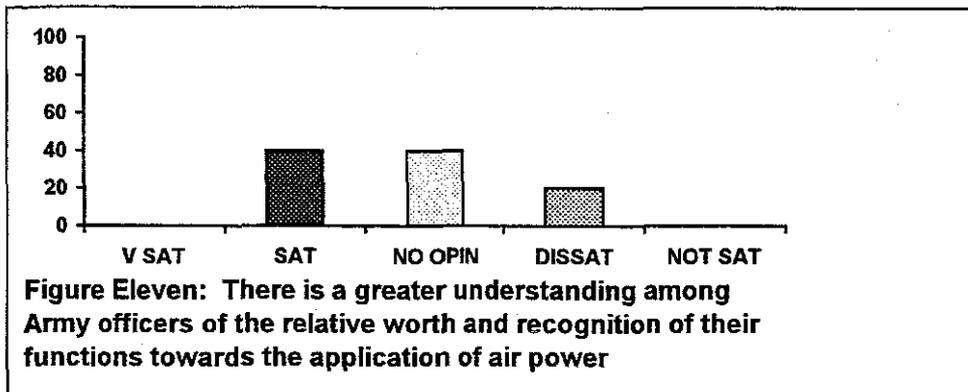
13.08. Respondents were asked how satisfied they were that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- a. on the whole senior Army officers better understand that the RAAF exists to provide the air power that Australia needs for its security?
- b. the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the Army officer corps?
- c. the Army Staff Course is now graduating officers who have a better knowledge and understanding of air power, and its importance to the defence of Australia?
- d. there is a greater understanding among Army officers of the relative worth and recognition of their functions towards the application of air power?
- e. on the whole RAAF staff officers are better able to explain, using basic air power concepts, the Air Force's position on an issue?
- f. with the development of air power doctrine there is less tendency for Army doctrine to be adopted directly as Joint doctrine?

- g. on the whole Army senior officers have a better understanding of the ADF resource requirements needed for the application of air power?

13.09. Responses to each of these items are tabulated in Figures Eight to Fourteen respectively.





General Comments - Army

13.10. As shown in Figures Seven to Fourteen the majority of Army personnel surveyed are satisfied with the propositions at paragraph 13.08., with two exceptions. First, 30 per cent of those surveyed do not consider that senior Army officers have a better understanding of the ADF resource requirements needed for the application of air power. Second, 50 per cent do not consider that with the development of air power doctrine there is less tendency for Army doctrine to be adopted directly as joint doctrine. When questioned on this issue the majority noted that although air power doctrine has been promoted vigorously over the last six years, much effort is still required to achieve truly joint doctrine. A number of respondents cited the recent draft ADFP 6 publication on joint planning operations as an example to support their dissatisfaction. One respondent observed:

The new ADFP 6 on joint planning operations still looks remarkably like Army doctrine resulting in the ADFP having huge holes.

13.11. In addition to the five-point scale items, respondents were asked to suggest ways in which the understanding of air power doctrine and its application could be more effectively conveyed to Army personnel. Two suggestions received wide support. First, make better use of Army Staff course as a forum for full and free debate of air power issues. Second, include an air power phase on the initial officer training course conducted at the Royal Military College, Duntroon.

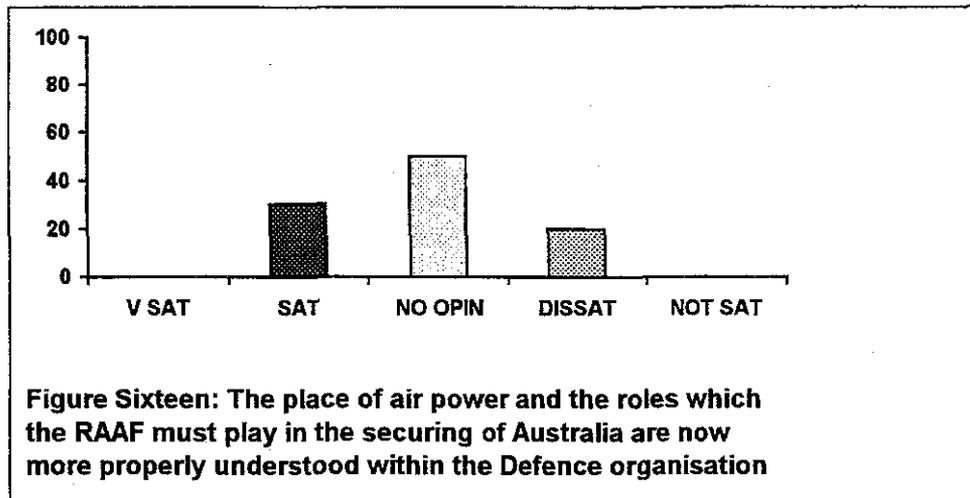
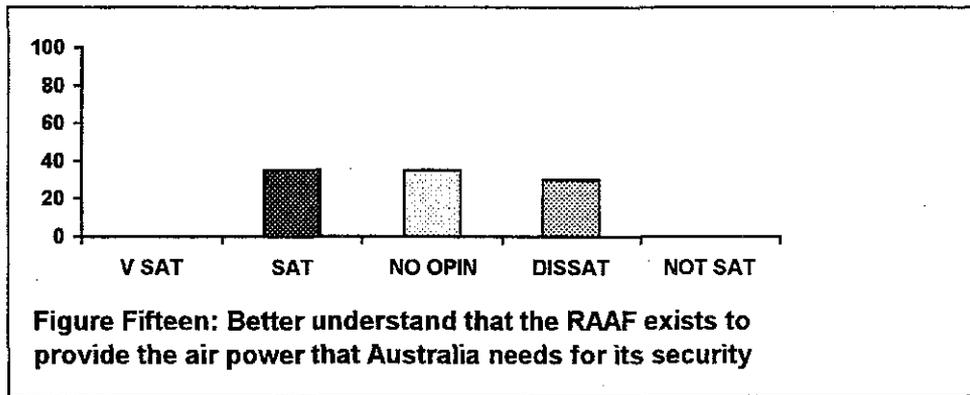
Defence Organisation

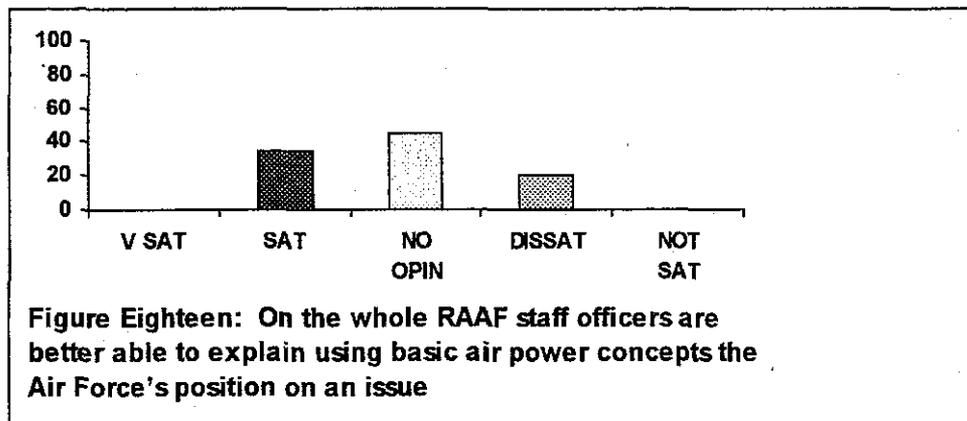
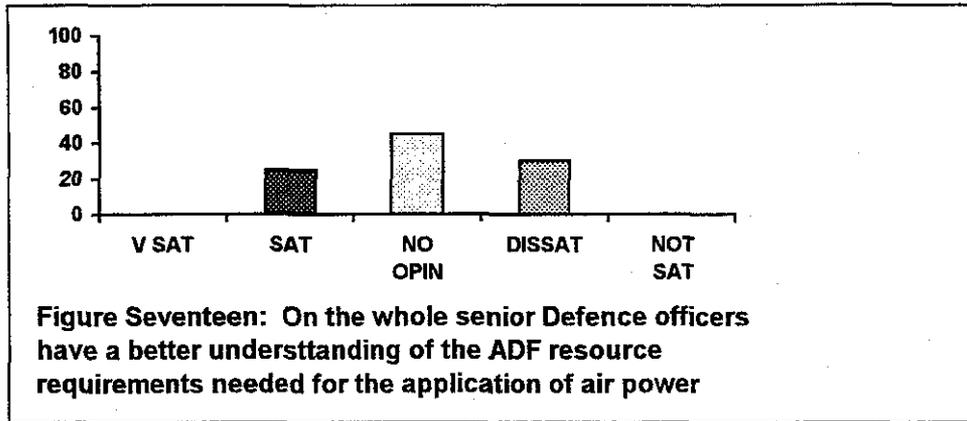
13.12. Respondents were asked how satisfied they were that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- a. on the whole senior Defence officers better understand that the RAAF exists to provide the air power that Australia needs for its security?
- b. the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the Defence organisation?

- c. on the whole Department of Defence Senior officers have a better understanding of the ADF resource requirements needed for the application of air power?
- d. on the whole RAAF staff officers are better able to explain using basic air power concepts the Air Force's position on an issue?

13.13. Responses to each of these items are tabulated in Figures Fifteen to Eighteen respectively.





General Comments - Defence Organisation

13.14. Of those defence civilians surveyed, 35 per cent are not satisfied that senior Defence officers better understand that the RAAF exists to provide the air power that Australia needs for its security, and 35 per cent are not satisfied that the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the Defence organisation. Further, 30 per cent are not satisfied that senior Defence officers have a better understanding of the ADF resource requirements needed for the application of air power.

13.15. A number suggestions were proffered to address these perceived deficiencies. First, in keeping with the RAAF One Team Concept¹, develop and include an air power education phase into the personal development program for RAAF defence civilians. Discussions with the Director General Personnel-Air Force (DGPERS-AF) and the

¹ The RAAF One Team Concept seeks to unite all elements of the organisation in the achievement of the RAAF's mission.

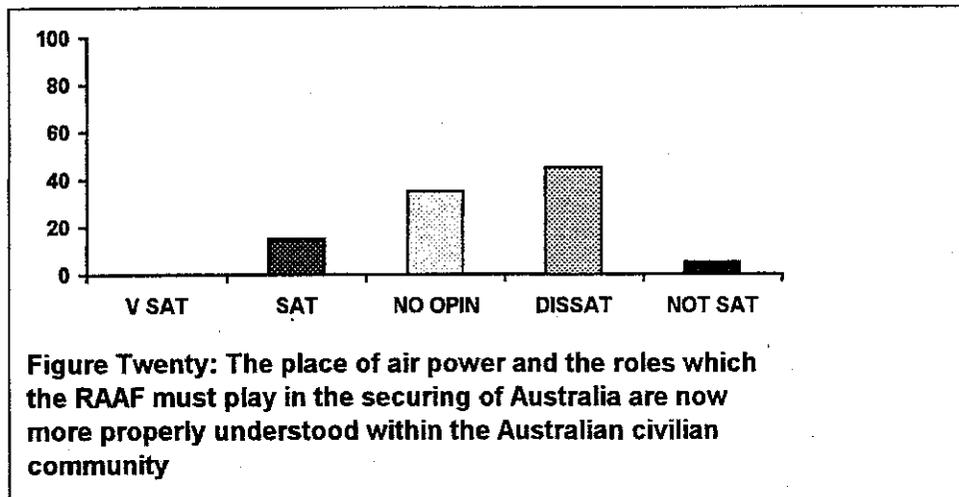
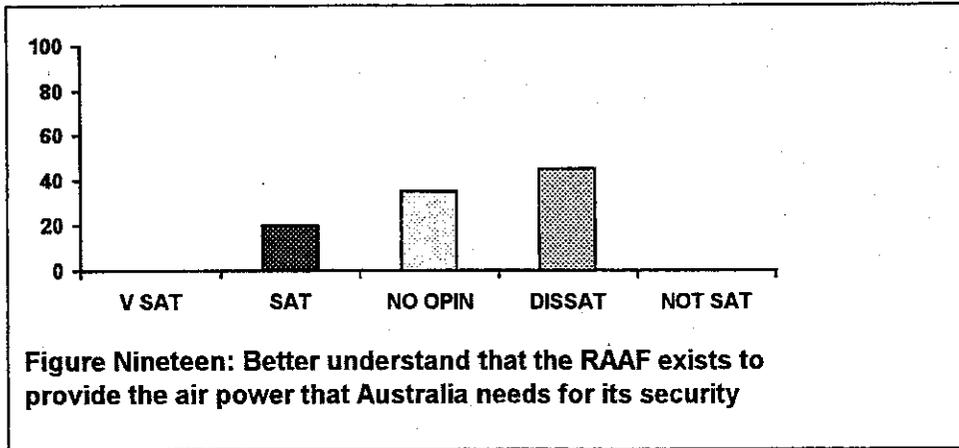
Director Personnel Civilians-Air Force (DPC-AF) indicate support for such a concept. Second, with regard to the wider defence civilian community, the APSC should develop a strategy to promote a greater understanding without being seen to be 'pushing the Air Force barrow'. This may include air power workshops for senior defence civilians, distribution of the APSC Newsletter, invitations to conferences and seminars. The APSC has already made some progress in this regard. On 10 October 1995, the Air Operations Division of the Defence Science and Technology Organisation visited the APSC to discuss ways in which the two organisations could work more closely. One other suggestion which is worthy of note is that air power doctrine needs to be visibly applied to new major capital equipment acquisitions and the force structure process. To this end, all those involved in Major Capital Equipment should be 'educated' to this effect.

Wider Community

13.16. Respondents from the Navy, Army, RAAF, and Defence organisation were asked their opinion that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- a. on the whole the Australian civilian community better understands that the RAAF exists to provide the air power that Australia needs for its security?
- b. the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within Australian civilian community?

13.17 Responses to each of these items are tabulated in Figures Nineteen to Twenty respectively.



General Comments - Wider Civilian Community

13.18. Forty-five per cent of those surveyed do not consider that the Australian civilian community better understands that the RAAF exists to provide the air power that Australia needs for its security, while 50 per cent are dissatisfied that the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within Australian civilian community. These results indicate that more should be done by the RAAF in promoting a greater understanding of air power to the civilian community. Although these issues are more generally the responsibility of RAAF Public Relations, the APSC does have a role to play in facilitating thought and discussion on ways in which the value air power can be more effectively promoted.

THE APSC'S ROLE IN THE PROMOTION OF AIR POWER DOCTRINE

13.19. Goal Two of the APSC's Corporate Plan states:

Promote an awareness of doctrine and the use of air power in the defence of Australia.

In achieving this goal the APSC:

- a. provides lectures to the RAAF Basic Staff Course, the RAAF and Army Command and Staff courses, the Navy Staff Course, Joint Services Staff Course and a number of RAAF specialist officer courses;
- b. provides lectures to ADFA;
- c. provides lectures to universities and interested community groups;
- d. maintains and publishes the APSC Working Paper series;
- e. conducts the annual APSC History Seminars;
- f. encourages and publishes the work of visiting fellows;
- g. contributes articles to journals, newspapers and periodicals;
- h. consolidates links with Australian and overseas universities and defence colleges; and
- i. conducts historical research and analysis of particular air power themes.

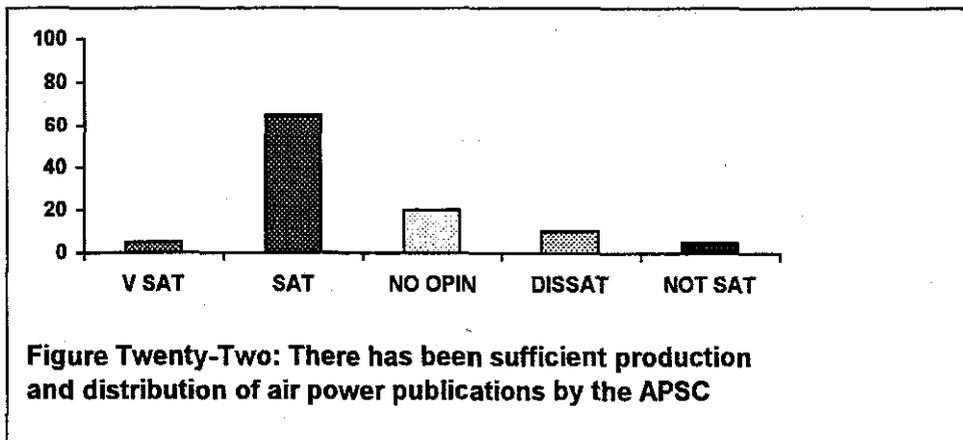
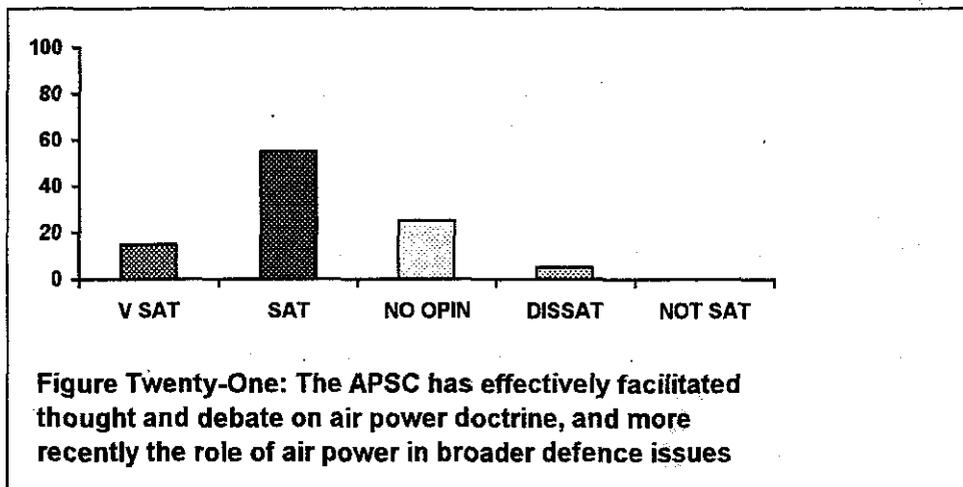
A complete list of APSC promotional activities and publications is at ANNEX U.

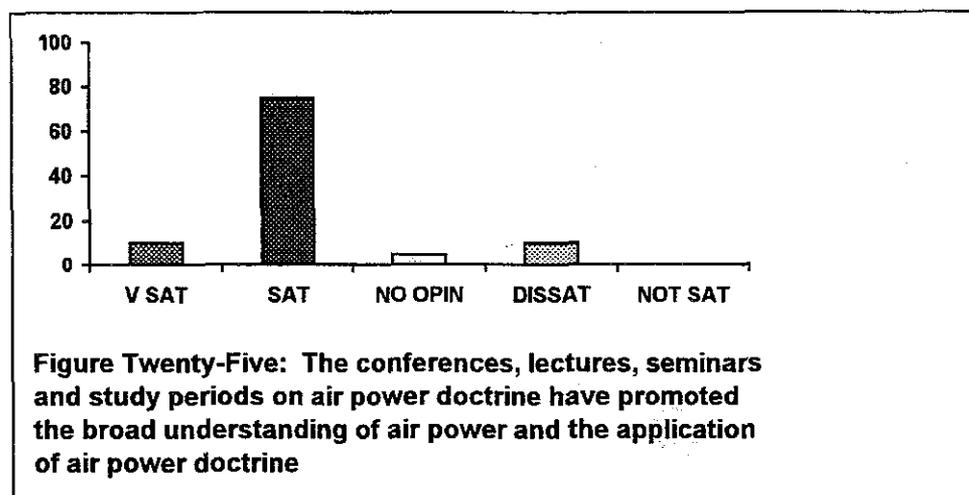
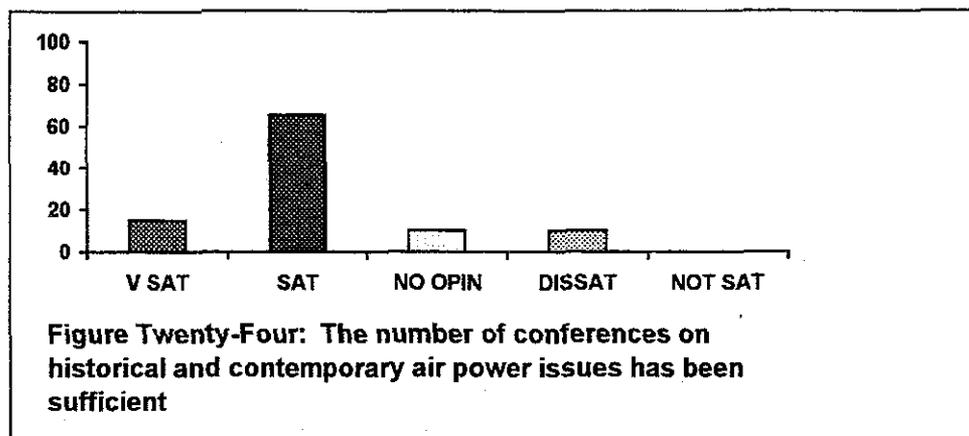
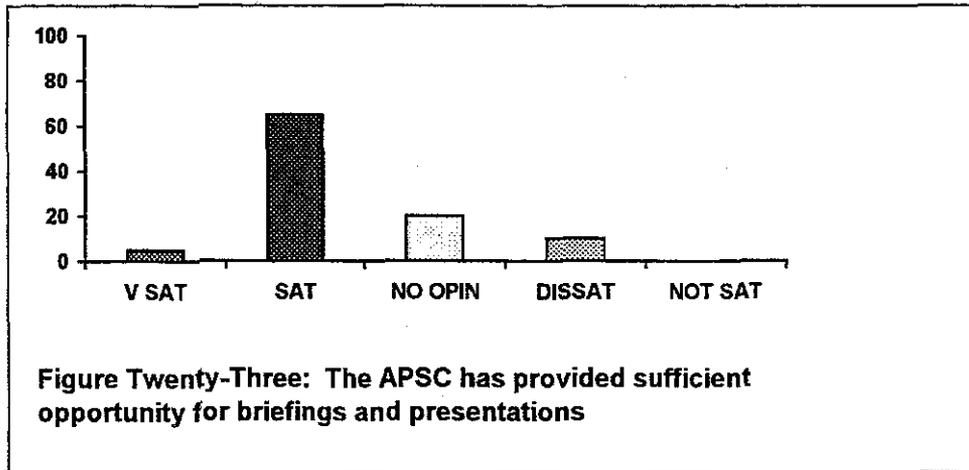
13.20. Respondents were asked how satisfied they were that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- a. the APSC has effectively facilitated thought and debate on air power doctrine, and more recently the role of air power in broader defence issues?

- b. there has been sufficient production and distribution of air power publications by the APSC?
- c. the APSC has provided sufficient opportunity for briefings and presentations?
- d. the number of conferences on historical and contemporary air power issues has been sufficient?
- e. the conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have promoted the broad understanding of air power and the application of air power doctrine?

13.21. Responses to each of these items are tabulated in Figures Twenty-One to Twenty-Five respectively.





13.22. As shown in Figures Twenty-One to Twenty-Five the majority of respondents are satisfied with the APSC's role in the promotion of air power doctrine. Typical written comments which supported these

results were:

The APSC seems to be doing the best possible job of improving understanding of air power that any organisation of its kind could do.

The APSC is well on its way to achieving its goals.

The APSC has done a marvellous job in promoting an awareness of air power doctrine.

In addition to these comments, a number of worthwhile suggestions were made with regard to improving the ways in which the APSC promotes an awareness of air power doctrine. These included:

- a. Introduce executive summaries or abstracts to the APSC Working Papers to make them more 'readable' to the general public.
- b. Avoid '*PR sponsored infomercials*' in newspapers, rather distribute the APSC Working Papers and the APSC Newsletter to the Press Gallery Defence Journalists.
- c. Conduct a regular DARA, Maritime Studies Centre and APSC forum to discuss joint issues.
- d. Develop a network of interested officials and ADF personnel to meet once a quarter to discuss professional concerns.
- e. Conduct presentations to Senior Management Programs such as those at Mt Eliza or the Defence Industry Study Course.
- f. Avoid '*zealotry, PR or propaganda*'. The APSC needs to remain 'structured' as a think-tank, rather than as a lobby group.

ASSISTANCE FOR REGIONAL NATIONS

13.23. Goal Four of the APSC's Corporate Plan states:

Examine the use of air power in enhancing regional cooperation.

In achieving this goal the APSC:

- a. fosters links with the doctrine centres of regional air forces;
- b. examines the roles of air power in coping with regional low-level maritime threats;
- c. promotes the development of common air power doctrine throughout the region;
- d. examines the role for air power in regional co-operation for resolving common economic, environmental and social problems;
- e. contributes to the development of Closer Defence Relationship with New Zealand, in the air power context;
- f. develops the personal, intellectual and communications dimensions in promoting regional co-operation; and
- g. conducts workshops and lectures and publishes papers examining the use of air power in regional co-operation.

13.24. Specific co-operation activities which have been conducted by the APSC include (a more detailed list is at Annex U):

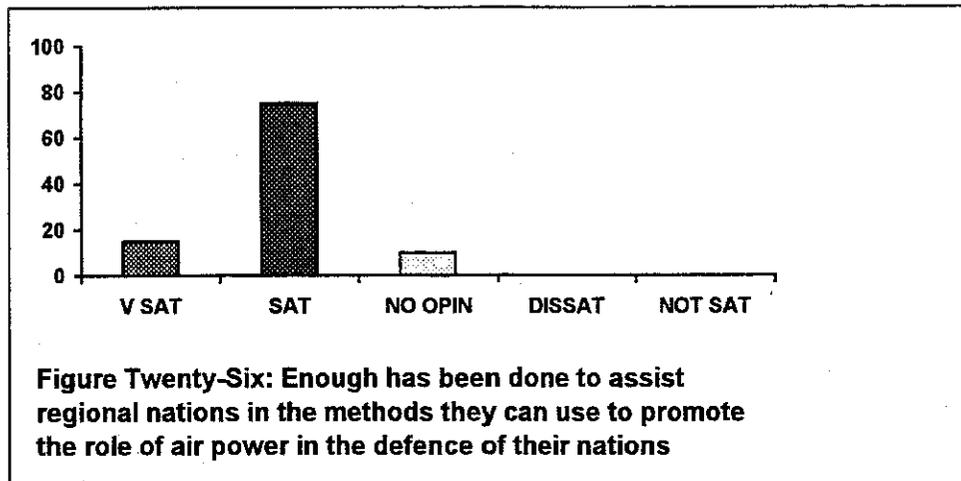
- a. annual CAS Regional Air Power Workshops,
- b. a series of briefings on the AAP 1000 which were delivered to the New Zealand, Thai and Indonesian air forces;
- c. a series of lectures to the New Zealand and Malaysian Armed Forces Staff Colleges,
- d. hosting visits to the APSC by Singapore, Philippine and Malaysian air force representatives to discuss the development of air power doctrine,
- e. distributing APSC publications in the region,
- f. hosting visiting fellows from Indonesia and the Philippines, and

- g. hosting senior military officials at the air power conferences.

13.25. Respondents from Navy, Army, RAAF, the Defence Organisation and the wider community were asked how satisfied they were that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- a. enough has been done to assist regional nations in the methods they can use to promote the role of air power in the defence of their nations?

Responses to this item are tabulated in Figures Twenty Six.



13.26. As shown in Figure Twenty-Six, of those surveyed there is wide support for the proposition that enough has been done to assist regional nations in the methods they can use to promote the role of air power in the defence of their nations. Typical written comments which support this result are:

The APSC has done an excellent job in promoting air power knowledge in the region.

The regional air power workshops and conferences have been a great catalyst for discussion on air power issues in our region.

CONCLUSION

13.27. The third element of the RAAF Air Power Education System is the input that the APSC has with Navy, Army, the Defence organisation, wider community and regional nations. Data collected by this study show that this element of the RAAF Air Power Education System has been developed and implemented extremely effectively by the APSC. Three issues were examined by the study, namely:

- a. the understanding of air power doctrine and its application,
- b. the effectiveness of the APSC's role in the promotion of air power doctrine, and
- c. the effectiveness of assistance for regional nations.

13.28. The study found that on the whole senior Navy and Army officers better understand that the RAAF exists to provide the air power that Australia needs for its security. In addition, the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the Navy and Army officer corps. Further, the Navy and Army Staff courses are now graduating officers who have a better knowledge and understanding of air power, and its importance to the defence of Australia. The majority of Navy and Army officers surveyed and interviewed also believe that on the whole RAAF staff officers are better able to explain, using basic air power concepts, the Air Force's position on an issue. Fifty per cent of those Army officers surveyed, however, do not agree with the proposition that with the development of air power doctrine, there is now less tendency for Army doctrine to be adopted directly as Joint doctrine. Results indicate that there is still considerable effort required to reach a truly joint doctrine for the ADF.

13.28. With regard to the Defence Organisation, results from this study show that although there have been significant achievements in this area by the APSC, more could be done to ensure that senior Defence officers better understand:

- a. that the RAAF exists to provide the air power that Australia needs for its security,
- b. the place of air power and the roles which the RAAF must play in the securing of Australia, and

- c. the ADF resource requirements needed for the application of air power.

13.29. While educating the wider civilian community on the place of air power and the roles which the RAAF must play in the securing of Australia is not necessarily the responsibility of the APSC alone, it is an important element of the RAAF Air Power Education System. Results from this study indicate that more needs to be done if the objectives of this element are to be achieved. The APSC's role in achieving these objectives should be one of facilitating thought and discussion on ways in which awareness of the importance of air power can be more effectively promoted.

13.30. Finally, the study found that the APSC's role in the promotion of air power doctrine and the assistance it has provided regional nations in developing organic air power doctrine has been excellent.



SECTION THREE

CHAPTER ONE

CONCLUSION

PURPOSE OF THE STUDY

1.01. Until about 1989, the RAAF's air power education had been largely ineffective due to a slow and uncoordinated effort by management. Since 1989, however, there has been considerable progress in this regard. At this time Air Marshal R. Funnell, in an effort to raise the level of the RAAF's professional understanding of its real business - air power - instituted a range of measures to promote the wider understanding and proper application of air power in the RAAF. These measures included the review and documentation and publishing of RAAF air power doctrine, the establishment of a centre for air power studies, and a study of RAAF air power education and training.

1.02. As a result of these initiatives, a RAAF Air Power Education Program was implemented. The education program was directed at three distinct levels. First, a formal education program set within the education and training context; second, input at unit level through largely informal means; and finally, input to the Defence Organisation, the wider community and regional nations.

1.03. The first element of the RAAF Air Power Education System was implemented within the existing AETS and OETS systems in late 1992. The program was designed to ensure that air power training was delivered progressively on a continuum from recruit training to the RAAFCSC to provide members with a sense of corporate identity, based on an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF. Responsibility for ongoing air power training at unit level, the second element of the RAAF air power education program, was delegated to individual commanders with the APSC providing support and direction, as required. The final element of the education program was designed to raise the awareness of the role air power has in the defence of Australia and to promote an understanding within the Defence Organisation, the wider community and regional nations, of the ADF resource requirements needed for the application of air power.

1.04. Considerable resources have been expended on the RAAF Air Power Education System but few, if any, performance measures are in place to assess whether those resources are being effectively employed. The aim of this study was to evaluate the effectiveness of the RAAF air power education system. In doing so, the study measured the extent to which the vision for the RAAF Air Power Education System has been achieved and determined if that vision is still appropriate for the future needs of the RAAF.

EVALUATION DESIGN

1.05. Two evaluation strategies were used in the study, namely: Scriven's Evaluation Model and Stake's Countenance Model. Stake's Countenance Model was used for the evaluation of formal air power curricula. Antecedents, transactions and outcomes are the three bodies of information examined in the model. Antecedents were defined as conditions prior to instruction and learning which may relate to outcomes. Transactions are the countless encounters between students and instructors, students and students, and students and course material. Outcomes were considered as the consequences produced from air power education system.

1.06. Stake's model is based on two essential facts about evaluation: description and judgement. Description data are classified as intents and observations whereas judgemental statements are classified either as general standards or as judgements specific to air power education. The elements of data are congruent if what was intended actually happened. However, congruence does not indicate that outcomes are reliable or valid; it indicates what was intended did occur. The reliability and validity of the outcomes were investigated by identifying outcomes which were dependent upon particular student conditions and transactional processes. The dependencies and congruences which were identified were then subject to judgement. Evaluation statements were based on absolute standards, reflected by personal judgements and relative standards.

1.07. Unlike formal air power curricula, the emphasis with the more informal elements of the Program was not on the educational process nor on the inputs to the Program, rather on the overall effects of the Program. Scriven's Model was used in this situation as it focuses on determining the worth or merit of a program by assessing both the Program itself and any effects of the Program, including any unintended outcomes.

DATA COLLECTION

1.08. Six different sources of information were used in the study. These were: instructors, graduates, supervisors, commanders, personnel from Navy, Army, the Defence Organisation and the wider community, and training records from each of the relevant training schools. Data were collected by survey questionnaires completed by instructors, graduates, supervisors, commanders, and personnel from, Navy, Army, the Defence organisation and the wider community. Objective data unable to be collected by questionnaire were gathered by researching training records from each of the relevant schools. The greatest problem with subjective data is that human estimation is very easily biased and may invalidate the measure. In an attempt to ensure that the data collected by the questionnaires were both reliable and valid, two sampling strategies were used: the calculation of a minimum sample size and the development of a sampling methodology.

1.09. The minimum sample size for the study was based on the desired precision of estimation for subjective judgements by instructors, graduates, supervisors, commanders, personnel from, Navy, Army, the Defence Organisation and the wider community. As most of the questions were based on a five-point Likert scale, this type of scale was used as the basis for calculating the required sample size. Through the use of a calculated formula, the required sample size was taken to be 31 respondents for each of the groups. Total populations were surveyed where insufficient numbers were available in some groups.

1.10. A number of sampling methodologies were used by the study. To ensure the graduate sample represented the population as accurately as possible, the method of proportionate stratified sampling was used. This stratified sampling method was based on mustering/specialisation and employment area. These strata were again divided into technical or non-technical for mustering and operational or non-operational for specialisation, while employment area was divided into FEG or support area. The number of graduates in each category for the sample was proportional to the number of graduates in each category for the population.

1.11. Minimum sample sizes were not always achieved for instructors and supervisors. In the case of instructors, there were not enough to meet the minimum sample size. Therefore, the entire instructor population was surveyed. The number of supervisors surveyed was constrained by the availability of personnel. As a result, some supervisor groups were below the minimum sample size. The sampling

technique for the, Navy, Army, Defence Organisation and wider community personnel was developed in conjunction with DAPSC, and represents key personnel involved in air power in these organisations.

1.12. Sixteen different questionnaires were administered for the study. These were 12 graduate questionnaires, a RAAF commander questionnaire, a generic instructor questionnaire and a generic questionnaire for the, Navy, Army Defence Organisation and wider community. Supervisor and unit level items were embedded in the graduate and RAAF commander questionnaires. The questionnaires were designed to assess the effectiveness of air power education within the formal education process, at unit level and the wider defence community. Three types of items were used on the questionnaires: questions requiring a response on a five-point Likert scale; questions which required a tick to be placed in an appropriate box; and open-ended questions.

1.13. **Graduate Questionnaire.** Each questionnaire was divided into four sections. Section One measured graduates' opinions of the effectiveness of the air power components of the course that they had completed. Section Two measured members' opinions of the effectiveness of the air power education at their unit. Section Three measured supervisors' opinions of OETS and AETS graduates' ability to meet air power CTOs, while Section Four provided an opportunity for respondents to clarify any of their responses.

1.14. **Generic Instructor Questionnaire.** Twelve separate instructor questionnaires were used. Each questionnaire was designed to assess instructors' opinions on the quality of air power lessons for the particular course, the achievement of CTOs by the students, and any improvements that should be implemented to the air power components of the course.

1.15. **RAAF Commander Questionnaire.** The RAAF Commander questionnaire was designed to assess commanders' opinions on a number of issues. First, how well the formal air power education program had met its stated objectives. Second, how well the unit level air power education program had met its stated objectives. Third, what impact the Air Power Education Program has had on the, Navy, Army the Defence Organisation and wider community. Finally, of the CSC graduates that have worked them, how well have they met the CSC air power CTOs.

1.16. **Navy, Army, Defence Organisation Questionnaire.** The Navy, Army, Defence organisation and wider community questionnaire was designed to assess the opinions of senior personnel from each of these areas about how effective the RAAF air power awareness program has been to the Navy, Army, Defence organisation and wider community.

DATA ANALYSIS

1.17. The data analysis for the study was organised around the question of whether or not the vision for the RAAF air power education system had been achieved. Two types of data were collected for the study: subjective data gathered by surveying graduates, instructors, operator/controllers, RAAF commanders and senior personnel from the Navy, Army, Defence Organisation and the wider community; and objective data gathered by researching training files. Subjective data involved obtaining frequency distributions for each question. Judgements were then based on the percentage of dissatisfaction for each item. Objective data included training objectives, instructional packages and air power educational resources at each unit.

1.18. The use of Stake's Evaluation and Scriven's Evaluation models for the study necessitated the determination of absolute standards. These absolute standards were used to indicate acceptable and meritorious levels for particular issues. However, rigorous adherence to an absolute standard may prejudice the results of particular evaluation issues. Therefore, a general standard was applied to assist in the determination of whether or not an issue was being addressed to an acceptable level. Because the majority of questions on each survey required a response to be made on a five-point Likert scale, this scale was used as a basis for determining the standard achieved. Acceptable implementation of an air power issue was judged to have occurred if no more than 25 per cent of respondents indicated they were DISSATISFIED or NOT SATISFIED AT ALL with the particular issue. The final decision on whether or not a particular issue was at an acceptable level will be based on the salience of that particular issue to the overall evaluation. Ultimately, the final judgements were subjective.

1.19. While the scales described provided some quantitative data, they did not provide an opportunity for individual impressions. In order to gain respondents' opinions, a number of open-ended questions were used. Based on the results of the individual items and written responses an accurate evaluation of the RAAF Air Power Education System was made.

FORMAL AIR POWER EDUCATION ANALYSIS

1.20. The effectiveness of the formal RAAF air power education program was measured by assessing graduates' performance both on the

job and on course. These outcomes were explained in terms of dependencies with antecedent and transactional processes.

Recruit Training Course

1.21. The air power component of the Recruit Training Course is a two period overview on air power which covers the definition of air power, Australia's policy for defence-in-depth, the general concepts of air power, the three campaigns of air power, the six roles of air power and a brief overview of the aircraft involved in RAAF operations. The study found that although the air power component has been developed, and is conducted, in accordance with RAAF training standards, the teaching methods and level of instructional material are inappropriate, and need reviewing. Consequently, supervisor assessments of graduates' understanding and knowledge of many of the issues raised by this study are poor.

1.22. Responses from the graduates surveyed indicate that not enough time is allocated to air power, that the current air power lessons are not interesting nor are they motivating, and that more emphasis should be placed on understanding how air power will affect graduates in their future roles. Suggestion was also made that a visit to the flightline may be an appropriate teaching method to include in the course.

1.23. Discussions with the CI indicate that a review of the air power components, in conjunction with APSC staff, is planned for 1995, and should rectify some of the problems highlighted by this study.

Corporal Promotion Course

1.24. The study found that the CPLPROMCSE air power component is effective and meets its stated aim. The course has a well defined air power training strategy and CTOs have been developed in accordance with RAAF training standards. In terms of the educational process, instructional strategies are appropriate, there is adequate interaction between DS-student and student-student, the lesson material was judged to be both interesting and motivating, and assessment methods were found to be appropriate. Further, the course encourages the development of an understanding of air power and its application, rather than simply learning the doctrine itself. With regard to course outcomes, the majority of graduate supervisors and graduates themselves were satisfied that the course motivates students to further

their understanding of air power. In addition, the majority of graduate supervisors believed that graduates achieve the course air power CTOs.

1.25. Notwithstanding these positive findings, there are three areas which were identified as requiring improvement. First, more effective mechanisms are required to ensure the provision of air power resources for the course. Second, pre-requisite training in air power is required by instructors, and finally, a greater emphasis should be placed on encouraging the concept that each member has the responsibility as an NCO to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.

Sergeant Promotion Course

1.26. The study found that the SGTPROMCSE air power component is effective and meets its stated aim. As was the case with the CPLPROMCSE, the SGTPROMCSE has been developed in accordance with RAAF training standards, and the educational strategies used are appropriate. Further, graduates and their supervisors believed that all course outcomes had been achieved.

1.27. In terms of improvements to the course, discussions with the OIC SGTPROMCSE, instructors, graduates and supervisors indicated that three areas need attention. First, as with the CPLPROMCSE, more effective mechanisms are required to ensure the provision of air power resources for the course. Second, graduates believed that more time should be provided for preparation for student presentations, and finally, a greater emphasis should be placed on encouraging the concept that each member has the responsibility as an SNCO to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.

Warrant Officer Promotion Course

1.28. Results recorded for the WOFFPROMCSE were similar to those found for the CPLPROMCSE and SGTPROMCSE. Of those WOFFs surveyed, the majority considered the air power component of the course to be interesting and motivating. In addition, they believed that the course met its stated aim, and that they achieved the course air power CTOs. This was supported by the WOFF supervisors who believed that on the whole graduates understand the factors which influence the effectiveness of air power, understand the Australian approach to war, appreciate the need for air power doctrine in the application of RAAF

operations, understand how their actions and functions relate to the application of air power, understand the maxims, imperatives and hierarchy of air power capabilities, and are motivated and interested enough to further their understanding of air power and its relevance to their activities.

1.29. In terms of improvements to the course, the only area which may require some attention is the provision of air power resources for the course.

Junior Officer Initial Course

1.30. The study found that the JOIC air power component is effective and meets its stated aim. Of those junior officers surveyed the majority believed that the air power instructional strategies were appropriate, that there was adequate interaction between instructor-student and student-student, that lesson material was both interesting and motivating, and that methods of assessment were effective. Further, graduates found that the practical war-game encouraged the development of an understanding of air power and its application.

1.31. JOIC graduate supervisors believed that, in the main, graduates are able to relate RAAF air power doctrine to the operations of each of the Force Element Groups, that they appreciate the need for air power doctrine in the application of RAAF operations, that they understand how their actions and functions relate to the application of air power, that they have an understanding of the maxims, imperatives and hierarchy of air power capabilities, that they have an understanding of RAAF air operations, and are motivated and interested enough to further their understanding of air power and its relevance to their activities.

1.32. In terms of improvements to the air power component of the course, only three suggestions were made. First, there should be a more effective system for the provision of air power resources for the course. Second, an instructor's air power package should be developed to ensure standardisation, and finally, more emphasis should be placed on encouraging the concept that each member has the responsibility as a junior officer to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.

Single Service Training - ADFA

1.33. ADFA graduates complete two separate elements of air power. The first element is an air power phase equivalent to the air power component of the JOIC, and is delivered during single service training at the beginning of the ADFA course. The evaluation of this phase found similar results to those outlined at paragraphs 1.31. and 1.32.. The second element is a three day advanced air power program conducted by the APSC during the third year of ADFA studies.

1.34. Although the ADFA air power phases have been well researched and developed, the course has a number of shortcomings. The main shortcomings centre around the lack of an integrated approach to air power education throughout the course and the instructional strategies used on the single service training phase. The latter problem has been addressed by RAAF College, and initial indications suggest that it has been resolved. The issue of the lack of an integrated approach to air power is more complex and will require consultation among APSC, ADFA and RAAF College staff.

Basic Staff Course

1.35. BSC graduates considered that the air power phase on the course is highly effective and meets its stated aim. Graduates also believed that the instructional strategies used were appropriate, that there was sufficient interaction between instructor-student and student-student, that lesson material was interesting and motivating, and assessment methods were appropriate. The majority of graduate supervisors considered that as a result of the course, graduates were able to assess RAAF air power doctrine in relation to its application of RAAF air operations, understand how their actions and functions relate to the application of air power, and to analyse the types of RAAF air operations and the techniques for sustaining these activities. Further, supervisors also believed that graduates were motivated and interested enough to further their understanding of air power and its relevance to their activities.

1.36. Only one issue was reported which requires further investigation. Comments from graduates and supervisors suggested that more emphasis is required on encouraging the concept that each member has the responsibility, as an officer, to ensure their staff understand how their activities and the activities of others contribute to the application of air power by the RAAF.

Command and Staff Course

1.37. The study found that the CSC air power stream is well developed, well implemented and, as a result, highly effective. Both graduates and their supervisors believed that the course met its aim. Further, both groups believed that at the end of the course: graduates were able to analyse the influence of the various theories of air power on Australia's air power doctrine; assess the implications of Australia's economic, industrial and technological resources for the development of air power in Australia's nearer region; analyse the factors which limit or enhance the effectiveness of air power in Australia; evaluate the employment of air power in Australia's nearer region; and evaluate the current operation of the ADF, and in particular, the RAAF.

Pilot Course

1.38. The air power components of the Pilot Course have been designed and developed in accordance with RAAF training procedures. In addition, 2FTS is implementing the air power elements of the courses effectively. The majority of Pilot Course graduate supervisors surveyed indicated that they are satisfied that graduates understand the relationship between air power doctrine and its application by the RAAF; the application of air power campaigns to Australia's defence requirements; the application of air power maxims to Australia's defence requirements, the roles, capabilities and weapons systems of each of the operational aircraft type; and the current and potential employment of RAAF assets.

1.39. By contrast, the study found significant dissatisfaction among graduates. Thirty per cent of graduates were not satisfied that they could effectively relate air power doctrine to its application by the RAAF; 25 per cent were dissatisfied with their level of understanding of the application of air power campaigns to Australia's defence requirements; and 30 per cent did not understand the application of air power maxims to Australia's defence requirements. Written comments indicated that graduates believed that more emphasis should have been placed on making the air power component of each course relevant to the students future role in the RAAF. A significant number of responses from graduates also indicated that there is too much overlap between JOIC and the Pilot course.

1.40. Discussions with the senior instructor indicated that a number of improvements are required to ensure the effectiveness of the air

power component. First, a thorough examination of the extent of overlap between JOIC and the Pilot Course. Second, the establishment of links with the APSC, SAN, 3CRU and RAAF Staff College to ensure provision of adequate air power education/reference resources for the course. Third, a needs analysis is required to ensure pilot needs are met and that there is continuity between the Pilot Course and the JOIC, and finally, a methods-media analysis is required to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package.

Airmen Aircrew, Air Traffic Control and Navigator Courses

1.41. The air power components of the Airmen Aircrew, Air Traffic and Navigator courses have been designed and developed in accordance with RAAF training procedures. In addition, SAN is implementing the air power elements of the courses effectively. However, there are a number of the training outcomes which are not being achieved. These all relate to the application of air power doctrine to the students' future roles in the RAAF. A significant number of responses from graduates indicated that they were dissatisfied with the overlap between JOIC, the Sergeant Promotion course and the Airmen Aircrew, Air Traffic and Navigator courses.

1.42. In terms of improvements to the air power components of the courses, the same suggestions were made to those proposed for the Pilot Course outlined at paragraph 1.40..

Air Defence Basic Course

1.43. The objectives of the 1991 Working Party Report on Air Power Education have not been achieved for the ADBC. Although the Report recommended the inclusion of a substantial air power element into the Course, this has not been done. The only air power component is a study package which comprises fighter operations and NADACS. Consequently, supervisor assessments of graduates' understanding and knowledge of many of the issues raised by this study were poor. In contrast, the air operations and NADACS study package has been developed in accordance with DI(AF) AAP 20002.002 procedures and has been effectively implemented.

1.44. Discussions with the CI indicated that he is aware of these deficiencies and intends to undertake a full review of the air power phase of the Course. Specifically, the CI intends to conduct a thorough

examination of air power with a view to developing a more extensive and effective air power study package that places an emphasis on understanding and applying air power doctrine rather than simply learning doctrine, and further encourages the concept that a comprehension of air power doctrine is a personal responsibility. A number of other measures to ensure the effectiveness of the air power phase include: establishing links with the APSC, 2FTS, SAN and RAAF Staff College to ensure provision of adequate air power resources and reference material for the course; assessing the pre-requisite knowledge and experience needed to instruct the air power phase; and conducting a needs analysis to ensure Air Defence Controller needs are met and that there is continuity between the ADBC and the JOIC.

ANALYSIS OF UNIT LEVEL AIR POWER EDUCATION

1.45. The second element of the RAAF Air Power Education System is the informal input at unit level. Responsibility for ongoing air power training at unit level currently lies with commanders, whilst the APSC provides support and direction. The objectives of the RAAF Air Power Education Program at unit level are to provide informal and non-intrusive input that complements the formal education program. This should promote a broad understanding of air power and the application of air power doctrine, and provide RAAF members with an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF.

1.46. To assess if the program's objectives have been achieved, over 330 personnel across seven RAAF bases and Air Force Office were interviewed and surveyed on various issues relating to air power. These data show the objectives of the RAAF air power education program at unit level have not been achieved. In particular, of the 330 personnel surveyed: 70 per cent of personnel were dissatisfied with the what is currently being done at unit level to promote a broad understanding of air power and the application of air power doctrine; 77 per cent of personnel were dissatisfied with what is currently being done at unit level to explain how their activities and the activities of others contribute to the use of air power by the RAAF and; 44 per cent of personnel did not fully understand how their actions and the functions of their unit relate to the application of air power.

1.47. In addition, RAAF commanders were surveyed to elicit their opinions on the APSC's role in the Unit Level Air Power Education Program. Of those commanders surveyed, 60 per cent believed that the

APSC has not provided sufficient support and direction to unit commanders on how to promote a greater awareness of air power in their units; 35 per cent believed that the APSC's role in promoting a greater awareness and understanding of air power has not been sufficiently publicised at unit level; and 35 per cent believed that the APSC has not provided sufficient opportunity for briefings and presentations.

1.48. Consistent evidence was found to support the proposition that the current strategy for air power education at unit level has failed, and unit commanders, in conjunction with the APSC, must develop and implement a more effective education strategy that is based on a more formal structure. Evidence from this study suggests that the most effective strategy for unit level air power education is one that facilitates the development of both the long and short term air power education needs of unit personnel.

1.49. The longer term strategy seeks to educate personnel, through the AETS and OETS, that it is the responsibility of any officer or airmen to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF. The emphasis here must be that effective employee communication is best achieved by the immediate supervisor discussing local workplace issues. A second element of the longer term strategy requires the APSC to facilitate greater interaction between operational units and the support elements in terms of the operational units providing feedback on the effectiveness of the activities in support of day-to-day operations, exercises and deployments.

1.50. A short term strategy is also necessary to motivate and raise the interest levels of personnel at unit level with regards to air power. This should relate the contemporary application of air power to unit level functions and activities, facilitate discussion and debate of contemporary air power issues, and provide unit level commanders with the support and direction on how to promote a greater awareness of air power in their units. If the proposition that the most effective way to communicate with employees is by the immediate supervisor discussing workplace issues is valid, then the APSC will need to focus its energy on providing supervisors with the skills, knowledge and resources to explain to their staff how their activities and the activities of others contribute to the use of air power by the RAAF. One approach may be for the APSC to conduct air power workshops and discussion sessions at each RAAF base and provide the initial impetus from which unit commanders may develop unit air power education programs.

**ANALYSIS OF THE DEFENCE ORGANISATION, WIDER
COMMUNITY AND REGIONAL NATIONS AIR POWER
EDUCATION PROGRAM**

1.51. Data collected by this study show that the development and implementation of the air power education program for the Defence Organisation, wider community and regional nations by the APSC has been effective. In analysing the program the following issues were examined:

- a. the understanding of air power doctrine and its application,
- b. the effectiveness of the APSC's role in the promotion of air power doctrine, and
- c. the effectiveness of the assistance for regional nations.

1.52. The study found that as a result of the Program, senior Navy and Army officers better understand that the RAAF exists to provide the air power that Australia needs for its security, the place of air power and the roles which the RAAF must play in the securing of Australia. Additionally, the Navy and Army Staff courses are now graduating officers who have a better knowledge and understanding of air power, and its importance to the defence of Australia. Further, the majority of Navy and Army officers surveyed and interviewed believe that on the whole RAAF staff officers are better able to explain, using basic air power concepts, the Air Force's position on any given issue. Fifty per cent of Army officers surveyed, did not agree that, with the development of air power doctrine, there is now less tendency for Army doctrine to be adopted directly as joint doctrine. This indicates that there is still considerable effort required to produce effective joint doctrine for the ADF.

1.53. Results from this study show that the APSC has enjoyed significant success in the Defence Organisation, wider community and regional nations Air Power Education Program. However, the study did show that more could be done to ensure that:

- a. the RAAF exists to provide the air power that Australia needs for its security, and

- b. that senior Defence and Army officers have a better understanding of the ADF resource requirements needed for the application of air power.

1.54. Results from this study indicate that more needs to be done in educating the wider civilian community on the place of air power and the roles which the RAAF plays in the security of Australia. The APSC's role in improving this element of the Program should be one of facilitating thought and discussion on ways in which air power can be more effectively promoted.

1.55. Finally, the study found that the APSC's role in the promotion of air power doctrine and the assistance it has provided regional nations in developing organic air power doctrine has been excellent.

OVERALL ASSESSMENT OF THE RAAF AIR POWER EDUCATION SYSTEM

1.56. To achieve its aim the study sought answers to the following questions:

- a. To what extent have the goals of the formal element of the RAAF Air Power Education System been achieved?
- b. To what extent have the goals of the informal element of the RAAF Air Power Education System been achieved?
- c. To what extent have the goals of the input to the Defence organisation, the wider community and regional nations element of the RAAF Air Power Education System been achieved?
- d. How appropriate is the vision for the RAAF Air Power Education System to the future needs of the RAAF?
- e. What is the vision for the future of the RAAF Air Power Education System?
- f. Based on this vision for RAAF air power education, will the current system meet the future needs of the ADF?
- g. What action needs to be taken, if any, to improve the RAAF Air Power Education System to ensure that the future vision

for the RAAF air power education system into the twenty-first century is achieved?

Formal Air Power Education Program

1.57. The goals of the formal Air Power Education Program are to graduate, at various levels throughout their career, officers and airmen who:

- a. have a sound knowledge and understanding of air power, and its importance to the defence of Australia;
- b. have an appreciation of the many different environments (Government, Department and Service) influencing the development and employment of air power in the Australian region of primary strategic interest;
- c. have an understanding of the implications of air power across the levels of war;
- d. have an appreciation for the doctrine processes involved;
- e. have an understanding of the operation of the RAAF;
- f. have an appreciation for, and understand, the role theory plays in air combat operations; and
- g. possess the skills which will enable them to apply effectively their acquired knowledge in their new appointments.

Evidence obtained by this study suggests that the structure of the current formal Air Power Education Program is effective and will achieve its goals provided the improvements outlined by this paper are implemented (refer Section Three, Chapter Two - Recommendations). Most important among these improvements is the development of an Air Power Education Philosophy which defines the aim of the RAAF Air Power Education System at each step of the airmen and officer professional military education continuum.

Informal Input at Unit Level

1.58. The goals of the air power education program at unit level are to provide:

- a. informal and non-intrusive input that complements the formal education program to promote a broad understanding of air power and the application of air power doctrine, and
- b. RAAF members with an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF.

These goals have not been achieved, and evidence from this study indicates that they will not be achieved if the Program's structure remains informal and non-intrusive. As discussed at paragraph 1.50, what is required is greater involvement by the APSC to provide unit commanders with the skills, knowledge and resources to educate their personnel.

Input to the Defence Organisation, Wider Community and Regional Nations Air Power Education Program

1.59. The goals of this element of the Air Power Education Program are to:

- a. raise the awareness of the community on the role air power plays in the defence of Australia,
- b. promote an understanding in the community of the ADF resource requirements needed for the application of air power,
- c. project the importance of the ADF to national and regional security with emphasis on the air power contribution,
- d. advise regional nations in the methods they can use to promote the role of air power in the defence of their nations,
- e. advise regional nations in the methods they can use to promote an understanding of the resource requirements needed for the application of air power, and

- f. promote an understanding by regional nations on maritime operations.

1.60. Results from this study indicate that the APSC has achieved these objectives, with possibly one exception; the goals for the wider civilian community.

Vision for the RAAF Air Power Education System

1.60. The vision for the RAAF Air Power Education System, as determined by AM R. Funnel in 1989, was to establish a culture whereby the place of air power and the roles which the RAAF must play in the securing of Australia are properly understood within both the RAAF and the wider community. Discussions with A/CAS AVM D. Rogers on 29 August 1995, indicate that although the RAAF is, and will continue to be, challenged by a degree of uncertainty, both from internal and external influences, this vision is still appropriate and will remain the vision of the RAAF Air Power Education System for the foreseeable future.

1.61. The question therefore remains, will the current structure of the RAAF Air Power Education System meet the future needs of the RAAF? Evidence from this study indicates that a number of changes are necessary. In particular, the Unit Level Air Power Education Program should be revised to ensure a proper understanding of the place of air power and the roles of the RAAF in the security of Australia. These changes are discussed in Section Three, Chapter Two - Recommendations.

SECTION THREE

CHAPTER TWO

RECOMMENDATIONS

2.01. This study evaluated the RAAF Air Power Education System with the aim of determining improvements for the future. Based on the results found by this study, the following recommendations are made:

Recommendation One

The APSC, in conjunction with relevant training schools, develop an air power education philosophy which defines the aim of the RAAF air power education system at each step of the airman and officer professional military education continuum.

Recommendation Two

The APSC, in conjunction with Headquarters Training Command (HQTC) and Air Force Office, develop and publish a RAAF air power education strategic plan that defines the structure of the RAAF air power education system, its vision, mission, key result areas, critical success factors and objectives.

Recommendation Three

A junior officer position (Any Officer desirably with a training background) be established at the APSC to co-ordinate an air power education network to facilitate a greater interaction between the APSC, training schools and unit commanders on the effective promotion of air power and its application.

Recommendation Four

An additional annual CAS Fellowship should be offered to a suitably qualified and experienced SNCO/WOFF.

Recommendation Five

The APSC, in conjunction with HQTC and the relevant training school, incorporate the following improvements to the air power education components of the AETS and OETS courses, based on further investigation where necessary:

- a. A greater emphasis should be placed in all AETS and OETS courses on encouraging the concept that each member has the responsibility to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.
- b. The CTO 'Apply air power to the defence needs of Australia' which the 1991 WP applied to all AETS, OETS and operator courses is too broad and should be replaced with more specific objectives based on recommendation Two.

Recommendation Six

No. 1RTU, in conjunction with the APSC, carry out the following to improve the effectiveness of the RTC air power component:

- a. conduct a needs analysis, in accordance with the Recommendation Two, to ensure RTC graduates' needs are met and that there is continuity between the RTC and other AETS courses;
- b. conduct a thorough examination of air power education with a view to developing a more extensive, effective and motivational air power study package;
- c. develop an effective strategy for air power education on the RTC;
- d. establish links between the APSC and RAAF SMTT to ensure provision of adequate air power education resources for the course;
- e. conduct an assessment of the training that should be provided to RTC instructors in air power education;
- f. conduct a methods/media analysis to provide the necessary direction to ensure the most effective methods

are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated; and

- g. investigate the possibility of including in the RTC syllabus a visit to the flightline by students as a motivational teaching method.

Recommendation Seven

RAAFSMTT, in conjunction with the APSC, carry out the following to improve the effectiveness of the CPLPROMCSE, SGTPROMCSE and WOFFPROMCSE air power education components:

- a. conduct a needs analysis, in accordance Recommendation Two, to ensure CPL, SGT and WOFF needs are met and that there is continuity between all AETS courses,
- b. determine the pre-requisite training required by AETS air power instructors,
- c. investigate scheduling more preparation time for student presentation for the SGTPROMCSE, and
- d. implement a system for the effective provision of air power resources for the course.

Recommendation Eight

RAAFCOL and ADFA, in conjunction with the APSC, carry out the following to improve the effectiveness of the JOIC and ADFA single service training air power components:

- a. conduct a needs analysis, in accordance recommendation Two, to ensure junior officer needs are met and that there is continuity between all OETS courses,
- b. develop an instructor's air power package to ensure instructor standardisation, and
- c. develop an integrated approach to air power education to provide continuity and motivation throughout the entire ADFA course.

Recommendation Nine

No. 2FTS and SAN, in conjunction with the APSC, carry out the following to improve the effectiveness of the, Airmen Aircrew, Air Traffic, Navigator and Pilot courses air power components:

- a. conduct a needs analysis, in accordance with the Recommendation Two, to ensure junior pilots', airmen aircrew, air traffic controllers' and navigators' needs are met and that there is continuity between all courses and the relevant AETS or OETS course;
- b. establish links with the APSC to ensure provision of adequate air power resources for the courses; and
- c. conduct a methods/media analysis to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated into this phase.

Recommendation Ten

No. 3CRU, in conjunction with the APSC, carry out the following to improve the effectiveness of the ADBC air power component:

- a. conduct a needs analysis, in accordance with Recommendation Two, to ensure air defence officers' needs are met and that there is continuity between the ADBC and the JOIC;
- b. conduct a thorough examination of air power with a view to developing a more extensive and effective air power study package that places an emphasis on understanding and applying air power doctrine, rather than simply learning doctrine itself, and encourages the concept that a comprehension of air power doctrine is a personal responsibility;
- c. establish links with the APSC, 2FTS, SAN and RAAF Staff College to ensure provision of adequate air power resources and reference material for the course;
- d. conduct an assessment of the pre-requisite knowledge and experience ADBC air power instructors require;

- e. conduct an assessment of training that should be provided to ADBC instructors in air power; and
- f. conduct a methods/media analysis to provide the necessary direction to ensure the most effective methods are chosen for the delivery of the air power study package, and that an appropriate level of interaction is incorporated into this phase.

Recommendation Eleven

The APSC, in conjunction with RAAFSC, develop an air power presentation for inclusion in the Commanding Officers' Course. The presentation should emphasise the responsibility that a Commanding Officer has in ensuring that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF.

Recommendation Twelve

The APSC conduct an annual air power education workshop involving all air power trainers to implement the improvements to the air power elements of the AETS and OETS highlighted in Recommendations Five to Eleven inclusive.

Recommendation Thirteen

To encourage personnel at the unit level to understand how their functions and activities relate to the application of air power, the APSC:

- a. develop and implement a long term strategy, using the AETS and OETS as its primary vehicles, aimed at encouraging the concept that each member has the responsibility as an officer or NCO/SNCO/WOFF to ensure that their staff understand how their activities and the activities of others contribute to the use of air power by the RAAF;
- b. facilitate debate, at the highest levels, to encourage operational units to provide feedback to their support elements on the effectiveness of the support elements

activities in support of day-to-day operations, exercises and deployments;

- c. develop and implement a shorter term strategy to:
- (1) motivate and raise the interest levels of personnel at unit level with regards to air power,
 - (2) relate the contemporary application of air power to unit level functions and activities,
 - (3) facilitate discussion and debate of contemporary air power issues, and
 - (4) provide unit level commanders with the support and direction on how to promote a greater awareness of air power in their units.

Recommendation Fourteen

The APSC investigate the feasibility of conducting an air power workshop for Navy and Army Staff College DS at the beginning of each staff course.

Recommendation Fifteen

The APSC investigate the inclusion of an air power phase in the initial Navy (Cerebrus) and Army (Duntroon) Officers' courses.

Recommendation Sixteen

The APSC, in conjunction with DPC-AF, develop and implement an air power education phase for RAAF civilians.

Recommendation Seventeen

The APSC investigate the feasibility of conducting air power workshops for senior defence civilians.

Recommendation Eighteen

The APSC facilitate thought and discussion on the ways in which air power and its application in the defence of Australia can be more effectively promoted to the wider civilian community.

Recommendation Nineteen

The APSC investigate introducing executive summaries or abstracts to the APSC Working Papers to enhance their appeal to the general public.

Recommendation Twenty

The APSC investigate distributing the APSC Working Papers and the APSC Newsletter to the Press Gallery Defence Journalists.

Recommendation Twenty-One

The APSC investigate conducting a regular Army Doctrine Centre, Maritime Studies Program and APSC forum to discuss joint issues.

Recommendation Twenty-Two

The APSC investigate developing a network of interested officials and ADF personnel, at Director level and above, to meet once a quarter to discuss professional concerns.

Recommendation Twenty-Three

The APSC investigate conducting presentations to Senior Management Education courses such as the Defence Industry Study Course, or those held at Mt Eliza.



ANNEX A

COURSES REVIEWED FOR THE INCLUSION OF AIR POWER

The following courses were examined with the view to include an air power stream:

- a.. Recruit Training Course,
- b. Corporal Promotion Course,
- c. Sergeant Promotion Course,
- d. Warrant Officer Promotion Course,
- e. Junior Officer Initial Course,
- f. Basic Staff Course,
- g. RAAF Command and Staff Course,
- i. Air Defence, Airmen Aircrew, Air Traffic Control, Navigator and Pilot courses, and
- j. External Studies and Flight Sergeant Promotion courses.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
JUNIOR OFFICER INITIAL COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 3

Enabling Objectives

1. Discuss the nature of war and the Australian approach to war.
2. Outline the history of air power and its development in Australia.
3. Identify the maxims, imperatives and hierarchy of air power capabilities.
4. Relate the doctrine of air power to its application in Australia.
5. Display an appreciation of the need for air power in the defence of Australia.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
BASIC STAFF COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 2

Enabling Objectives

1. Discuss the history and theory of air power.
2. Analyse RAAF air power doctrine in relation to Australia's defence requirements.
3. Identify the factors which influence the effectiveness of air power.

4. Analyse the employment of air power in Australia's region of primary strategic interest.
5. Relate the application of air power to the nature of military power.
6. Display an appreciation of the need for air power education.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
EXTERNAL STUDIES INITIAL COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 2

Enabling Objectives

1. Examine the factors which influence the effectiveness of air power in the defence of Australia.
2. Assess the employment of air power in Australia's region of primary strategic interest.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
RAAF COMMAND AND STAFF COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 2

Enabling Objectives

1. Assess the various theories of air power and analyse their influence on Australia's air power doctrine.
2. Evaluate the relevance of RAAF air power doctrine to Australia's strategic environment and defence requirements.

3. Analyse Australia's economic, industrial and technological resources and assess the implications for the development of air power in Australia's region of primary strategic interest.
4. Analyse those factors which limit or enhance the effectiveness of air power in Australia.
5. Evaluate the employment of air power in Australia's region of primary strategic interest.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
RECRUIT TRAINING COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 3

Enabling Objectives

1. Discuss the nature of war and the Australian approach to war.
2. Outline the history of air power and its development in Australia.
3. Describe the hierarchy of air power capabilities in the RAAF.
4. Display an appreciation of the need for air power in the defence of Australia.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
CORPORAL PROMOTION COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 3

Enabling Objectives

1. Outline the maxims, imperatives and hierarchy of air power capabilities.
2. Relate the doctrine of air power to its application in Australia.
3. Display an appreciation of the need for air power in the defence of Australia.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
SERGEANT PROMOTION COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 3

Enabling Objectives

1. Outline the history and theory of air power.
2. Identify RAAF air power doctrine in relation to Australia's defence requirements.
3. Outline the factors that influence the effectiveness of air power.
4. Outline the Australian approach to war.
5. Display an appreciation of the need for air power.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
WARRANT OFFICER PROMOTION COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 3

Enabling Objectives

1. Examine RAAF air power doctrine in relation to Australia's defence requirements.
2. Identify the factors that influence the effectiveness of air power.
3. Analyse the employment of air power in Australia's region of primary strategic interest.
4. Display an appreciation of the need for air power.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
AIRMEN AIRCREW COURSE**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 3

Enabling Objectives

1. Outline the history and theory of air power.
2. Identify RAAF air power doctrine in relation to Australia's defence requirements.
3. Outline the factors that influence the effectiveness of air power.
4. Outline the nature of war and the Australian approach to war.
5. Display an appreciation of the need for air power.

**AIR POWER COURSE TERMINAL OBJECTIVES
AND ENABLING OBJECTIVES
AIR DEFENCE BASIC CONTROLLER, AIR TRAFFIC
CONTROLLER, NAVIGATOR, AND PILOT COURSES.**

Air Power CTO

Apply air power doctrine to the defence needs of Australia. Level 2

Enabling Objectives

1. Explain RAAF air power doctrine in relation to Australia's defence requirements.
2. Describe the employment of air power in relation to:
 - a. past campaigns,
 - b. the capabilities,
 - c. the capabilities of regional powers,
 - d. the capabilities of the RAAF, and
 - e. future RAAF operational requirements.
3. Describe the role of RAAF operational aircraft.



AETS METHOD/MEDIA ANALYSIS

FACTORS	RECRUIT	CPL	SGT	WOFF
1. TOTAL STUDENT THROUGHPUT (PA)	1500	6-800	400	200
2. NUMBER OF LOCATIONS	ONE	THREE	ONE	ONE
3. DYNAMICS OF CONTENT	STABLE 2 +	STABLE 2+	STABLE 2+	STABLE 2+
4. HOURS OF INSTRUCTION	<20	8	12	4
5. COURSE FREQUENCY (PA)	48	36	14	12
6. PREFERRED LEARNING	GROUP/INSTRUCTOR	EXPERIENTIAL LEARN	EXPERIENTIAL LEARN	GROUP/ADULT EXPERIMENTAL
7. SUBJECT COMPLEXITY	ENTRY LOW	LOW	LOW-MEDIUM	MEDIUM - HIGH
8. INTERACTION LEVEL	STUDENT TO INSTRUCTOR	STUDENT TO STUDENT STUDENT TO INSTRUCTOR	STUDENT TO STUDENT STUDENT TO INSTRUCTOR	ALL
9. OPERATIVE WORD	PERFORMANCE LEVEL	PERFORMANCE LEVEL	PERFORMANCE LEVEL	PERFORMANCE LEVEL
EO 1	COGNITIVE LEVEL 1	COGNITIVE LEVEL 1	COGNITIVE LEVEL 1	COGNITIVE LEVEL 3
EO 2	COGNITIVE LEVEL 1	COGNITIVE LEVEL 2	COGNITIVE LEVEL 1	COGNITIVE LEVEL 1
EO 3	COGNITIVE LEVEL 1	AFFECTIVE LEVEL 1	COGNITIVE LEVEL1	COGNITIVE LEVEL 3
EO 4	COGNITIVE LEVEL 1		COGNITIVE LEVEL1	AFFECTIVE LEVEL 1
EO 5	AFFECTIVE LEVEL 1		AFFECTIVE LEVEL 1	AFFECTIVE LEVEL 4
10. DELIVERY REQUIREMENTS	VIEW ACTIVITY MOTION - COLOUR HEARING/SEEING EXPERT	REALISM HEAR/SEE EXPERT VIEW ACTIVITY & FEEDBACK	SAME AS CPL	CASE STUDIES W/O ROLE PLAY VIEW ACTIVITIES & FEEDBACK HEARING/SEEING EXPERT
METHOD	CLASSROOM - (1) SELF STUDY - (2) CBIV - (3)	CLASSROOM - (1) SELF STUDY - (2) CBIV - (3)	CLASSROOM - (1) SELF STUDY - (2) CBIV - (3)	TUTORIAL - (1) SELF STUDY - (2) ATC - (3) CBIV - (4)

METHOD/MEDIA ANALYSIS

ANNEX B

OETS METHOD AND MEDIA ANALYSIS

FACTORS	JNROFFINIT	BSC	ESC	RAAFCS
1. TOTAL STUDENT THROUGHPUT (PA)	288	144		40
2. NUMBER OF LOCATIONS	ONE	ONE		ONE
3. DYNAMICS OF CONTENT (STATE + STABLE PERIOD)	STABLE 2+	STABLE 2+		STABLE 2+
4. HOURS OF INSTRUCTION	28	25		472
5. COURSE FREQUENCY (PA)	12	6		ONE
6. PREFERRED LEARNING	GROUP (1/24)	GROUP (1/6), ADULT EXPERIMENTAL LEARN		LEARN ON OWN WITHOUT DIRECTION LEARN WITH GROUP (1/8) EXPERIMENTAL
7. SUBJECT COMPLEXITY	ENTRY LEVEL	MEDIUM/HIGH		HIGH
8. INTERACTION LEVEL	MATERIALS INSTRUCTOR	STUDENT/STUDENT SIMULATION INTERACT WITH EXPERT/CONTENT		AS FOR BSC
9. OPERATIVE WORD	PERFORMANCE LEVEL	PERFORMANCE LEVEL		PERFORMANCE LEVEL
EO 1	COGNITIVE LEVEL 1	COGNITIVE LEVEL 1		COGNITIVE LEVEL 4
EO 2	COGNITIVE LEVEL 1	COGNITIVE LEVEL 3		COGNITIVE LEVEL 4
EO 3	COGNITIVE LEVEL 1	COGNITIVE LEVEL 1		COGNITIVE LEVEL 3
EO 4	COGNITIVE LEVEL 2	COGNITIVE LEVEL 3		COGNITIVE LEVEL 3
EO 5	AFFECTIVE LEVEL	COGNITIVE LEVEL 2		COGNITIVE LEVEL 4
EO 6		AFFECTIVE LEVEL		
10. DELIVERY REQUIREMENTS	VIEW ACTIVITY MOTION COLOUR	CASE STUDY WITHOUT ROLE PLAY HEAR/SEE EXPERT VIEW ACTIVITY & FEEDBACK		VIEW ACTIVITY HEAR/SEE EXPERT ROLE PLAY & FEEDBACK
METHOD	CLASSROOM - (1) SELF STUDY - (2) CBIV - (3)	TUTORIAL (CLASSROOM) - (1) SELF STUDY - (2) ATC - (3)	SELF STUDY - (1) {ONLY OPTION}	SYNDICATE (CLASSROOM) - (1) SELF STUDY - (2) ATC - (3)
MEDIA	VIDEO AAP1000 STUDY GUIDE	VIDEO & AAP1000 PAMPHLET STUDY GUIDE & WAR-GAMING	AAP1000 STUDY GUIDE	AAP1000 & STUDY GUIDE JOURNAL EXTRACTS WAR-GAMING VIDEO

METHOD AND MEDIA BASIC AIRCREW/CONTROLLER COURSES

FACTORS	PLT	NAV	ATC	AIRDEF
1. TOTAL STUDENT THROUGHPUT (PA)	65	30	36	40
2. NUMBER OF LOCATIONS	ONE	ONE	ONE	ONE
3. DYNAMICS OF CONTENT (STATE + STABLE PERIOD)	STABLE 2+	STABLE 2+	STABLE 2+	STABLE 2+
4. HOURS OF INSTRUCTION	25	25	-	15
5. COURSE FREQUENCY (PA)	3	3	3	3
6. PREFERRED LEARNING	GROUP (1/34)	GROUP (1/6)	GROUP (1/12)	GROUP (1/7)
7. SUBJECT COMPLEXITY	LOW/MEDIUM	LOW/MEDIUM	LOW/MEDIUM	LOW/MEDIUM
8. INTERACTION LEVEL	MATERIALS INSTRUCTOR	MATERIALS INSTRUCTOR	MATERIALS INSTRUCTOR	MATERIALS INSTRUCTOR
9. OPERATIVE WORD CTO	PERFORMANCE LEVEL	PERFORMANCE LEVEL	PERFORMANCE LEVEL	PERFORMANCE LEVEL
EO 1	COGNITIVE LEVEL C	COGNITIVE LEVEL C	COGNITIVE LEVEL C	COGNITIVE LEVEL C
EO 2	COGNITIVE LEVEL C	COGNITIVE LEVEL C	COGNITIVE LEVEL C	COGNITIVE LEVEL C
EO 3	COGNITIVE LEVEL C	COGNITIVE LEVEL C	COGNITIVE LEVEL C	COGNITIVE LEVEL C
10. DELIVERY REQUIREMENTS	VIEW ACTIVITY/FEEDBACK HEAR/SEE EXPERT	VIEW ACTIVITY/FEEDBACK HEAR/SEE EXPERT	VIEW ACTIVITY/FEEDBACK HEAR/SEE EXPERT	VIEW ACTIVITY/FEEDBACK HEAR/SEE EXPERT
METHOD	CLASSROOM	CLASSROOM	CLASSROOM	CLASSROOM
MEDIA	VIDEO AAP1000 PAMPHLET	VIDEO AAP1000 PAMPHLET	VIDEO AAP1000 PAMPHLET	VIDEO AAP1000 PAMPHLET



MAJOR EVALUATION QUESTIONS

1. To what extent has CAS's (AM Funnell) vision for the RAAF air power education system been achieved?
 - a. Is air power the central element of the RAAF's corporate intellect?
 - b. Do RAAF members understand how their roles relate to the application of air power?
 - c. Have the initiatives implemented by CAS raised the awareness of air power among RAAF members?
 - d. To what extent has the vision for the formal element of the RAAF air power education system been achieved?
 - e. To what extent has the vision for the informal element of the RAAF air power education system been achieved?
 - f. To what extent has the vision for the input to the Defence Organisation, the wider community and regional nations element of the RAAF air power education system been achieved?
2. What is the current CAS's (AM Fisher) vision for the future of the RAAF air power education system?
3. How appropriate has AM Funnell's vision been for the RAAF air power education system to date?
4. Based on AM Fisher's vision for RAAF air power education, will the current system meet the future needs of the ADF?
5. What action needs to be taken, if any, to improve the RAAF air power education system to ensure that AM Fisher's vision for the RAAF air power education system into the twenty-first century is achieved?
6. How does the RAAF air power education system compare with the air power education systems of other nations such as the RAF and USAF?

MAJOR QUESTION 1d BROKEN DOWN

To what extent has the vision for the formal element of the RAAF air power education system been achieved?

Inputs

1. Are the skills, knowledge and attitudes specified in the CTOs likely to achieve the aim of the program?
 - a. Does a philosophy for air power education exist? If not, what form should it take?
 - b. Is the philosophy appropriate to the future needs of the RAAF?
 - b. Do CTOs reflect the knowledge of air power doctrine that needs to be acquired by the philosophy?
 - b. Do CTOs form a continuum in the air power education process? (i.e. is there a logical progression from basic courses to advanced courses?)
 - c. Who (what authority) has the responsibility for ensuring there is a logical progression on the air power education process?
 - d. Have appropriate CTO proficiency levels been applied? (Are proficiency levels really required?)
 - e. Are CTOs observable and measurable?
 - f. Are CTOs sufficient in their scope to ensure the air power education philosophy is achieved?
2. What review process is in place to ensure the currency and appropriateness of CTOs?
 - a. What are the major elements of the review process?
 - b. Where is the review process documented?
 - c. Who is responsible for the review process?

- d. Who are the major stakeholders in the air power education system?
 - e. Are all stakeholders aware of the review process?
 - f. How many reviews of the graduation requirements have been conducted?
 - g. What action has been taken as a result of the reviews?
 - h. What role does the APSC have in the review process?
 - i. How could the review process be improved?
3. What is the training strategy for each course and is there a logical progression from basic to more advanced courses?
4. Do the training strategies support/reflect the air power education philosophy?
5. Are the knowledge, skills and attitudes specified in the syllabi objectives likely to achieve the CTOs?
- a. Are syllabus objectives cross referenced to CTOs?
 - b. Have syllabus objectives been developed through a task analysis process?
 - c. Have assessment codes been applied? Are these assessment codes appropriate to the aim of the course?
 - d. Are syllabus objectives sufficient in their scope?
 - e. How regularly are syllabus objectives reviewed and updated?
 - f. What time difference is there between review of GRs and review of the syllabus? Are they reviewed concurrently?
6. Do air power instructor guides meet RAAF training standards?
- a. Do instructor guides exist?
 - b. How comprehensive are instructor guides?

- c. Do instructor guides provide sufficient direction for instructors?
- d. Are instructor guides regularly reviewed and updated?
- 7. Do air power lesson plans meet RAAF training standards?
 - a. Do lesson plans exist?
 - b. How comprehensive are lesson plans?
 - c. Do lesson plans provide sufficient direction for instructors?
 - d. Are lesson plans regularly reviewed and updated?
- 8. Do air power instructional resources for each course meet RAAF training standards?
 - a. What air power education resource aids exist for each course?
 - b. Are air power education resources appropriate and sufficient for each course?
 - c. Are air power education resources regularly reviewed and updated?
 - d. What process is in place to identify new air power education resource material for each course?
- 9. Do students receive handouts?
 - a. Is the level of material in student handouts appropriate?
 - b. Are student handouts regularly reviewed and updated?
- 10. Are instructors experienced and qualified?
 - a. What experience and qualifications do instructors have in the teaching of air power?
 - b. What pre-requisite knowledge and experience do air power instructors require?

- c. Does a standard exist for air power instructors? Is a standard required?
 - d. What training is provided to instructors in air power or the chosen instructional strategy?
 - e. Is there an air power instructor standardisation/assessment process in place? Is one required?
 - f. Are all instructors 'Instructional Technique' qualified?
11. What reference material and assistance is available for air power training designers and instructors?
- a. Do units have dedicated air power reference sections?
 - b. Are procedures in place to obtain assistance with research in air power when required?
12. What course evaluation procedures are in place?
13. Is there any undue overlap of air power doctrine between courses?

Processes

14. What instructional strategies are used to teach air power on each course?
15. Are these methods effective? Do they achieve the aim of the program?
16. What level of interaction is there between instructor/student and student/student with regard to air power on each course? Is it enough/too much etc?
17. What is the opinion of graduates and instructors of air power lessons in terms of motivation, interest, level of material, relevance of material etc?
18. How is air power assessed on each course?
19. Are assessment procedures appropriate to CTOs and syllabus objectives?

20. In the opinion of graduates and instructors, is sufficient time allocated to air power in each course to achieve the aim of the course?
21. What emphasis is placed on understanding and applying air power doctrine rather than simply learning the doctrine itself? (i.e. have we got the correct level of material in each course?)
22. Do courses, especially operator and controller, relate air power doctrine to the job, the RAAF, the ADF and the wider Defence community?
23. How is the theme - 'that a comprehension of air power doctrine is a personal responsibility' - encouraged in each course?
24. How does each course emphasise the relevance of air power doctrine to the threat and use of force, to combat operations and their support, and to all levels of conflict?

Outcomes

25. Have the following air power education objectives (as endorsed by CASAC) been achieved?
 - a. Students have a sound knowledge and understanding of air power, and its importance to the defence of Australia.
 - b. Students have an appreciation of the many different environments (governmental, departmental and Service) influencing the development and employment of air power in the Australian region of primary strategic interest.
 - c. Students have an understanding of the implications of Air Power across the levels of war.
 - d. Students have an appreciation for the doctrine processes involved.
 - e. Students have an understanding of the operation of the RAAF.
 - f. Students have an appreciation for and understand the role theory plays in air power combat operations.
 - g. Students possess the skills which will enable them to apply effectively their acquired knowledge in their new appointments.

26. Are the following course CTOs being achieved:

- a. Recruit Training Course?
- b. CPL Promotion Course?
- c. SGT Promotion Course?
- d. WOFF Promotion Course?
- e. Junior Officer Initial Course?
- f. Basic Staff Course?
- g. Command and Staff Course?
- h. Various Operator and Controller courses?

MAJOR QUESTION 1e - BROKEN DOWN

To what extent has the vision for the informal element of the RAAF air power education system been achieved?

1. How effective is the facilitation by the APSC of thought and debate on air power doctrine and the role of air power in broader defence issues?
2. How effective is the distribution of air power publications?
3. To whom and how often does the APSC circulate air power information?
4. What level of support and direction is provided by the APSC to unit commanders on how to best promote a greater awareness of air power in their units?
5. To what extent are briefings and presentations given by the APSC?
6. How many conferences on historical and contemporary air power issues have been conducted?
7. To what extent do units educate their personnel in air power doctrine and its application to the role of the unit?
8. How many air power liaison officers have been appointed?
9. How many air power resource centres have been established?
10. Have programs for regular air power briefings by unit staff members been implemented?
11. To what extent have the following program objectives been achieved:
 - a. provide informal and non-intrusive input that complements the formal education program to promote a broad understanding of air power and the application of air power doctrine,

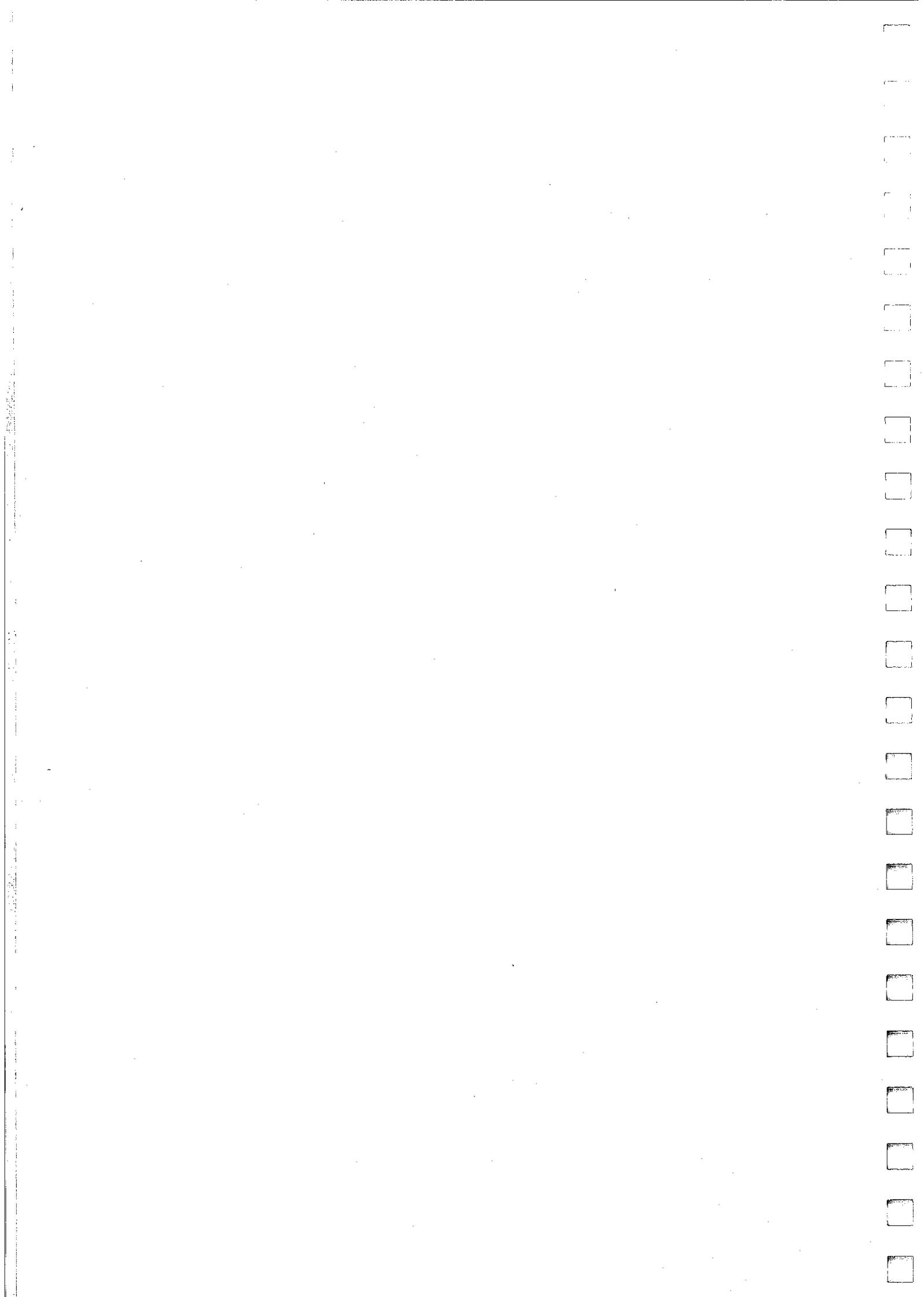
- b. provide RAAF members with an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF?

MAJOR QUESTION 1F - BROKEN DOWN

To what extent has the vision for the input to the Defence organisation, the wider community and regional nations element of the RAAF air power education system been achieved?

1. How many conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have been conducted?
2. How effective have these conferences been in achieving their aims?
3. Have relevant air power studies streams been included in Navy and Army staff course curricula?
4. How many RAAF fellowships for studies in air power and doctrine have been awarded? Have they been worth the effort?
5. How many articles/papers has the APSC published on air power?
6. Have these articles raised the awareness of air power with RAAF members?
7. To what extent has the use of the media and public relations to promote an awareness of airpower in the defence of Australia been used?
8. To what extent has the APSC developed closer ties at the regional level by assisting with promotion of air power awareness and the development of air power doctrine?
9. Have the following objectives of the program been achieved?
 - a. Raise the awareness of the community of the role that air power has in the defence of Australia.
 - b. Promote an understanding in the community of the ADF resource requirements needed for the application of air power.
 - c. Project the importance of the ADF to national and regional security with emphasis on air power contribution.

- d. Assist regional nations in the methods they can use to promote the role of air power in the defence of their nations.
- e. Assist regional nations in the methods they can use to promote an understanding of the resource requirements needed for the application of air power.
- f. Promote an understanding by regional nations on maritime operations.



SCRIVEN'S EVALUATION MODEL

1. Scriven's Evaluation Model can be classified as a judgement approach in which primary attention is given to extrinsic criteria. He elaborated on the function of evaluation by emphasising goals and roles of evaluation. He also stressed that the goals of evaluation are always the estimation of merit, worth, value of something; that is, a judgement is always involved. According to Scriven, the evaluator's main responsibility is to make judgements. Scriven defines evaluation as a methodological activity which consists of the gathering and combining of performance data with a weighted set of criteria scales to yield either comparative or numerical ratings, and in the justification of:

- a. the data-gathering instruments,
- b. the weightings, and
- c. the selection of goals.¹

2. Scriven also emphasised that the judgement of goals is a necessary part of evaluation, and that the evaluation of goals or objectives is a pre-requisite for program evaluation. Scriven made a distinction between formative evaluation and summative evaluation. *Formative evaluation* is evaluation which is used to improve the curriculum or program while it is still under development by providing continual feedback to the developer of deficiencies and success of the program. *Summative evaluation* is evaluation of an already completed program or curriculum, aimed at the potential consumer for making decisions about the program. This distinction of formative and summative evaluation seems to be a very influential one in contemporary educational evaluation.²

3. Scriven also distinguished between two approaches of evaluation: intrinsic evaluation and pay-off evaluation. *Intrinsic evaluation* is the appraisal of the instructional program itself, such as, content, goals, grading procedures, teacher attitudes, etc. *Pay-off evaluation* is the evaluation of the effects of the instructional program on the students and can be based on a number of critical parameters.

¹ Walker, J.Y., *An Evaluation of the F/A-18 Hornet Computer Based Training System*, Masters Thesis, Monash University, Melbourne, 1991, pp 79-81.

² *ibid*, p 80.

However, Scriven does not see evaluation as a choice between intrinsic or pay-off evaluation, but rather as a compromise between the two.³

4. The criteria for judging educational achievements that can be used for evaluation studies as suggested by Scriven are: knowledge; comprehension; motivation; social variables of students; and effects on the teacher, the teacher's colleagues, other students, administrators and the training establishment itself.

5. In Scriven's model the major steps in evaluation of a program are:

- a. appraise or evaluate goals or objectives of the program,
- b. select criteria of educational achievement for evaluation studies,
- c. collect data on each of these selected criteria, and
- d. judge the worth or merit of overall program based on collected data and weighted criteria.⁴

6. Scriven also introduced the term goal-free evaluation as a supplementary procedure to describe studies that accounted for both unintended and planned outcomes. The advantages of the goal-free evaluation is that it encourages the evaluator to be attentive to a wider range of outcomes, that might be the case with a goal-based evaluation.⁵

³ *ibid*, p 81.

⁴ *loc cit*.

⁵ *ibid*, pp 80-81.

STAKE'S COUNTENANCE MODEL

7. The Countenance Evaluation Model provides a framework which is comprehensive, in that it focuses on inputs, processes and outcomes rather than simply on outcomes. The Model suggests important ways of examining data by providing a rigorous method to examine contingencies between inputs, processes and outcomes and to examine the congruence between what was intended and what actually happened. The main emphases in Stake's Model are on descriptive and judgement data for decision making. Stake believes that in educational evaluation, the evaluation program must be fully described and judged. He suggests that the description of performance, the description of the educational process and the description of relationships between them must be undertaken. Stake also believes that judgements should be part of an evaluation.⁶

8. Whether the immediate purpose of an evaluation is description or judgement, three bodies of information which should be examined are antecedent data, transactions, and outcomes.⁷

9. An *antecedent* is any condition prior to instruction and learning which may relate to outcomes. *Transactions* are the countless encounters of students with instructors, and students with instructional packages - overall, the succession of engagements which contribute to the process of education. The boundaries between antecedents and transactions need not be distinct: these categories are used simply to draw attention to important features of the educational process.

10. *Outcomes* are the knowledge, skills and attitudes gained by participants of the program. Outcomes are considered to be consequences of the educational program, either immediate or long range, cognitive or conative.⁸

6 *ibid*, pp 91-92.

7 *ibid*, p 92.

8 *ibid*, p 93.

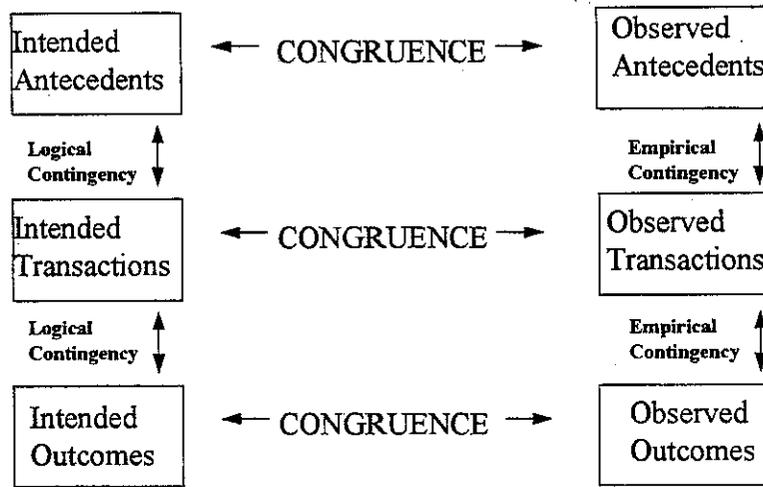


Figure Three: Description Data (Stake 1967)

14. The first aspect of description is an examination of the logical contingencies between each of the three elements. This examination considers whether, on the basis of other knowledge, it is reasonable to assume that the intended outcomes would follow from the intended transactions. It also considers whether, on the basis of other knowledge, it is reasonable to assume that the intended outcomes would follow from the intended transactions and whether each is consistent with the assumed antecedents. If such assumptions are not reasonable it suggests that some modification is required.

15. The second aspect of description involves considering the congruence between what is intended and what actually happened (refer Figure Two). A mis-match between what was intended and what was observed indicates action should be taken to improve the program. The final aspect of description is an analysis of whether there are empirical relationships between observed antecedents, transactions and outcomes. An evaluation of the RAAF Air Power Education Program should not attempt to find purely empirical relationships, but rather attempt to provide well informed subjective assessments of the relationships between antecedents, transactions and outcomes. This analysis should take the form of assessing opinions of major stakeholders, instructors, students, supervisors and other program customers.¹¹

16. These three aspects of descriptive evaluation can be summarised by the following questions:

- a. Does what actually occurs match what was intended?

¹¹ *ibid*, p 94.

- b. Are the intended outcomes reasonable given the educational processes and inputs to the program?
- c. Do the educational processes actually affect the program outcomes given the inputs to the system?

17. Stake believes that the goal of education is excellence and the measurement of excellence requires explicit rather than implicit standards. However, the multiplicity of standards makes evaluation complicated. Stake suggests that in judging an educational program sets of standards, absolute or relative, have to be considered first, and the comparison should be made thereafter. In an absolute comparison, the comparison will be made against standards of excellence. In a relative comparison, the comparison will be made against another program or subjective standards agreed by the stakeholders.¹² The process of judging is represented in Figure Four. The upper left matrix represents the data matrix in Figure Three.

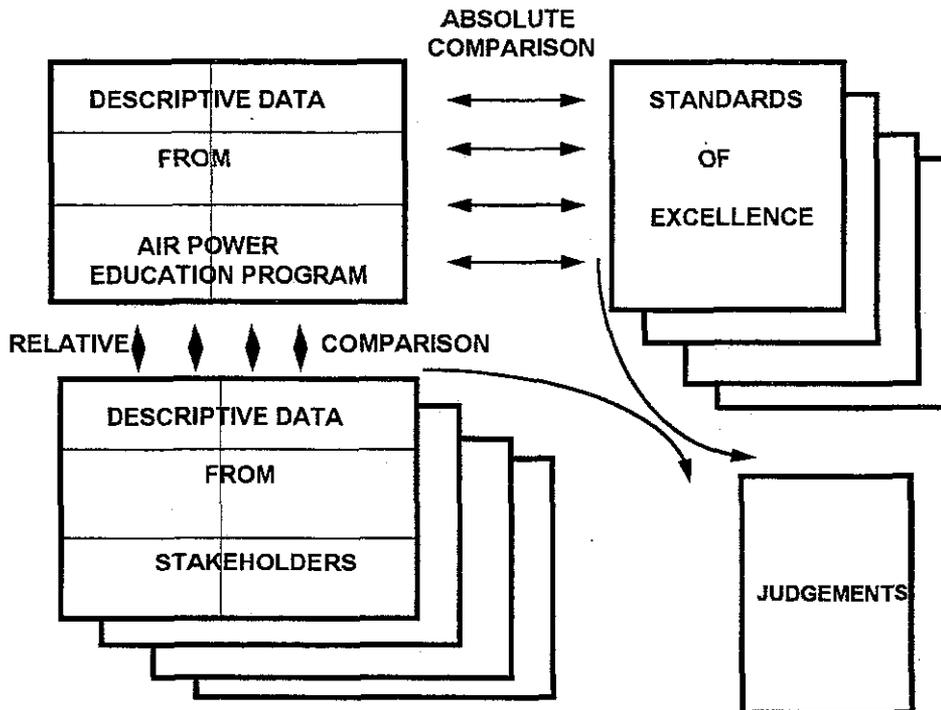


Figure Four: A Representation of the Process of Judging the Merit of an Educational Program

18. At the upper right are sets of standards by which the RAAF Air Power Education Program could be judged in an absolute sense. The matrix at the lower left represents the subjective standards that the Air

¹² *ibid*, p 94.

Power Education Program could be judged. Each set of absolute standards indicates acceptable and meritorious levels for antecedents, transactions and outcomes.

19. Before a judgement can be made, decisions on whether or not the standard has been met are required. Unavailable standards are estimated. The judging act itself is deciding which standards to heed. Relative judgements are made in a similar fashion except the standards are taken from stakeholder advice. From the relative judgements and the absolute judgements, an overall assessment, albeit with qualifying statements, can be made.

20. There are five major steps in using the Countenance Model. These are:

- a. planning to use description and judgement data matrices for organising data antecedents, transactions and outcomes;
- b. classifying and collecting data on intents and observations;
- c. selecting standards which may be relative or absolute criteria;
- d. comparing intents and observations (ie. looking for a congruence between them); and
- e. examining empirical and logical contingencies between antecedents, transactions and outcomes.¹³



FORMAL EDUCATION PROGRAM VARIABLES

ANTECEDENT

1.0 VARIABLE	2.0 RATIONALE FOR INTENDED VARIABLE	3.0 OBSERVATION METRIC	4.0 DATA SOURCE
<p>1.1 Skills, knowledge and attitudes specified in the CTOs.</p>	<p>2.1a Skills, knowledge and attitudes specified in the CTOs should be likely to achieve the aim of the program.</p> <p>2.1b A philosophy for air power education should exist.</p> <p>2.1c The philosophy should be appropriate to the future needs of the RAAF.</p> <p>2.1d CTOs should reflect the knowledge of air power doctrine that needs to be acquired by the philosophy.</p> <p>2.1e CTOs should form a continuum in the air power education process (i.e. there should be a logical progression from basic courses to advanced courses)</p> <p>2.1f Someone should have responsibility for ensuring there is a logical progression in the air power education process</p> <p>2.1g Appropriate CTO proficiency levels should be applied.</p> <p>2.1h CTOs should be observable and measurable.</p> <p>2.1i CTOs should be sufficient in their scope to ensure the air power education philosophy is achieved.</p>	<p>3.1a Interviews with training staff.</p> <p>3.1b Training records.</p> <p>3.1c Open-ended questions.</p>	<p>4.1a Interviews with RAAF COL, RAAF SMTT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.1b Examination of Course Graduation Requirements.</p>
<p>1.2 Appropriateness of review process to ensure the currency and effectiveness of CTOs.</p>	<p>2.2a Review process should be defined.</p> <p>2.2b Review process should be documented.</p> <p>2.2c An authority should be responsible for the review process.</p> <p>2.2d Major stakeholders in the air power education system should be defined.</p> <p>2.2e All stakeholders should be aware of the review process.</p>	<p>3.2a Interviews with training staff.</p> <p>3.2b Training records.</p> <p>3.2c Open-ended questions.</p>	<p>4.2a Interviews with RAAF COL, RAAF SMTT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.2b Examination of APSC training files.</p> <p>4.2c Interviews with DAPSC.</p>

1.0 VARIABLE	2.0 RATIONALE FOR INTENDED VARIABLE	3.0 OBSERVATION METRIC	4.0 DATA SOURCE
(1.2 Continued).	<p>2.2f Reviews of graduation requirements should be conducted on a regular basis.</p> <p>2.2g Action should be taken as a result of the reviews.</p> <p>2.2h The APSC should have a defined role in the review process.</p> <p>2.2i A continual improvement process should be in place for the review system.</p>		
1.3 Training strategy for air power education.	<p>2.3a There should be a training strategy that ensures a logical progression from basic to more advanced courses.</p> <p>2.3b Training strategies should support/reflect the air power education philosophy.</p>	<p>3.3a Interviews with training staff.</p> <p>3.3b Training records.</p> <p>3.3c Open-ended questions.</p>	<p>4.3a Interviews with RAAFCOL, RAAFMTT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.3b Examination of training files.</p>
1.4 Skills and attitudes specified in the syllabuses objectives.	<p>2.4a Syllabus objectives should be cross referenced to CTOs.</p> <p>2.4b Syllabus objectives should have been developed through a task analysis process.</p> <p>2.4c Assessment codes should be appropriate to the aim of the course.</p> <p>2.4d Syllabus objectives should be sufficient in their scope.</p> <p>2.4e Syllabus objectives should be reviewed and updated regularly.</p> <p>2.4f There should be minimum time between review of GRs and review of syllabus.</p>	<p>3.4a Interviews with training staff</p> <p>3.4b Training records</p> <p>3.4c Open-ended questions</p>	<p>4.4a Interviews with RAAFCOL, RAAFMTT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.4b Examination of training files.</p>
1.5 Air power instructor guides.	<p>2.5a Instructor guides should exist.</p> <p>2.5b Instructor guides should provide sufficient direction for instructors.</p> <p>2.5c Instructor guides should be regularly reviewed and updated.</p>	<p>3.5a Interviews with training staff.</p> <p>3.5b Training records.</p> <p>3.5c Open-ended questions.</p>	<p>4.5a Interviews with RAAFCOL, RAAFMTT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.5b Examination of training files.</p>
1.6 Air power lesson plans.	<p>2.6a Lesson plans should exist</p> <p>2.6b Lesson plans should provide sufficient direction for instructors.</p> <p>2.6c Lesson plans should be regularly reviewed and updated.</p>	<p>3.6a Interviews with training staff.</p> <p>3.6b Training records.</p> <p>3.6c Open-ended questions.</p>	<p>4.6a Interviews with RAAFCOL, RAAFMTT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.6b Examination of training files.</p>

1.0 VARIABLE	2.0 RATIONALE FOR INTENDED VARIABLE	3.0 OBSERVATION METRIC	4.0 DATA SOURCE
1.7 Air power instructional resources.	<p>2.7a Air power education resource aids should exist for each course.</p> <p>2.7b Air power education resources should be appropriate to and sufficient for each course.</p> <p>2.7c Air power education resources should be regularly reviewed and updated.</p> <p>2.7d There should be a process in place to identify new air power education resource material for each course.</p>	<p>3.7a Interviews with training staff.</p> <p>3.7b Training records.</p> <p>3.7c Open-ended questions.</p>	<p>4.7a Interviews with RAAFCOL, RAAFSTMT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.7b Examination of training files.</p>
1.8 Experience and qualifications of instructors.	<p>1.8a Instructors should have the required experience and qualifications to teach air power.</p> <p>1.8b Is the pre-requisite knowledge and experience required of air power instructors defined.</p> <p>1.8c Training should be provided to instructors in air power before taking up their post.</p> <p>1.8d There should be an air power instructor standardisation/assessment process in place.</p> <p>1.8e All instructors 'should be 'IT' qualified.</p>	<p>3.8a Interviews with training staff.</p> <p>3.8b Training records.</p> <p>3.8c Open-ended questions.</p>	<p>4.8a Interviews with RAAFCOL, RAAFSTMT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.8b Examination of training files.</p>
1.9 Reference material and assistance available for air power training designers and instructors.	<p>2.9a Training units should have dedicated air power reference sections.</p> <p>2.9b Procedures should be in place to obtain assistance with research in air power when required.</p>	<p>3.9a Interviews with training staff.</p> <p>3.9b Training records.</p> <p>3.9c Open-ended questions.</p>	<p>4.9a Interviews with RAAFCOL, RAAFSTMT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.9b Examination of training files.</p>
1.10 Course evaluation procedures.	<p>2.10 Course evaluation procedures should be defined.</p>	<p>3.10a Interviews with training staff.</p> <p>3.10b Training records.</p> <p>3.10c Open-ended questions.</p>	<p>4.10a Interviews with RAAFCOL, RAAFSTMT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.10b Examination of training files.</p>
1.11 Overlap of air power doctrine between courses.	<p>2.11 There should not be any undue overlap or air power doctrine between courses.</p>	<p>3.11a Interviews with training staff.</p> <p>3.11b Training syllabuses.</p> <p>3.11c Open-ended questions.</p> <p>3.11d Subjective questions on overlap between courses. 5 point scale</p>	<p>4.11a Interviews with RAAFCOL, RAAFSTMT, 2FTS, 3CRU, and SAN, training staff.</p> <p>4.11b Examination of training syllabi.</p> <p>4.11c JOIC quest.</p>

FORMAL EDUCATION PROGRAM VARIABLES

TRANSACTIONS

1.0 VARIABLE	2.0 RATIONALE FOR INTENDED VARIABLE	3.0 OBSERVATION METRIC	4.0 DATA SOURCE
1.1 Instructional strategies used to teach air power on each course.	2.1a Instructional strategies should be appropriate to the level of the learner. 2.1b Instructional strategies should be designed to achieve aim of course.	3.1a Interviews with training staff. 3.1b Training records. 3.1c Open-ended questions. 3.1d Subjective questions on the appropriateness of the instructional strategies. 5 point scale.	4.1a Interviews with RAAFCOL, RAAFMTT, 2FTS, 3CRU, and SAN, training staff. 4.1b Examination of Course syllabi, instructor guides and lesson plans. 4.1c Graduate questionnaire. 4.1d Instructor questionnaire.
1.2 Level of interaction between instructor/student and student/student.	2.2a The level of interaction should be consistent with instructional strategy. 2.2b The level of interaction should encourage and motivate learning.	3.2a Interviews with training staff. 3.2b Training records. 3.2c Open-ended questions. 3.2d Subjective questions on level of interaction between instructor/student and student/student. 5 point scale.	4.2a Interviews with RAAFCOL, RAAFMTT, 2FTS, 3CRU, and SAN, training staff. 4.2b Examination of Course syllabi, instructor guides and lesson plans. 4.2c Graduate questionnaire. 4.2d Instructor questionnaire.
1.3 Motivation of air power lessons.	2.3 Learning should be a motivating experience for students.	3.3a Interviews with training staff. 3.3b Training records. 3.3c Open-ended questions. 3.3d Subjective questions on motivation of air power lessons. 5 point scale.	4.3a Interviews with RAAFCOL, RAAFMTT, 2FTS, 3CRU, and SAN, training staff. 4.3b Graduate questionnaire. 4.3c Instructor questionnaire.
1.4 Interest level of air power lessons.	2.4a Interest in air power lessons should be encouraged to facilitate leaning.	3.4a Interviews with training staff. 3.4b Training records. 3.4c Open-ended questions. 3.4d Subjective questions on interest level of air power lessons. 5 point scale.	4.4a Interviews with RAAFCOL, RAAFMTT, 2FTS, 3CRU, and SAN, training staff. 4.4b Graduate questionnaire. 4.4c Instructor questionnaire.

1.0 VARIABLE	2.0 RATIONALE FOR INTENDED VARIABLE	3.0 OBSERVATION METRIC	4.0 DATA SOURCE
1.5 Level of material in air power lessons.	2.5 Level of material should be appropriate to the level and experience of the students.	3.5a Interviews with training staff. 3.5b Training records. 3.5c Open-ended questions. 3.5d Subjective questions on level of material in air power lessons. 5 point scale.	4.5a Interviews with RAAFCOL, RAAFSMIT, 2FTS, 3CRU, and SAN, training staff. 4.5b Examination of Course syllabi, instructor guides and lesson plans. 4.5c Graduate questionnaire. 4.5d Instructor questionnaire.
1.6 Relevance of material in air power lessons to job.	2.6 Air power lessons should relate air power doctrine to its application.	3.6a Interviews with training staff. 3.6b Training records. 3.6c Open-ended questions. 3.6d Subjective questions on relevance of material in air power lessons to job. 5 point scale.	4.6a Interviews with RAAFCOL, RAAFSMIT, 2FTS, 3CRU, and SAN, training staff. 4.6b Examination of Course syllabi, instructor guides and lesson plans. 4.6c Graduate questionnaire. 4.6d Instructor questionnaire.
1.7 Assessment procedures.	2.7 Assessment procedures should be consistent with instructional strategies.	3.7a Interviews with training staff. 3.7b Training records. 3.7c Open-ended questions. 3.7d Subjective questions on assessment procedures. 5 point scale.	4.7a Interviews with RAAFCOL, RAAFSMIT, 2FTS, 3CRU, and SAN, training staff. 4.7b Examination of Course syllabi, instructor guides and lesson plans. 4.7c Graduate questionnaire. 4.7d Instructor questionnaire.
1.8 Time allocated to air power.	2.8 The time allocated to air power should be consistent with the aim of the course. 2.8b Time allocated to air power should be appropriate to the career level of the students.	3.8a Interviews with training staff. 3.8b Training records. 3.8c Open-ended questions. 3.8d Subjective questions on time allocated to air power. 5 point scale.	4.8a Interviews with RAAFCOL, RAAFSMIT, 2FTS, 3CRU, and SAN, training staff. 4.8b Examination of Course syllabi. 4.8c Graduate questionnaire. 4.8d Instructor questionnaire.

1.0 VARIABLE	2.0 RATIONALE FOR INTENDED VARIABLE	3.0 OBSERVATION METRIC	4.0 DATA SOURCE
1.9 Understanding and applying air power doctrine.	2.9 There should be an emphasis on understanding and applying air power doctrine rather than simply learning the doctrine itself	3.9a Interviews with training staff. 3.9b Training records. 3.9c Open-ended questions. 3.9d Subjective questions on understanding and applying air power doctrine. 5 point scale.	4.9a Interviews with RAAFCOL, RAAFSTMT, 2FTS, 3CRU, and SAN, training staff. 4.9b Examination of Course syllabi. 4.9c Graduate questionnaire. 4.9d Instructor questionnaire.
1.10 Comprehension of air power doctrine is a 'personal responsibility'.	2.10 There should be an emphasis in each course that the comprehension of air power doctrine is a 'personal responsibility'.	3.10a Interviews with training staff. 3.10b Training records. 3.10c Open-ended questions. 3.10d Subjective questions on comprehension of air power doctrine is a 'personal responsibility'. 5 point scale.	4.10a Interviews with RAAFCOL, RAAFSTMT, 2FTS, 3CRU, and SAN, training staff. 4.10b Examination of Course syllabi, instructor guides and lesson plans. 4.10c Graduate questionnaire. 4.10d Instructor questionnaire.

FORMAL EDUCATION PROGRAM VARIABLES

OUTCOMES

1.0 VARIABLE	2.0 RATIONALE FOR INTENDED VARIABLE	3.0 OBSERVATION METRIC	4.0 DATA SOURCE
<p>1.1 Achievement of air power education objectives.</p>	<p>2.1a Students should have a sound knowledge and understanding of air power, and its importance to the defence of Australia.</p> <p>2.1b Students should have an appreciation of the many different environments (Governmental, Departmental and Service) influencing the development and employment of air power in the Australian region of primary strategic interest.</p> <p>2.1c Students should have an understanding of the implications of air power across the levels of war.</p> <p>2.1d Students should have an appreciation for the doctrine processes involved.</p> <p>2.1e Students should have an understanding of the operation of the RAAF.</p> <p>2.1f Students should have an appreciation for, and understand the role theory plays in, air power combat operations.</p> <p>2.1g Students should possess the skills which will enable them to apply effectively their acquired knowledge in their new appointments.</p>	<p>3.1a Open-ended questions.</p> <p>3.1b Subjective questions on the appropriateness of the achievement of air power education objectives. 5 point scale.</p>	<p>4.1a Commanders' questionnaire.</p>
<p>1.2 Knowledge and understanding of graduates.</p>	<p>2.2a Graduates should have the achieved the required level of knowledge and understanding of air power.</p>	<p>3.1a Open-ended questions</p> <p>3.1b Subjective questions on the knowledge and understanding of graduates.</p>	<p>4.1a Graduate questionnaire.</p> <p>4.1b Instructor questionnaire.</p> <p>4.1c Commander questionnaire</p> <p>4.1d Supervisor questionnaire.</p>



AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

1RTU GRADUATES

SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your Group/Wing/Squadron or unit.

For Items 1 to 11, please rate how satisfied you are with the particular feature of the current RAAF Air Power Education System by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

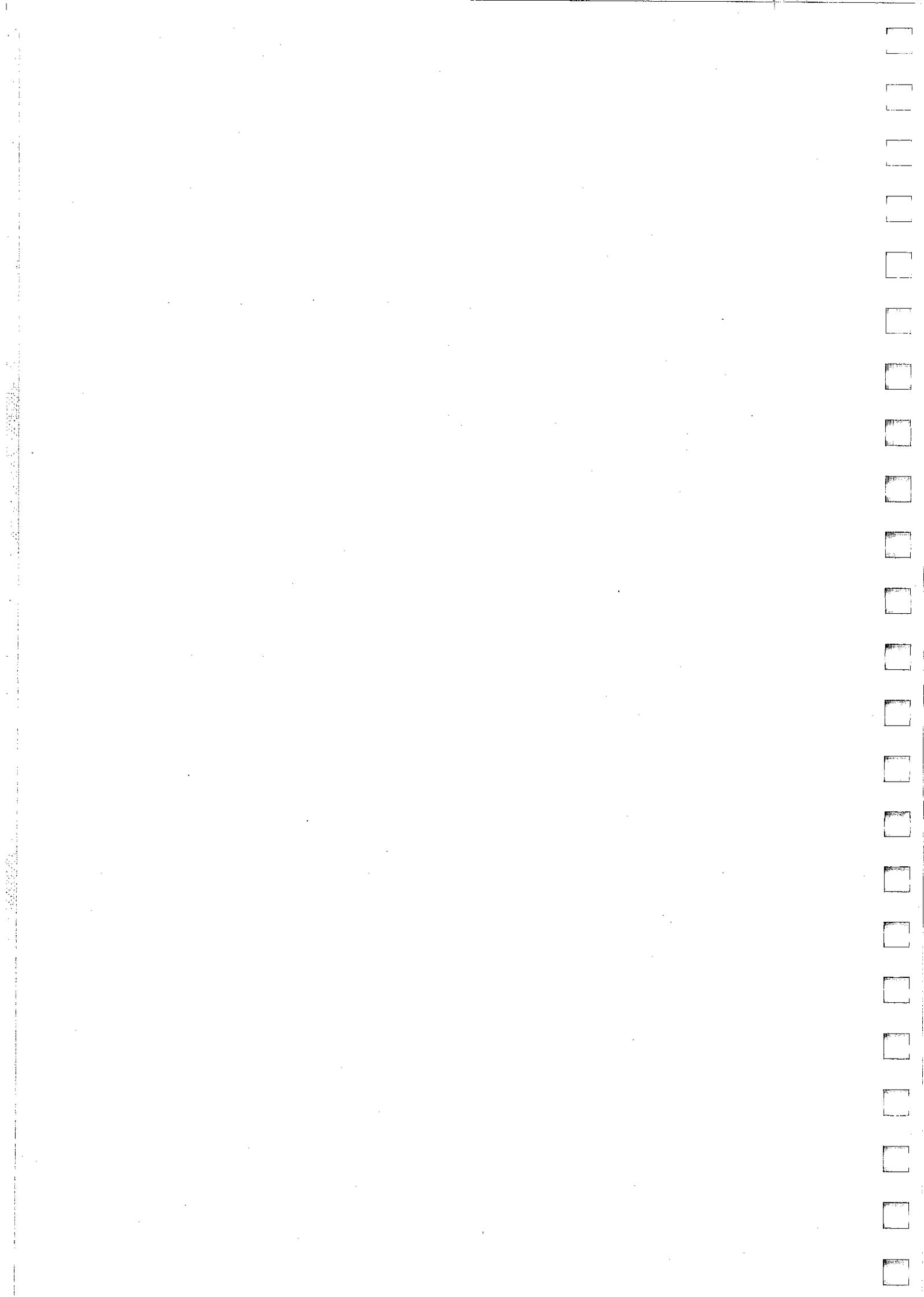
Office Use
Only

With regard to the Recruit Training course, how satisfied are you:

- | | | |
|----|---|---|
| 1. | that the course gave you a basic understanding of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that the course gave you a basic understanding of RAAF air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that the Condensed Air Power Manual that you were issued with at 1RTU provides a good summary of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that the air power lessons on the course were interesting? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | that the air power lessons on the course were motivating? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

17. Do you think these processes or systems are effective? If not do how you think they be could improved?

18. Please provide any suggestions on how you believe the air power elements of the Recruit Training Course could be improved.



AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

CORPORAL PROMOTION COURSE GRADUATES

SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your Group/Wing/Squadron or unit.

For Items 1 to 17, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
Only

With regard to the Corporal Promotion Course, how satisfied are you:

- | | | |
|----|---|---|
| 1. | that the course gave you a basic understanding of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that the course gave you a basic understanding of RAAF air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that the Condensed Air Power Manual provides a good summary of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that the air power lessons on the course were interesting? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | that the air power lessons on the course were motivating? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

Office Use
Only

With regard to the Corporal Promotion Course, how satisfied are you:

- 6. with the methods that were used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
- 7. that sufficient time was allocated to RAAF air power doctrine on the course? ₁ ₂ ₃ ₄ ₅
- 8. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
- 9. that you understood the maxims, imperatives and hierarchy of air power capabilities at the end of the course? ₁ ₂ ₃ ₄ ₅
- 10. that you were able to relate the doctrine of air power to its application by the RAAF at the end of the course? ₁ ₂ ₃ ₄ ₅

With regard to the your current unit, how satisfied are you:

- 11. that enough is being done to promote a broad understanding of air power and the application of air power doctrine? ₁ ₂ ₃ ₄ ₅
- 12. that enough is being done to explain how your activities and the activities of others contribute to the use of air power by the RAAF? ₁ ₂ ₃ ₄ ₅
- 13. that you understand how your actions and the functions of your unit relate to the application of air power? ₁ ₂ ₃ ₄ ₅

If, as a CPL, you have had recent (i.e. graduated since Jul 92) 1RTU graduates work for you, please answer the following questions. If not, please go to Item 19.

How satisfied are you that, on the whole, 1RTU graduates:

- 14. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅

22. What processes or systems are in place at your squadron/unit to ensure that you have good understanding of how your activities and the activities of others contribute to the exercise of air power by the RAAF?

23. Do you think these processes or systems are effective? If not do how you think they be could improved?

24. How do you as a Section Leader encourage and motivate your staff to further develop their understanding of air power doctrine and its application?

25. How do you as a Section Leader encourage and motivate your staff to appreciate how their activities and the activities of others contribute to the use of air power by the RAAF?

26. Please provide any suggestions on how you believe the air power elements of the Corporal Promotion Course could be improved.

AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

SERGEANT PROMOTION COURSE GRADUATES

SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your Group/Wing/Squadron or unit.

For Items 1 to 25, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅- If you are **VERY SATISFIED** with the proposition
- ₄- If you are **SATISFIED** with the proposition
- ₃- If you **HAVE NO OPINION** on the proposition
- ₂- If you are **DISSATISFIED** with the proposition
- ₁- If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
Only

With regard to the Sergeant Promotion Course, how satisfied are you:

- | | | |
|----|---|---|
| 1. | that the course gave you a good understanding of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that the course gave you a basic understanding of RAAF air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that the Condensed Air Power Manual provides a good summary of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that the air power lessons on the course were interesting? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | that the air power lessons on the course were motivating? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

Office Use
Only

With regard to the Sergeant Promotion Course, how satisfied are you:

- 6. with the methods that were used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
- 7. that sufficient time was allocated to RAAF air power doctrine on the course? ₁ ₂ ₃ ₄ ₅
- 8. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
- 9. that you understood the history and theory of of air power at the end of the course? ₁ ₂ ₃ ₄ ₅
- 10. that you understood the factors which influence the effectiveness of air power at the end of the course? ₁ ₂ ₃ ₄ ₅
- 11. that you understood the Australian approach to war? ₁ ₂ ₃ ₄ ₅
- 12. that you felt confident enough to discuss RAAF air power doctrine in relation to Australian defence requirements with your peers and staff at the of the course? ₁ ₂ ₃ ₄ ₅
- 13. that you appreciated the need for air power at the end of the course? ₁ ₂ ₃ ₄ ₅

With regard to the your current unit, how satisfied are you:

- 14. that enough is being done to promote a broad understanding of air power and the application of air power doctrine? ₁ ₂ ₃ ₄ ₅
- 15. that enough is being done to explain how your activities and the activities of others contribute to the use of air power by the RAAF? ₁ ₂ ₃ ₄ ₅
- 16. that you understand how your actions and the functions of your unit relate to the application of air power? ₁ ₂ ₃ ₄ ₅

Vertical column of 16 empty boxes for marking responses.

Please tick the box
to indicate your choice

Office Use
Only

If, as a SGT, you have had recent (i.e. graduated since Jul 92) 1RTU or CPL Promotion Course graduates work for you please answer the following questions. If not, please go to Item 27.

How satisfied are you that, on the whole, 1RTU graduates:

- 17. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
- 18. have a basic understanding of air power, and its importance to the defence of Australia? ₁ ₂ ₃ ₄ ₅
- 19. have a basic understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 20. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅

How satisfied are you that, on the whole, CPL Promotion Course graduates:

- 21. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
- 22. have a basic understanding of the maxims, imperatives and hierarchy of air power capabilities? ₁ ₂ ₃ ₄ ₅
- 23. have a basic understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 24. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅
- 25. are able to relate the doctrine of air power to its application by the RAAF? ₁ ₂ ₃ ₄ ₅

26. If you rated any of Items 1 to 25 as **DISSATISFIED** or **NOT SATISFIED AT ALL**, please provide details as to why.

28. Do you think these processes or systems logically build on the air power doctrine that you learnt on SGT Promotion Course? If not, please provide details as to why?

29. Do you consider enough is being done at your unit to promote a broad understanding of air power and the application of air power doctrine? If not, what do you believe should be done to rectify the situation?

30. What processes or systems are in place at your squadron/unit to ensure that you have good understanding of how your activities and the activities of others contribute to the exercise of air power by the RAAF?

31. Do you think these processes or systems are effective? If not do how you think they be could improved?

32. How do you as a SNCO encourage and motivate your staff to further develop their understanding of air power doctrine and its application?

33. How do you as a SNCO encourage and motivate your staff to appreciate how their activities and the activities of others contribute to the use of air power by the RAAF?

34. Please provide any suggestions on how you believe the air power elements of the Sergeant Promotion Course could be improved.



**AN EVALUATION OF THE RAAF
AIR POWER EDUCATION SYSTEM**

WARRANT OFFICER PROMOTION COURSE GRADUATES

SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your Group/Wing/Squadron or unit.

For Items 1 to 32, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box to indicate your choice

Office Use Only

With regard to the Warrant Officer Promotion Course, how satisfied are you:

- | | | |
|----|---|---|
| 1. | that the course developed your understanding of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that the course developed your understanding of RAAF air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that the Condensed Air Power Manual provides a good summary of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that the air power lessons on the course were interesting? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | that the air power lessons on the course were motivating? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

Office Use
Only

With regard to the Warrant Officer Promotion Course, how satisfied are you:

- 6. with the methods that were used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
- 7. that sufficient time was allocated to RAAF air power doctrine on the course? ₁ ₂ ₃ ₄ ₅
- 8. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
- 9. that you were able to discuss the employment of air power doctrine in Australia's nearer region at the end of the course? ₁ ₂ ₃ ₄ ₅
- 10. that you understood the factors which influence the effectiveness of air power at the end of the course? ₁ ₂ ₃ ₄ ₅
- 11. that you felt confident enough to discuss with your peers and your staff RAAF air power doctrine in relation to Australian defence requirements at the end of the course? ₁ ₂ ₃ ₄ ₅
- 12. that you appreciated the need for air power doctrine in the application of RAAF operations at the end of the course? ₁ ₂ ₃ ₄ ₅

With regard to the your current unit, how satisfied are you:

- 13. that enough is being done to promote a broad understanding of air power? ₁ ₂ ₃ ₄ ₅
- 14. that enough is being done to explain how your activities and the activities of others contribute to the use of air power by the RAAF? ₁ ₂ ₃ ₄ ₅
- 15. that you understand how your actions and the functions of your unit relate to the application of air power? ₁ ₂ ₃ ₄ ₅

Please tick the box
to indicate your choice

Office Use
Only

If, as a WOFF, you have had recent (i.e. graduated since Jul 92) 1RTU graduates or CPL or SGT Promotion Course graduates work for you please answer the following questions. If not, please go to Item 33.

How satisfied are you that, on the whole, 1RTU graduates:

- 16. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
- 17. have a basic understanding of air power, and its importance to the defence of Australia? ₁ ₂ ₃ ₄ ₅
- 18. have a basic understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 19. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅

How satisfied are you that, on the whole, CPL Promotion Course graduates:

- 20. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
- 21. have a basic understanding of the maxims, imperatives and hierarchy of air power capabilities? ₁ ₂ ₃ ₄ ₅
- 22. have a basic understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 23. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅
- 24. are able to relate the doctrine of air power to its application by the RAAF? ₁ ₂ ₃ ₄ ₅

How satisfied are you that, on the whole, SGT Promotion Course graduates:

- 25. understand the factors which influence the effectiveness of air power? ₁ ₂ ₃ ₄ ₅
- 26. understand the Australian approach to war? ₁ ₂ ₃ ₄ ₅

39. How do you as a middle manager encourage and motivate your staff to further develop their understanding of air power doctrine and its application?

40. How do you as a middle manager encourage and motivate your staff to appreciate how their activities and the activities of others contribute to the use of air power by the RAAF?

41. Please provide any suggestions on how you believe the air power elements of the WOFF Promotion Course could be improved.



AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

JUNIOR OFFICER INITIAL GRADUATES

SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your Group/Wing/Squadron or unit.

For Items 1 to 24, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
Only

With regard to the Junior Officer Initial Course, how satisfied are you:

- | | | |
|----|--|---|
| 1. | that the course developed your understanding of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that the course developed your understanding of RAAF air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that the air power lessons on the course were interesting? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that the air power lessons on the course were motivating? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | with the methods that were used to teach air power on the course? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box to indicate your choice

Office Use Only

With regard to the Junior Officer Initial Course, how satisfied are you:

- 6. that sufficient time was allocated to RAAF air power on the course? ₁ ₂ ₃ ₄ ₅
- 7. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
- 8. that you were able to relate RAAF air power doctrine to the operations of each of the Force Element Groups at the end of the course? ₁ ₂ ₃ ₄ ₅
- 9. that you appreciated the need for air power doctrine in the application of RAAF operations at the end of the course? ₁ ₂ ₃ ₄ ₅

With regard to the your current unit, how satisfied are you:

- 10. that enough is being done to promote a broad understanding of air power and the application of air power doctrine? ₁ ₂ ₃ ₄ ₅
- 11. that enough is being done to explain how your activities and the activities of others contribute to the use of air power by the RAAF? ₁ ₂ ₃ ₄ ₅
- 12. that you understand how your actions and the functions of your unit relate to the application of air power? ₁ ₂ ₃ ₄ ₅

If you have completed either the Air Defence, Air Traffic Control, Navigation or Pilot course please indicate which course you completed, and then complete items 13 to 24. If you have not completed any of these courses please go to Item 25.

- I completed the ₁ Pilot Course ₂ Nav Course
₃ ATC Course ₄ Air Defence

With regard to the Course, how satisfied are you that:

- 13. that the air power lessons on the course were interesting? ₁ ₂ ₃ ₄ ₅



Please tick the box
to indicate your choice

Office Use
Only

14. that the air power lessons on the course were motivating? ₁ ₂ ₃ ₄ ₅
15. with the methods that were used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
16. that sufficient time was allocated to RAAF air power doctrine on the course? ₁ ₂ ₃ ₄ ₅
17. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
18. that you are able to discuss the history of military aviation in Australia? ₁ ₂ ₃ ₄ ₅
19. that you understand the application of air power campaigns to Australia's defence requirements? ₁ ₂ ₃ ₄ ₅
20. that you understand the application of air power maxims to Australia's defence requirements? ₁ ₂ ₃ ₄ ₅
21. that you understand the roles, capabilities and weapons systems of each of the operational aircraft type? ₁ ₂ ₃ ₄ ₅
22. that you are able to describe the employment of air power in relation to the capabilities of regional powers? ₁ ₂ ₃ ₄ ₅
23. that you are able to describe the current and potential employment of RAAF assets in the following operations:
- a. counter air? ₁ ₂ ₃ ₄ ₅
- b. independent strike? ₁ ₂ ₃ ₄ ₅
- c. aerial reconnaissance, surveillance and electronic warfare? ₁ ₂ ₃ ₄ ₅
- d. airlift? ₁ ₂ ₃ ₄ ₅
- e. combat air support? ₁ ₂ ₃ ₄ ₅
- f. sustainment? ₁ ₂ ₃ ₄ ₅

29. Do you think these processes or systems are effective? If not do how you think they be could improved?

30. How do you as a junior officer encourage and motivate your staff to further develop their understanding of air power doctrine and its application?

31. How do you as a junior officer encourage and motivate your staff to appreciate of how their activities and the activities of others contribute to the use of air power by the RAAF?

32. Please provide any suggestions on how you believe the air power elements of the Junior Officer Initial Course could be improved.



AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

AUSTRALIAN DEFENCE FORCE ACADEMY GRADUATE SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your Group/Wing/Squadron or unit.

For Items 1 to 31, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
Only

With regard to Single Service Training, how satisfied are you:

- | | | |
|----|--|---|
| 1. | that the course developed your understanding of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that the course developed your understanding of RAAF air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that the air power lessons on the course were interesting? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that the air power lessons on the course were motivating? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | with the methods that were used to teach air power on the course? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

Office Use
Only

With regard to Single Service Training, how satisfied are you:

- 6. that sufficient time was allocated to RAAF air power on the course? ₁ ₂ ₃ ₄ ₅
- 7. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
- 8. that you were able to relate RAAF air power doctrine to the operations of each of the Force Element Groups at the end of the course? ₁ ₂ ₃ ₄ ₅
- 9. that you appreciated the need for air power doctrine in the application of RAAF operations at the end of the course? ₁ ₂ ₃ ₄ ₅

With regard to air power training provided to you at ADFA, how satisfied are you:

- 10. that the course developed your understanding of the RAAF air power doctrine? ₁ ₂ ₃ ₄ ₅
- 11. that the course developed your understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 12. that the air power lessons on the course were interesting? ₁ ₂ ₃ ₄ ₅
- 13. that the air power lessons on the course were motivating? ₁ ₂ ₃ ₄ ₅
- 14. with the methods that were used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
- 15. that sufficient time was allocated to RAAF air power on the course? ₁ ₂ ₃ ₄ ₅
- 16. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅

Please tick the box
to indicate your choice

Office Use
Only

With regard to the your current unit, how satisfied are you:

17. that enough is being done to promote a broad understanding of air power and the application of air power doctrine? ₁ ₂ ₃ ₄ ₅
18. that enough is being done to explain how your activities and the activities of others contribute to the use of air power by the RAAF? ₁ ₂ ₃ ₄ ₅
19. that you understand how your actions and the functions of your unit relate to the application of air power? ₁ ₂ ₃ ₄ ₅

If you have completed either the Air Defence, Air Traffic Control, Navigation or Pilot course please indicate which course you completed, and then complete items 20 to 31. If you have not completed any of these courses please go to Item 32.

- I completed the ₁ Pilot Course ₂ Nav Course
₃ ATC Course ₄ Air Defence

With regard to the Course, how satisfied are you that:

20. that the air power lessons on the course were interesting? ₁ ₂ ₃ ₄ ₅
21. that the air power lessons on the course were motivating? ₁ ₂ ₃ ₄ ₅
22. with the methods that were used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
23. that sufficient time was allocated to RAAF air power doctrine on the course? ₁ ₂ ₃ ₄ ₅
24. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
25. that you are able to discuss the history of military aviation in Australia? ₁ ₂ ₃ ₄ ₅

Please tick the box
to indicate your choice

Office Use
Only

26. that you understand the application of air power campaigns to Australia's defence requirements? ₁ ₂ ₃ ₄ ₅
27. that you understand the application of air power maxims to Australia's defence requirements? ₁ ₂ ₃ ₄ ₅
28. that you understand the roles, capabilities and weapons systems of each of the operational aircraft type? ₁ ₂ ₃ ₄ ₅
29. that you are able to describe the employment of air power in relation to the capabilities of regional powers? ₁ ₂ ₃ ₄ ₅
30. that you are able to describe the current and potential employment of RAAF assets in the following operations:
- a. counter air? ₁ ₂ ₃ ₄ ₅
 - b. independent strike? ₁ ₂ ₃ ₄ ₅
 - c. aerial reconnaissance, surveillance and electronic warfare? ₁ ₂ ₃ ₄ ₅
 - d. airlift? ₁ ₂ ₃ ₄ ₅
 - e. combat air support? ₁ ₂ ₃ ₄ ₅
 - f. sustainment? ₁ ₂ ₃ ₄ ₅
31. that you are able to discuss the future operational requirements of the RAAF in relation to air power imperatives? ₁ ₂ ₃ ₄ ₅



37. Do you think these processes or systems are effective? If not do how you think they be could improved?

38. How do you as a junior officer encourage and motivate your staff to further develop their understanding of air power doctrine and its application?

39. How do you as a junior officer encourage and motivate your staff to appreciate of how their activities and the activities of others contribute to the use of air power by the RAAF.

40. Please provide any suggestions on how you believe the air power elements of the ADFA and Single Service courses could be improved.



**AN EVALUATION OF THE RAAF
AIR POWER EDUCATION SYSTEM**

BASIC STAFF COURSE GRADUATES

SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your Group/Wing/Squadron or unit.

For Items 1 to 47, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
Only

With regard to the Basic Staff Course, how satisfied are you:

- | | | |
|----|---|---|
| 1. | that the course developed your understanding of the RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that the course developed your understanding of RAAF air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that the air power presentation that you researched and presented was an effective means by which to analyse a major air operation? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that the air power lessons on the course were interesting? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | that the air power lessons on the course were motivating? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

Office Use
Only

With regard to the Basic Staff Course, how satisfied are you:

- 6. with the methods that were used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
- 7. that sufficient time was allocated to RAAF air power doctrine on the course? ₁ ₂ ₃ ₄ ₅
- 8. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
- 9. that you were able to analyse the types of RAAF air operations and the techniques for sustaining these activities? ₁ ₂ ₃ ₄ ₅
- 10. that you were able to assess RAAF air power doctrine in relation to its application to RAAF air operations at the end of the course? ₁ ₂ ₃ ₄ ₅
- 11. that you felt confident enough to discuss with your peers and your staff RAAF air power doctrine in relation to Australian defence requirements at the end of the course? ₁ ₂ ₃ ₄ ₅
- 12. that you appreciated the need for air power doctrine in the application of RAAF operations at the end of the course? ₁ ₂ ₃ ₄ ₅

With regard to the your current unit, how satisfied are you:

- 13. that enough is being done to promote a broad understanding of air power? ₁ ₂ ₃ ₄ ₅
- 14. that enough is being done to explain how your activities and the activities of others contribute to the use of air power by the RAAF? ₁ ₂ ₃ ₄ ₅
- 15. that you understand how your actions and the functions of your unit relate to the application of air power? ₁ ₂ ₃ ₄ ₅

Please tick the box
to indicate your choice

Office Use
Only

If you have had recent (i.e. graduated since Jul 92) IRTU graduates, CPL, SGT or WOFF Promotion Course graduates or Junior Officer Initial Course graduates work for you please answer the following questions. If not, please go to Item 48.

How satisfied are you that, on the whole, IRTU graduates:

16. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
17. have a basic understanding of air power, and its importance to the defence of Australia? ₁ ₂ ₃ ₄ ₅
18. have a basic understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
19. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅

How satisfied are you that, on the whole, CPL Promotion Course graduates:

20. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
21. have a basic understanding of the maxims, imperatives and hierarchy of air power capabilities? ₁ ₂ ₃ ₄ ₅
22. have a basic understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
23. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅
24. are able to relate the doctrine of air power to its application by the RAAF? ₁ ₂ ₃ ₄ ₅

How satisfied are you that, on the whole, SGT Promotion Course graduates:

25. understand the factors which influence the effectiveness of air power? ₁ ₂ ₃ ₄ ₅
26. understand the Australian approach to war? ₁ ₂ ₃ ₄ ₅

Please tick the box to indicate your choice

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- 27. appreciate the need for air power doctrine in the application of RAAF operations? ₁ ₂ ₃ ₄ ₅
- 28. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
- 29. have a good understanding of the maxims, imperatives and hierarchy of air power capabilities? ₁ ₂ ₃ ₄ ₅
- 30. have a good understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 31. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅
- 32. are able to relate the doctrine of air power to its application by the RAAF? ₁ ₂ ₃ ₄ ₅

How satisfied are you that, on the whole, WOFF Promotion Course graduates:

- 33. understand the factors which influence the effectiveness of air power? ₁ ₂ ₃ ₄ ₅
- 34. understand the Australian approach to war? ₁ ₂ ₃ ₄ ₅
- 35. appreciate the need for air power doctrine in the application of RAAF operations? ₁ ₂ ₃ ₄ ₅
- 36. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
- 37. have a good understanding of the maxims, imperatives and hierarchy of air power capabilities? ₁ ₂ ₃ ₄ ₅
- 38. have a good understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 39. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅
- 40. are able to relate the doctrine of air power to its application by the RAAF? ₁ ₂ ₃ ₄ ₅

Vertical column of 20 empty boxes for Office Use Only.

54. How do you as a middle manager encourage and motivate your staff to further develop their understanding of air power doctrine and its application?

55. How do you as a middle manager encourage and motivate your staff to appreciate how their activities and the activities of others contribute to the use of air power by the RAAF?

56. Please provide any suggestions on how you believe the air power elements of the Basic Staff Course could be improved.

AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

COMMAND AND STAFF COURSE GRADUATES

SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please feel free to contact SQNLDR J. Walker on (06) 267 6205.

For Items 1 to 34, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

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With regard to the Command and Staff Course, how satisfied are you:

- | | | |
|----|---|---|
| 1. | that you were able to analyse the influence of the various theories of air power on Australia's air power doctrine at the end of the course? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that you were able to assess the implications of Australia's economic, industrial and technological resources for the development of air power in Australia's nearer region at the end of the course? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that you were able to analyse the factors which limit or enhance the effectiveness of air power in Australia at the end of the course? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that you were able to evaluate the employment of air power in Australia's nearer region at the end of the course? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

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5. that you were able to evaluate the current operation of, the ADF and in particular, the RAAF at the end of the course? ₁ ₂ ₃ ₄ ₅
6. that the air power elements on the course motivated you enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
7. that the air power elements on the course were presented in an interesting way? ₁ ₂ ₃ ₄ ₅
8. that the air power lessons on the course were motivating? ₁ ₂ ₃ ₄ ₅
9. with the methods that were used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
10. that sufficient time was allocated to RAAF air power doctrine on the course? ₁ ₂ ₃ ₄ ₅
11. that as a result of the course, you felt more confident to discuss, with your peers and your staff, RAAF air power doctrine in relation to Australian defence requirements at the end of the course? ₁ ₂ ₃ ₄ ₅
12. that as a result of the course, you had a greater appreciation for the need for air power doctrine in its application to RAAF operations? ₁ ₂ ₃ ₄ ₅
13. that as a result of the course, you would be able to fill a Wing Commander command or staff position which requires a thorough understanding of air power doctrine and its application to RAAF operations? ₁ ₂ ₃ ₄ ₅

With regard to the your current unit, how satisfied are you:

14. that enough is being done to promote a broad understanding of air power? ₁ ₂ ₃ ₄ ₅
15. that enough is being done to explain how your activities and the activities of others contribute to the use of air power by the RAAF? ₁ ₂ ₃ ₄ ₅

Please tick the box
to indicate your choice

Office Use
Only

If you have had recent (i.e. graduated since Jul 92) WOFF Promotion Course graduates, Junior Officer Initial Course graduates or Basic Staff Course graduates work for you please answer the following questions. If not, please go to Item 35.

How satisfied are you that, on the whole, WOFF Promotion Course graduates:

16. understand the factors which influence the effectiveness of air power? ₁ ₂ ₃ ₄ ₅
17. understand the Australian approach to war? ₁ ₂ ₃ ₄ ₅
18. appreciate the need for air power doctrine in the application of RAAF operations? ₁ ₂ ₃ ₄ ₅
19. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
20. have a good understanding of the maxims, imperatives and hierarchy of air power capabilities? ₁ ₂ ₃ ₄ ₅
21. have a good understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
22. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅
23. are able to relate the doctrine of air power to its application by the RAAF? ₁ ₂ ₃ ₄ ₅

How satisfied are you that, on the whole, Junior Officer Initial Course graduates:

24. are able to relate RAAF air power doctrine to the operations of each of the Force Element Groups? ₁ ₂ ₃ ₄ ₅
25. appreciate the need for air power doctrine in the application of RAAF operations? ₁ ₂ ₃ ₄ ₅
26. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅

Please tick the box to indicate your choice

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- 27. have an understanding of the maxims, imperatives and hierarchy of air power capabilities? ₁ ₂ ₃ ₄ ₅
- 28. have an understanding of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 29. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅
- 30. are able to relate the doctrine of air power to its application by the RAAF? ₁ ₂ ₃ ₄ ₅

How satisfied are you that, on the whole, Basic Staff Course graduates:

- 31. are able to analyse the types of RAAF air operations and the techniques for sustaining these activities? ₁ ₂ ₃ ₄ ₅
- 32. are able to assess RAAF air power doctrine in relation to its application of RAAF air operations? ₁ ₂ ₃ ₄ ₅
- 33. understand how their actions and functions relate to the application of air power? ₁ ₂ ₃ ₄ ₅
- 34. are motivated and interested enough to further their understanding of air power and its relevance to their activities? ₁ ₂ ₃ ₄ ₅

35. If you rated any of Items 1 to 34 as **DISSATISFIED** or **NOT SATISFIED AT ALL**, please provide details as to why.



40. What processes or systems are in place at your squadron/unit to ensure that you have good understanding of how your activities and the activities of others contribute to the exercise of air power by the RAAF?

41. Do you think these processes or systems are effective? If not do how you think they be could improved?

42. How do you as a middle manager encourage and motivate your staff to further develop their understanding of air power doctrine and its application?

43. How do you as a middle manager encourage and motivate your staff to appreciate how their activities and the activities of others contribute to the use of air power by the RAAF?



AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

OPERATOR/CONTROLLER

SURVEY

This survey seeks your opinion on the level of air power knowledge of recent (i.e. graduated since Jul 92) Air Defence, Air Traffic Control, Navigation or Pilot course graduates. The items are designed around the syllabus objectives for each course. If possible, please complete all items in this section. If you have any problems or are unsure of any item/items feel free to contact SQNLDR J. Walker on (06) 2676205.

Please indicate which graduates have worked for you by ticking the appropriate box.

- ₁ Pilot ₂ Navigator
₃ Air Traffic Control ₄ Air Defence

For Items 1 to 7, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅- If you are **VERY SATISFIED** with the proposition
₄- If you are **SATISFIED** with the proposition
₃- If you **HAVE NO OPINION** on the proposition
₂- If you are **DISSATISFIED** with the proposition
₁- If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
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How satisfied are you that, on the whole, the graduates:

- | | | |
|----|--|---|
| 1. | are motivated and interested enough to further their understanding of air power and its relevance to their activities? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | are able to relate the doctrine of air power to its application by the RAAF? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |



AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

INSTRUCTOR SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your squadron or unit.

Please indicate, in the space provided, with which course you are associated, and in what capacity.

For Items 1 to 15, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
Only

With regard to your particular course, how satisfied are you:

- | | | |
|----|--|---|
| 1. | that the course develops the students' understanding of RAAF air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | that the course develops the students' understanding of RAAF air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | that the air power lessons on the course are presented in an interesting way? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | that the air power lessons on the course are motivating for the students? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

Office Use
Only

With regard to your particular course, how satisfied are you:

- 5. with the instructional methods that are used to teach air power on the course? ₁ ₂ ₃ ₄ ₅
- 6. that sufficient time is allocated to RAAF air power doctrine on the course? ₁ ₂ ₃ ₄ ₅
- 7. that the air power elements on the course motivate students enough to continue to learn more about air power? ₁ ₂ ₃ ₄ ₅
- 8. that students appreciate the need for air power doctrine in the application of RAAF operations at the end of the course? ₁ ₂ ₃ ₄ ₅
- 9. that the air power instructional material on the course is pitched at the correct level? ₁ ₂ ₃ ₄ ₅
- 10. that the air power elements of the course are relevant to students future employment in the RAAF? ₁ ₂ ₃ ₄ ₅
- 11. that the theme 'that a comprehension of air power doctrine is a personal responsibility' is encouraged on the course? ₁ ₂ ₃ ₄ ₅
- 12. that an emphasis is placed on understanding air power doctrine and its application to RAAF operations, rather than rote learning the doctrine itself? ₁ ₂ ₃ ₄ ₅
- 13. that the assessment procedures for the air power elements of the course are appropriate to CTOs and syllabus objectives? ₁ ₂ ₃ ₄ ₅
- 14. that the level of interaction between instructor and student with regard to the air power elements on the course is appropriate? ₁ ₂ ₃ ₄ ₅

Vertical column of 14 empty boxes for office use only.

19. Please provide any suggestions on how you believe the air power elements of the course could be improved.



AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

RAAF COMMANDERS

SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your Group/Wing/Squadron or unit.

For Items 1 to 43, please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
Only

How satisfied are you that since CAS put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- | | | |
|----|--|---|
| 1. | the study and knowledge of air power has become the central element which unifies the diverse roles and functions of the RAAF? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | on the whole members of the RAAF better understand that the RAAF exists to provide the air power that Australia needs for its security? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | on the whole members of the RAAF are more focused towards operational effectiveness? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | on the whole members of the RAAF better understand how their actions and functions relate to the application of air power? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the RAAF officer corps? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

Office Use
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How satisfied are you that since CAS put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- | | | | |
|-----|--|--|--|
| 6. | the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood by RAAF airmen? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ | |
| 7. | the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the wider community? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ | |
| 8. | the OETS is now graduating officers who have a sound knowledge and understanding of air power, and its importance to the defence of Australia? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ | |
| 9. | the AETS is now graduating members who have a good knowledge and understanding of air power, and its importance to the defence of Australia? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ | |
| 10. | the OETS is now graduating members who have a greater appreciation of the many different agencies (Governmental, Departmental and Service) influencing the development and employment of air power in Australia's nearer region? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ | |
| 11. | the OETS and AETS are now graduating members who have a better understanding of the applications of air power across the levels of war? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ OETS
<input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ AETS | |
| 12. | the OETS and AETS are now graduating members who have an appreciation of the doctrine process? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ OETS
<input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ AETS | |
| 13. | the OETS and AETS are now graduating members who have a better understanding of the combat and other operations of the RAAF? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ OETS
<input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ AETS | |
| 14. | the OETS and AETS are now graduating members who have an appreciation for, and understand the role history and doctrine may have in, affecting air operations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ OETS
<input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ AETS | |

Please tick the box
to indicate your choice

Office Use
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How satisfied are you that since CAS put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- | | | |
|-----|--|--|
| 15. | the OETS and AETS are now graduating members who possess the skills which will enable them to better apply their acquired knowledge in their new appointments? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ _{OETS}
<input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ _{AETS} |
| 16. | the APSC has effectively facilitated thought and debate on air power doctrine, and more recently the role of air power in broader defence issues? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 17. | there has been sufficient production and distribution of air power publications by the APSC? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 18. | the APSC has provided sufficient support and direction to unit commanders on how to promote a greater awareness of air power in their units? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 19. | the APSC's role in promoting a greater awareness and understanding of air power has been sufficiently publicised at unit level? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 20. | the APSC has provided sufficient opportunity for briefings and presentations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 21. | the number of conferences on historical and contemporary air power issues has been sufficient? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 22. | the informal input at unit level to promote a broad understanding of air power and the application of air power doctrine complements the formal education program? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 23. | enough is being done at the unit level to promote a broad understanding of air power and the application of air power doctrine? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 24. | on the whole RAAF members now have a better appreciation of how their activities and the activities of others contribute to the use of air power by the RAAF? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box to indicate your choice

Office Use Only

How satisfied are you that since CAS put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- 25. the conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have promoted the broad understanding of air power and the application of air power doctrine in the Defence Organisation? ₁ ₂ ₃ ₄ ₅
- 26. the conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have promoted the broad understanding of air power and the application of air power doctrine in the Navy and Army? ₁ ₂ ₃ ₄ ₅
- 27. the conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have promoted the broad understanding of air power and the application of air power doctrine in the wider community? ₁ ₂ ₃ ₄ ₅
- 28. the research conducted by APSC fellows has promoted a broader understanding of air power within the RAAF? ₁ ₂ ₃ ₄ ₅
- 29. APSC fellowships are a necessary element of the RAAF air power education system? ₁ ₂ ₃ ₄ ₅
- 30. effective use has been made of the media and public relations to promote an awareness of air power in the defence of Australia? ₁ ₂ ₃ ₄ ₅
- 31. the efforts by the APSC have been sufficient in developing closer ties at the regional level by assisting with promotion of air power awareness and the development of air power doctrine? ₁ ₂ ₃ ₄ ₅
- 32. the community now has a greater awareness of the role of air power in the defence of Australia? ₁ ₂ ₃ ₄ ₅
- 33. the community now has a better understanding of the ADF resource requirements needed for the application of air power? ₁ ₂ ₃ ₄ ₅

Please tick the box
to indicate your choice

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How satisfied are you that since CAS put in place initiatives to promote the wider understanding and proper application of air power in 1989:

34. the efforts by the APSC to assist regional nations in the methods they can use to promote the role of air power in the defence of their nations have been appropriate? ₁ ₂ ₃ ₄ ₅
35. there is a greater understanding among RAAF members of the relative worth and recognition of their functions towards the application of air power? ₁ ₂ ₃ ₄ ₅
36. there is less tendency for those members remote from operations to treat their RAAF employment as an unremarkable, nine-to-five proposition? ₁ ₂ ₃ ₄ ₅
37. on the whole staff officers are better able to explain, using basic air power concepts, the Air Force's position on an issue? ₁ ₂ ₃ ₄ ₅
38. with the development of air power doctrine there is less tendency for Army doctrine to be adopted directly as Joint doctrine? ₁ ₂ ₃ ₄ ₅

If you have had recent (i.e. graduated since Dec 1991) RAAF Command and Staff Course graduates work for you please answer the following questions. If not, please go to Item 44.

How satisfied are you that, on the whole, RAAF CSC graduates are able to:

39. analyse the influence of the various theories of air power on Australia's air power doctrine? ₁ ₂ ₃ ₄ ₅
40. assess the implications of Australia's economic, industrial and technological resources for the development of air power in Australia's nearer region? ₁ ₂ ₃ ₄ ₅
41. analyse the factors which limit or enhance the effectiveness of air power in Australia? ₁ ₂ ₃ ₄ ₅
42. evaluate the employment of air power in Australia's nearer region? ₁ ₂ ₃ ₄ ₅

50. What processes or systems are in place at your base/squadron/unit to ensure that each member has an appreciation of how their activities and the activities of others contribute to the exercise of air power by the RAAF?

51. Do you think these processes or systems are effective? If not do you think they be improved?

52. Please provide any suggestions on how you believe the formal RAAF air power education system (i.e. OETS and AETS) may be improved.

53. Please provide any suggestions on how you believe air power and the application of air power doctrine could be promoted better to develop a broader understanding in the Navy, Army, Defence Organisation, the wider community and regional nations.



AN EVALUATION OF THE RAAF AIR POWER EDUCATION SYSTEM

OPINION SURVEY

If possible, please complete all items in this section. If you have any problems or are unsure of any item/items please make note of it/them for discussion with SQNLDR J. Walker when he visits your organisation.

The survey is divided into five sections. If you are a member of the Navy please complete Section One and Section Five. If you are a member of the Army please complete Section Two and Section Five. If you work in the Defence Organisation please complete Section Three and Section Five. If you work in the wider civilian community please complete Section Four and Section Five.

SECTION ONE - NAVY

For Items 1 to 15 please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅- If you are **VERY SATISFIED** with the proposition
- ₄- If you are **SATISFIED** with the proposition
- ₃- If you **HAVE NO OPINION** on the proposition
- ₂- If you are **DISSATISFIED** with the proposition
- ₁- If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
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How satisfied are you that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- | | | |
|----|--|---|
| 1. | on the whole senior Navy officers better understand that the RAAF exists to provide the air power that Australia needs for its security? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the Navy officer corps? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | the Navy Staff Course is now graduating officers who have a better knowledge and understanding | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box
to indicate your choice

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How satisfied are you that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

of air power, and its importance to the defence of Australia?

- | | | | | | | |
|-----|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 4. | the APSC has effectively facilitated thought and debate on air power doctrine, and more recently the role of air power in broader defence issues? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 5. | there has been sufficient production and distribution of air power publications by the APSC? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 6. | the APSC has provided sufficient opportunity for briefings and presentations? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 7. | the number of conferences on historical and contemporary air power issues has been sufficient? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 8. | the conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have promoted the broad understanding of air power and the application of air power doctrine in the Navy? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 9. | effective use has been made of the media and public relations to promote an awareness of air power in the defence of Australia? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 10. | there is a greater understanding among Navy officers of the relative worth and recognition of their functions towards the application of air power? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 11. | on the whole RAAF staff officers are better able to explain, using basic air power concepts, the Air Force's position on an issue? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 12. | with the development of air power doctrine there is less tendency for Army doctrine to be adopted directly as Joint doctrine? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 13. | on the whole Navy senior officers have a better understanding of the ADF resource requirements needed for the application of air power? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |

SECTION TWO - ARMY

For Items 1 to 15 please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
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How satisfied are you that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

1. on the whole senior Army officers better understand that the RAAF exists to provide the air power that Australia needs for its security? ₁ ₂ ₃ ₄ ₅
2. the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood within the Army officer corps? ₁ ₂ ₃ ₄ ₅
3. the Army Command and Staff Course is now graduating officers who have a better knowledge and understanding of air power, and its importance to the defence of Australia? ₁ ₂ ₃ ₄ ₅
4. the APSC has effectively facilitated thought and debate on air power doctrine, and more recently the role of air power in broader defence issues? ₁ ₂ ₃ ₄ ₅
5. there has been sufficient production and distribution of air power publications by the APSC? ₁ ₂ ₃ ₄ ₅
6. the APSC has provided sufficient opportunity for briefings and presentations? ₁ ₂ ₃ ₄ ₅
7. the number of conferences on historical and contemporary air power issues has been sufficient? ₁ ₂ ₃ ₄ ₅

Please tick the box
to indicate your choice

Office Use
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How satisfied are you that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

8. the conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have promoted the broad understanding of air power and the application of air power doctrine in the Army? ₁ ₂ ₃ ₄ ₅
9. effective use has been made of the media and public relations to promote an awareness of air power in the defence of Australia? ₁ ₂ ₃ ₄ ₅
10. there is a greater understanding among Army officers of the relative worth and recognition of their functions towards the application of air power? ₁ ₂ ₃ ₄ ₅
11. on the whole RAAF staff officers are better able to explain using basic air power concepts the Air Force's position on an issue? ₁ ₂ ₃ ₄ ₅
12. with the development of air power doctrine there is less tendency for Army doctrine to be adopted directly as Joint doctrine? ₁ ₂ ₃ ₄ ₅
13. on the whole senior Army officers have a better understanding of the ADF resource requirements needed for the application of air power? ₁ ₂ ₃ ₄ ₅
14. the APSC and Directorate of Army Research and Analysis (DARA)ARA do enough jointly in the area of education? ₁ ₂ ₃ ₄ ₅
15. enough has been done to assist regional nations in the methods they can use to promote the role of air power in the defence of their nations? ₁ ₂ ₃ ₄ ₅

16. If you rated any of Items 1 to 15 as **DISSATISFIED** or **NOT SATISFIED AT ALL**, please provide details as to why.

SECTION THREE - THE DEFENCE ORGANISATION

For Items 1 to 13 please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
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How satisfied are you that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- | | | |
|----|--|---|
| 1. | on the whole senior officers in the Department of Defence better understand that the RAAF exists to provide the air power that Australia needs for its security? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 2. | the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood by senior officers within the Department of Defence? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 3. | the APSC has effectively facilitated thought and debate on air power doctrine, and more recently the role of air power in broader defence issues? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 4. | there has been sufficient production and distribution of air power publications by the APSC? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 5. | the APSC has provided sufficient opportunity for briefings and presentations? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |
| 6. | the number of conferences on historical and contemporary air power issues has been sufficient? | <input type="checkbox"/> ₁ <input type="checkbox"/> ₂ <input type="checkbox"/> ₃ <input type="checkbox"/> ₄ <input type="checkbox"/> ₅ |

Please tick the box to indicate your choice

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How satisfied are you that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- 7. the conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have promoted the broad understanding of air power and the application of air power doctrine in the Department of Defence? ₁ ₂ ₃ ₄ ₅
- 8. effective use has been made of the media and public relations to promote an awareness of air power in the defence of Australia? ₁ ₂ ₃ ₄ ₅
- 9. there is a greater understanding among Department of Defence officers of the relative worth and recognition of their functions towards the application of air power? ₁ ₂ ₃ ₄ ₅
- 10. on the whole RAAF staff officers are better able to explain, using basic air power concepts, the Air Force's position on an issue? ₁ ₂ ₃ ₄ ₅
- 11. with the development of air power doctrine there is less tendency for Army doctrine to be adopted directly as Joint doctrine? ₁ ₂ ₃ ₄ ₅
- 12. on the whole Department of Defence officers have a better understanding of the ADF resource requirements needed for the application of air power? ₁ ₂ ₃ ₄ ₅
- 13. enough has been done to assist regional nations in the methods they can use to promote the role of air power in the defence of their nations? ₁ ₂ ₃ ₄ ₅
- 14. If you rated any of Items 1 to 13 as **DISSATISFIED** or **NOT SATISFIED AT ALL**, please provide details as to why.



SECTION FOUR - THE WIDER CIVILIAN COMMUNITY

For Items 1 to 13 please rate how satisfied you are with the particular feature of the current RAAF air power education system by selecting from the following numbered responses and ticking the corresponding box:

- ₅ - If you are **VERY SATISFIED** with the proposition
- ₄ - If you are **SATISFIED** with the proposition
- ₃ - If you **HAVE NO OPINION** on the proposition
- ₂ - If you are **DISSATISFIED** with the proposition
- ₁ - If you are **NOT SATISFIED AT ALL** with the proposition

Please tick the box
to indicate your choice

Office Use
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How satisfied are you that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- | | | | | | | |
|----|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. | on the whole the civilian community better understands that the RAAF exists to provide the air power that Australia needs for its security? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 2. | the place of air power and the roles which the RAAF must play in the securing of Australia are now more properly understood by the wider civilian community? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 3. | the APSC has effectively facilitated thought and debate on air power doctrine, and more recently the role of air power in broader defence issues? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 4. | there has been sufficient production and distribution of air power publications by the APSC? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 5. | APSC air power publications have fostered informed debate on air power and its application to RAAF operations? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 6. | the APSC has provided sufficient opportunity for briefings and presentations? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |
| 7. | the number of conferences on historical and contemporary air power issues has been sufficient? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ | <input type="checkbox"/> ₅ |

Please tick the box to indicate your choice

Office Use Only

How satisfied are you that since the Air Force put in place initiatives to promote the wider understanding and proper application of air power in 1989:

- 8. the conferences, lectures, seminars and study periods on air power doctrine and the role of air power in wider defence issues have promoted the broad understanding of air power and the application of air power doctrine in the wider civilian community? ₁ ₂ ₃ ₄ ₅
- 9. effective use has been made of the media and public relations to promote an awareness of air power in the defence of Australia? ₁ ₂ ₃ ₄ ₅
- 10. on the whole the wider civilian community has a better understanding of the ADF resource requirements needed for the application of air power? ₁ ₂ ₃ ₄ ₅
- 11. enough has been done to assist regional nations in the methods they can use to promote the role of air power in the defence of their nations? ₁ ₂ ₃ ₄ ₅
- 12. on the whole RAAF staff officers are better able to explain, using basic air power concepts, the Air Force's position on an issue? ₁ ₂ ₃ ₄ ₅
- 13. with the development of air power doctrine there is less tendency for Army doctrine to be adopted directly as Joint doctrine? ₁ ₂ ₃ ₄ ₅

14. If you rated any of Items 1 to 13 as **DISSATISFIED** or **NOT SATISFIED AT ALL**, please provide details as to why.

5. What is your opinion of the Master of Defence Studies offered by ADFA (in particular the six month air power elective) as a means to raise the awareness of air power among military and Defence Organisation personnel?



**AREAS FROM WHICH NAVY, ARMY, THE DEFENCE
ORGANISATION AND WIDER COMMUNITY
PERSONNEL WERE SELECTED**

Directorate of Joint Operations
Directorate of Joint Planning
Directorate of Joint Logistics Operations and Plans
Directorate of Naval Policy
Directorate of Naval Warfare
Directorate of Aviation Projects - Navy
Directorate of Aircraft Engineering - Navy
Directorate of Army Research and Analysis
Directorate of Aviation - Army
Directorate of Air Force Policy
Directorate of Personnel Civilians - Air Force
Army Training Command
RAAF Staff College
International Policy Division
Force Development and Analysis Division
Defence Intelligence Organisation
Defence Material Division
Capital Equipment Program Division
Industry Involvement and Contracting Division
Logistics Division
Australian Defence Force Warfare Centre



**LIST OF INFORMAL CRITERIA FOR
LIKERT AND ATTITUDE CONSTRUCTION**

The following criteria were used to develop Likert scale items:

- a. avoid statements that refer to the past rather than to the present;
- b. avoid statements that are factual or capable of being interpreted as factual;
- c. avoid statements that may be interpreted in more than one way;
- d. avoid statements that are irrelevant to the psychological object under consideration;
- e. avoid statements that are likely to be endorsed by almost everyone or no-one;
- f. select statements that are believed to cover the entire range of the affective scale of interest;
- g. keep the language of the statements simple, clear and direct;
- h. statements should be short, rarely exceeding 20 words;
- i. each statement should contain only one complete thought;
- j. avoid universals such as all, always, none, never;
- k. words such as only, just, and merely, should be used with care and moderation in writing statements;
- l. whenever possible statements should be in the form of simple sentences, rather than compound or complex sentences;
- m. avoid the use of words that may not be understood;

- n. avoid the use of double negatives; and
- o. authoritative statements or statements that imply authority should be avoided.



RAAF COMMANDERS SURVEYED

DCAS	CO1RSU
CMDRALG	CO1RTU
CMDRMPG	CO2CRU
CMDRSRG	CO2FTS
CMDRTFG	CO3CRU
OC301ABW	CO3SQN
OC302ABW	COCFS
OC303ABW	COSAN
OC304ABW	COSATC
OC305ABW	COSCST
OC307ABW	COSMTT
OC321ABW	COSTT
OC322ABW	SOCAS
OC481WG	COPHOTS
OC81WG	
OCWAG	
OCARDU	
CMDTRAAFCOL	
CMDTRAAFSTAFFCOL	
AHQ(COPS)	
AHQ(CSPT)	
AHQ(SLO)	
AHQ(SOPB)	
AHQ(SOPSO)	
AHQ(SPALNSO)	
DAPSC	



APSC PROMOTIONAL ACTIVITIES

FELLOWSHIPS

1991	Wing Commander R. Grey	Fishing Surveillance in the South West Pacific (published by SDSC)
1991	Squadron Leader P.J. McCarry	This is not a Game - Wargaming for the Royal Australian Air Force (published by APSC)
1992	Squadron Leader D.C. Redding	Risk Management in Air Operations (work not published)
1992	Squadron Leader Forestier, AM	Into the Fourth Dimension: An ADF Guide to Space (published by APSC)
1992	Squadron Leader P.W. Rienks	Human Factors in Air Force Combat Effectiveness (published by APSC)
1992	Squadron Leader W. Gale	The Potential of Satellites for Wide Area Surveillance of Australia (published by APSC)
1993	Flight Lieutenant M. Maclean	Preparedness and Repairable Item Management (published by APSC)
1993	Squadron Leader J. Bennett	The History of No. 2 Squadron (published by AGPS)
1994	Squadron Leader D. Tramoundanis	Australian Air Power in Joint Operations (published by APSC)
1994	Squadron Leader P. McLennan	Preparedness and the Maintenance Factor (published by APSC)
1995	Squadron Leader D. Pasfield	Operational Logistics Support for Air Operations
1995	Squadron Leader N. Tesch	Australian/Indonesian Air Power Cooperation
1995	Squadron Leader J. Walker, AM	Air Power Doctrine Education

VISITING FELLOWS

1993	Squadron Leader S. Mackenzie (RNZAF)	Strategic Air Power Doctrine for Small Air Forces (published by APSC)
1995	Squadron Leader B. Keightley (RNZAF)	Intelligence Support for RNZAF Operations
1995	Wing Commander J. Teager (RAF)	The Role of Air Power in Peace Operations
1995	Lieutenant Colonel Koesnadi (TNI-AU)	The Development of a Regime for Australia and Indonesia to Conduct Surveillance Jointly

AIR POWER STUDIES CENTRE FELLOWSHIP PAPERS

- FP1 McCarry, Squadron Leader P.J., This is not a Game -Wargaming for the Royal Australian Air Force, 1991.
- FP2 Forestier, Squadron Leader A.M., Into the Fourth Dimension: An ADF Guide to Space, 1992.
- FP3 Rienks, Squadron Leader P.W., Human Factors in Air Force Combat Effectiveness, 1992.
- FP4 Gale, Squadron Leader W., The Potential of Satellites for Wide Area Surveillance of Australia, 1992.
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Waters, Gary (ed), Line Honours - Logistics Lessons of the Gulf War, Canberra, APSC, 1993.

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Waters, Gary and Lax, Mark (eds), Regional Air Power Workshop Darwin 23-25 August 1994, Canberra, 1994.

Waters, Gary, OBOE - Air Operations Over Borneo 1945, Canberra, APSC, 1995.

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History Conferences

- 1992 Australia's Air Chiefs
- 1993 The RAAF in the Southwest Pacific Area
- 1994 The RAAF in Europe and North Africa
- 1995 The Home Front - Mainland Australia and the Southwest Pacific Area

Air Power Conferences

- 1991 Smaller But Larger
- 1992 The Qualitative Edge
- 1994 The War In The Air

AIR POWER STUDIES CENTRE WORKSHOPS

- 1993 The Regional Air Power Workshop Darwin 24-26 Aug 1993
- 1994 The Regional Air Power Workshop Darwin 23-25 Aug 1994
- 1995 The Regional Air Power Workshop Townsville 4-8 Sep 1995
- 1995 The Operational Support Workshop 21-22 Feb 1995

PRESENTATIONS

RAAF

RAAF College - Point Cook - Basic Staff Course
Joint Services Staff College
RAAF Staff College - Command and Staff Course
ADFA
RAAF School of Clerical and Supply Training - Wagga
Administrative Officer's Basic Course
Legal Officers's Basic Course
Intelligence Officer's Course

NAVY

The Ran Maritime Studies Period
RAN Staff College

ARMY

The Command and Staff College - Fort Queenscliff

OVERSEAS

Malaysian Defence College
Philippines Command and General Staff College

VISITS TO THE APSC BY REGIONAL NATIONS

- 1993 Philippines visit to APSC
 12-28 Sep 93
 Col Francia and Col Faustino
- 1994 Malaysian visit to APSC
 16-31 March 94
 LtCol Latif bin Ismail and LtCol Mokhyidden bin Abu Baker
- 1994 Singaporean visit to APSC
 23-26 Nov 94
 LtCol Chee and LtCol Menon
- 1995 Philippines visit to APSC
 19 Apr - 20 Jul 95
 Col Bunuan and Col Durano
- 1995 Indonesian visit to APSC
 May 95 -
 LtCol Koesnadi Kardi





