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The effect of assessment procedures on student learning outcomes in religious education in one Catholic secondary school in Western Australia

Philip F. Cox
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THE EFFECT OF ASSESSMENT PROCEDURES ON STUDENT LEARNING
OUTCOMES IN RELIGIOUS EDUCATION IN ONE CATHOLIC
SECONDARY SCHOOL IN WESTERN AUSTRALIA

By

Philip F. Cox B.A., B.Ed., Post Grad. Dip. (Ed. Admin.), Dip. Ed.

A Thesis Submitted in Fulfilment of the
Requirements for the Award of

Master of Education
at the Faculty of Education, Edith Cowan University

Date of Submission: March, 1996

Abstract

This study investigates the effect of utilising formal assessment procedures on student learning in the religious education classroom.

There is a debate in the religious education literature concerning the place of assessment in religious education. This debate is reflected in the divisions that occur amongst teachers of religious education in Catholic schools. The debate has been polarised with an uncertain group being left between the two extremes. Teachers of religious education in Catholic schools are uncertain as to the best teaching methodology to utilise.

This thesis outlines the philosophical arguments concerning the place of assessment in religious education in Catholic schools. The thesis will highlight the principles behind the utilisation of assessment procedures in general education and then applies these principles to the teaching of religious education.

Religious education in Catholic schools attempts to affect two aspects of student learning. The cognitive domain comprises one aspect of the study. Changes in the affective domain is the second area to be investigated.

The study utilised a nested design which incorporated seven class groups in an experimental and control group format. The subjects were 160 students in the Year 8 in a metropolitan Catholic high school in Perth, Western Australia.

Each student was taught a module of work. Student scores from a series tests, based on the cognitive and

affective domain formed the bulk of the data for this study. Other data was collected through surveys, interviews and taping of classroom teaching.

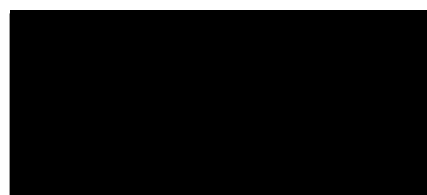
The findings indicate that student learning outcomes can be influenced when formal assessment and evaluation procedures are utilised. Student test results indicated significant change from the pretest. This change was maintained beyond the end of the teaching period.

The implications of this research include a greater understanding of the process of student learning in general, and in religious education in particular. the results may provide information that may assist religious educators to further understand the relevance of assessment to the teaching of religious education.

Declaration

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma on any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature...



Date.....12.3.96.....

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Finally I would like to thank my wife and family who encouraged and supported me in this study. Without their support this thesis would never have been completed and would have been given up at the first difficulty.

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Chapter One

The Nature And Purpose Of Religious Education.

The Purpose of the Study

Religious education in Catholic schools suffers from an identity crisis. One particular identity problem relates to the teacher's perception of what religious education actually is. Many teachers are unsure "as to whether religion should be a 'subject'" (Crawford & Rossiter, 1986, p. 21) with all the associated features of a subject, including clear objectives, assessment, evaluation and curriculum development. Some teachers feel strongly that their task is 'real' education. The subject they teach is on a par with mathematics, english and social studies. As such, it requires the time allocation, funding, support and structure of the regular subjects.

Other teachers argue that religious education is a search for greater understanding and personal faith and so should be free of the restrictions associated with 'subjects'. The restrictions include activities such as testing, assignments and homework. They argue that religious education lessons should have discussions of life experiences, sharing and openness. There is little room for doctrine, the catechism or assessment in lessons. Between the two groups are the teachers who are unsure as to the best methodology to utilise for their teaching.

The Catholic community too has become involved in this

debate. Parents recall their own school life in Catholic schools. In this experience teaching religious education was based on a formal learning knowledge model. Material had to be learnt. Students were tested. These students, now parents, still recall the content that was taught and learnt. They see their own children's schooling lacking knowledge content. They blame the schools for failing to give their children knowledge and faith; many want the return of the catechism; some blame the schools for their children's moral position or their lack of attendance at the sacraments and church.

The pressure on the teachers arises from this diversity of demands. As professionals, the teachers wish to do the best they can for their students, for the parents and for the Catholic Church. The best method to achieve these results is a matter for debate. This results in the confusion felt by classroom teachers.

Religious education is perhaps one subject which has a significant proportion of its objectives in the affective domain. This aspect of religious education attempts to nourish and develop the student's faith. Many teachers argue that the best method to achieve this goal is via a praxis approach which involves discussion of life experiences and sharing but definitely not formal assessment (tests, revision exercises and exams). Teachers who support this method of teaching argue that an emphasis on formal assessment is counter productive to the focus of faith formation. Currently, formal assessment in religious education in Catholic schools does not generally occur. It

is not policy in the school being studied.

The two aspects of religious education, knowledge and faith, are not mutually exclusive. Research shows that a whole range of factors are involved in the development of faith. Both cognitive and affective factors are involved. While the relationship between knowledge and faith may not be causal, a relationship nevertheless does appear to exist.

The first research question attempts to deal with the issue of change in learning outcomes.

1. Do learning outcomes in religious education classes in one Catholic school change when formal assessment procedures are utilised?

The second research question focuses on the issue of faith development.

2. Do student's values change if formal assessment procedures are utilised in religious education classes?

The third research question focuses on other possible variables that may effect student learning outcomes.

3. Are student learning outcomes effected by family background?

Dealing with the issue of faith development is important. Religious education cannot focus solely on learning outcomes or faith development. Both knowledge and faith form integral parts of the whole. One cannot focus on one aspect at the exclusion of the other. Thus both aspects have been included in this study.

This study will add to the knowledge regarding the place of assessment in religious education. The debate regarding the relevance of assessment in religious education

has generally be a philosophical debate. This study is an analysis of actual student scores from a classroom situation. Scores reflecting change in the cognitive and affective domains are used to investigate the variation in learning outcomes, between classes that results from two differing teaching modes. This therefore responds to the philosophical debate by utilising an actual classroom situation.

The Nature of Classroom Practice

A discussion of the recent situation within religious education in Catholic schools will set the scene for this study. The reality of religious education in Catholic schools is unique. Its perceived nature has created a situation where rigorous academic teaching methodologies, including assessment and evaluation, have often been ignored. Students see little significance in the objectives of the religious education class. This attitude has resulted in poor effort on the part of students to learn, be involved, contribute and study the material presented by the teacher. The effectiveness of the religious education class to impact on student learning (affective and cognitive) outcomes is therefore questionable. Such a situation would be alien to teachers of other subjects such as english and mathematics. Assessments, evaluation procedures, final exams, tertiary entrance, pathways to future careers all help focus the student on the content of the core subjects. Religious

education, because of its nature and due to the teaching methodologies used over the past few years, is not often seen as being relevant or significant in the lives, or futures of Catholic youth.

In the past, the cultural tradition favoured the transmission of the faith. The family, the Catholic community and the church all reinforced what was being taught at school. The school and the family unit were supporting each other's efforts to educate the child and develop their faith commitment. Crawford and Rossiter (1989) suggest that our society has "brought about the rise of a distinctive sub-culture of educated, informed and questioning youth" (p. 17). This generation is no longer content to merely accept Catholic dogma or church teaching.

In the past, teaching methodology within the religious education class of Catholic schools was often based on rote learning of a series of articles contained within catechetical documents. As the student population became increasingly resistant to this process, teaching practice sought other methodologies. Most recently, the move has been toward the 'educational' models utilised by other subjects.

The second change was in the nature of the clientele. Previously, most students within Catholic schools were involved in the church community. This is no longer the case. Crawford and Rossiter (1989) claim that "many young people participate in the religious life of their church community only with reluctance or on the periphery.

Others have nothing to do with the church" (p. 19). It is therefore difficult to prepare lessons for a religious education class which has such a broad range of commitment to the content of the lesson. Thus teachers tended to water down their approach in an effort to at least achieve some sort of response from each student. The result seems to be a lack of direction in the teaching process which appealed to no-one and achieved very little.

The teaching of religious education in a way that lacked academic rigour, challenge and purpose resulted in the subject being perceived "by pupils and staff as a subject which does not 'count'" (Catholic Education Office, 1985, p. 6). This view is supported by Crawford and Rossiter (1986), Nichols (1981), Malone (1984) and Di Giacomo (1984) who all point to the low status of the subject in the eyes of staff and pupils. Crawford and Rossiter (1986) suggest that this has resulted from "too much informality" (p. 25), while Malone (1984) suggests that the lack of formal assessment and approaching the subject in a non-educational way contributed to the situation (p. 12).

Complicating the effect of poor teaching strategies and increasing student resistance is the treatment of the subject by the school administrators. Di Giacomo (1984) points out that religious education classes may meet so infrequently that little sense of continuity can be maintained (p. 397). Compounding this is the use of religious education lesson times for visiting speakers, pastoral care programs and other administrative needs

(Malone, 1984, p. 12). Crawford and Rossiter (1986) recognise that there is a cumulative effect of these interferences on staff and student perception of the subject. As the number of periods allotted for religious education declines, teachers and students may perceive that religious education is not important. As the prestige for the subject declines it is more likely to be taken over for other uses, and so the cycle continues. Student perception falls, teachers see it as less important, lesson preparation is lessened, professionalism suffers, students respond less positively and so on.

The level of professionalism of religious education teachers is a contributing factor to the poor status of the subject. Teachers are often appointed to teaching positions in Catholic schools according to their qualifications in other subject areas. They are then expected to teach religious education without adequate training or qualifications (Treston, 1988, pp. 6-7). The principal qualification is generally a willingness to try rather than an academic background. This situation is very slowly changing as teachers acquire professional training in the teaching of the subject.

The evidence of a lack of adequate training is supported by the research literature. As early as 1981, Ayel (1981) pointed out that teachers themselves "cited their lack of doctrinal competence" as a factor affecting their teaching of religious education (p. 113). Di Giacomo (1984) and Lovat (1989) also recognised the lack of well trained and well-equipped teachers. Brennan

(1990) states that one of the Australian Bishops' greatest concerns is the "teachers lack of knowledge of the Catholic faith tradition" (p. 21).

A real dichotomy seems to exist within Catholic schools. On the one hand religious education seems to be expected to function like all others, in terms of timetabling, programming and inservice. To this extent the subject seems to be educational (Lovat, 1989, p. 87). On the other hand, the subject is not treated in an educational mode. The "hiring practices, allotment of class time, method of teaching and lack of assessment all too often belie the profession of concern often quoted by all Catholic schools" (Di Giacomo, 1984, p. 398).

Religious Education and Associated Approaches To Teaching

The debate regarding the relevance of assessment and evaluation to religious education centres upon the definition of 'religious education'. Currently, the Catholic Education Office in Perth supports an 'education to faith' mode of teaching. This gives the term 'religious education' meaning in the context of teaching in Western Australia and in respect to this study. The education to faith mode of teaching carries with it a particular approach to the subject. To assist a review of the various terms associated with religious education, a brief description and discussion of each term appears below.

The term religious education has become an "umbrella

term encompassing all facets of Christian formation" (Di Giacomo, 1984, p. 396). Being so widely used, it has collected a myriad of understandings depending upon the context in which the subject is taught. Rossiter (1981c) classified the commonly accepted variations associated with this term under the headings 'Education Perspective' and 'Faith-sharing Perspective'. This range of understandings is also apparent within the Catholic school. 'Education in religion', 'instruction', and 'religious studies' are classified as aspects of the 'Education Perspective'. The 'Faith-sharing Perspective' includes education in faith, praxis and catechesis.

The emphasis of the term 'Education in Religion' is upon the word 'education'. It "adopts an educational perspective and is an exploration of religion from the point of view of good education" (Flynn, 1984, p. 22).

Religious studies is another aspect of education in religion. It makes "no assumption about faith in the teacher or learner" (Flynn, 1984, p. 22). It stresses knowledge and understanding. Its main focus is also education and it has normally little relationship to the aspect of religious education that could possibly lead to faith in the hands of a committed teacher.

Nichols (1981) defines the term 'Instruction' as the "teaching or explaining of the doctrines and practices of the faith" (p. 15).

The term 'Catechesis' is defined by the Italian Episcopal Conference (1970) as "the initiation of men into the life of the Church" (p. 27). It is intended for those

who have made the fundamental choice of Christ and His Church. Nichols (1981), Rossiter (1981b) and Flynn (1984b) define this term as a dialogue between believers. As such, they clearly state that you cannot catechise a non-believer.

This aspect of religious education is the centre of a significant debate in the literature regarding the principal nature and function of religious education in Catholic schools. Its importance necessitates that this issue be considered in fuller length in a separate section.

Flynn (1984b) suggests that the term 'Education in Faith' is "broader than catechesis in concept and includes all the activities and experiences provided by the school which awaken, nourish and develop the faith of students. It includes the content of Catholic faith, scripture, doctrine, liturgy, life experience and morality" (p. 22). Several features arise from this definition. First, it is a broad, school wide approach not restricted to a particular subject. As such it is reflected in the approach favoured by the Catholic Education Office of Perth. Second, it makes particular reference to a range of specific objectives which in turn determine the approach teachers would take within the religious education lesson. The two objectives specifically relevant to this thesis are the content of faith and the affective domain suggested in the use of the words 'life experience and morality'.

Rossiter (1982a) supports Flynn's definition stating

that it aims to hand on a "particular faith tradition" (p. 172) and at the same time leads the student toward a "better understanding of the faith" (p. 172). In an earlier work, Rossiter (1981a) showed that education in faith is not merely an activity associated with schooling. By stating that "education in faith is a birth to death process", he illustrates that the activity of religious education in the classroom and school must be closely linked to the process of catechesis in the home, parish and church community (p. 25).

Macdonald (1988) also supports the views of Flynn and Rossiter. She stipulates that education in faith "should always be good education which facilitates authentic knowing" (p. 38). It should go beyond mere knowing or the giving of information by enabling students to "both acquire and deepen Christian faith" (p. 40). She too, relates the process of education in faith to the process of catechesis when she relates the handing on of the Catholic tradition "within a community of believers" (p. 4).

It is this array of approaches to the teaching of religious education that seems to have caused much of the confusion in the minds of many religious education teachers. Due to the possibility of confusion, it is the purpose of this section to outline first the meaning of these approaches to teaching religious education and second to clearly state the perspective from which Catholic schools in Western Australia are supposed to teach.

Religious Education: As Education

The distinction between education in religion and education in faith "highlights the natural tension between the concern to educate, which is tied with education and schooling, and the concern to hand on a faith tradition which is tied to a community of faith" (Rossiter, 1982, as cited in Elliot & Rossiter 1982). This natural tension is at the root of the confusion teachers feel when they consider how and what to teach in their religious education classes in Catholic schools. The confusion is central to the issue of utilising assessment and evaluation in religious education because, although the Catholic Education Office of Perth encourages the education in faith approach, it does not stipulate that assessment be used or avoided, nor does it clearly state how the individual teacher is to teach within each class. Therefore the confusion remains. Should an educational perspective or a catechetical emphasis dominate? The cause of this confusion is worthy of discussion.

In the past, the focus of religious education was often believed to be primarily in the affective or 'faith' domain. As a result of this focus, teachers avoided the more intellectual and academic aspect of the subject. (The definition of education in faith specifically refers to the content of faith dimension of the subject). This contention is supported in the literature by Rossiter (1981b) and Flynn (1984b) and Crawford and Rossiter

(1986). The latter indicate that young people need an experience of intellectual searching to help them to answer questions regarding faith (p. 2). Gascoigne (1987) also relates the development of knowledge and understanding of a religion to the growth of faith. This intellectual approach is important because teenagers are experiencing a period of questioning, challenge to authority and searching and so need substance to help them make valid, rational decisions.

Lovat (1987) argues a similar line. He uses the term 'religious literacy' (p. 18). He argues that young people need the broad foundation of religious literacy to enable them to work through their searching. He suggests that young people need to master and understand the vocabulary and fundamental concepts of their religion so that they can respond to the affective side of their faith. Lovat (1989) concludes that there is "no future whatever for serious religious education unless it can stand alongside other subjects as a contribution to good education" and that, having shown that it can "contribute to the quest for a critical, self-reflective education", it can be accepted as an integral part of the total curriculum (p. 40).

Lovat argues that religious education should reflect the values, structure and practice of good education. Currently, good education involves assessment and evaluation. Secondly, students need to see that religious education is a serious study, important to the total curriculum package a Catholic school offers.

Others argue that faith is the precise goal of religious education and that religion is not a series of facts to be learned but a way of life to be lived. Treston (1988), Steane (1987) and Moore and Hable (1982) all support this position. Nichols (1978, 1981) clearly states that religious education is seen as a particular form of catechesis. His position indicates a perception that religious education is an educational mode of catechesis that stresses the development of understanding, analysis and thoughtfulness in faith (p. 18). This position seems less extreme than that of other researchers and suggests an attempt to combine the educational and the affective goals of education in faith.

Teachers therefore remained confused and the question arises as to whether an educational perspective should dominate religious education or whether a catechetical approach should be emphasised? The literature illustrates that the confusion is widespread. Given that this is the case this research attempts to investigate the issue and to come to some conclusion regarding the two extremes.

Education in Faith: An Eclectic Approach

The extremes described above are balanced by a third view which supports an eclectic approach to the teaching of religious education in Catholic schools. This approach reflects the definition of religious education as education in faith. There is support for this mid-ground

philosophy. A brief review of the literature supporting this position shows the importance of a combined approach to the teaching of religious education in Catholic schools.

Macdonald (1988), while offering strong support for a more academic and rigorous study in religious education, is equally mindful of the need to not ignore the values/faith aspect of the subject. She states that "as good education, religious education should enable students to respond to the learning experiences, to clarify and organise values, to establish dominant values and to integrate beliefs and attitudes into a total philosophy" (p. 39). She contends that good religious education includes knowledge but that it goes beyond this stage into the affective domain.

Crawford and Rossiter (1986), Rossiter (1987), Flynn (1984b), and Nichols (1981) all strongly support this mode of teaching religious education. Moore (1982) also validates the view that both aspects (the cognitive and affective) "need to be included and included as a unity. No other subject ... would tolerate the division of its subject matter into its life-related inner core and its external structure" (p. 121). Steane (1987) adds further validity to the need for an educational approach to the teaching of religious education. He is concerned that indoctrination does not become part of teaching practice in religious education in Catholic schools. He indicates that teachers are very concerned that their methodology not be seen as being associated with indoctrination and so are very careful that this does not occur. He argues that

if religious education is taught with a strong academic mode the environment would be created that would facilitate intelligible and free decisions by students (p. 21) rather than an arbitrary imposition of beliefs.

This review of the nature of religious education allows for a greater understanding of the situation within Catholic schools in Western Australia. The discussion of the terms associated with the umbrella term of religious education clarifies the position. The discussion illustrates the confusion amongst teachers about their purpose as teachers of religious education in Catholic schools and the need for clear objectives. It also illustrates the point that within Western Australia a range of positions could occur despite the Catholic Education Office of Perth supporting an education in faith model as the preferred mode of teaching. The confusion, lack of direction and level of debate within the profession and the literature indicates a need to investigate the relative merits of the educational, affective and combined mode of teaching.

Catechesis: A Classroom Activity?

The relationship between catechesis and religious education is central to an understanding of what religious education is and what some claim it should be. Catechesis is related to religious education but is only one aspect of the broader process of religious education. There are other aspects which are also important. These include

education in religion and religious studies.

The above description also shows that catechesis is a very specialised aspect of the umbrella term religious education. The literature shows that there is poor understanding of the relationship between catechesis and religious education and that these misconceptions are effecting the teaching process and the learning outcomes of religious education classes.

Rossiter (1981b) states that "religion teachers tend to use the words catechesis ... and religious education interchangeably" (p. 162). This impression is further developed with the proposition that "religious education in Catholic schools has long been regarded primarily ... as catechesis" (Rossiter, 1982, p. 21). This position was further reinforced by Crawford and Rossiter (1986) indicating that little had changed since 1980. Both researchers support the view that the overriding philosophy behind religious education has been theological rather than educational.

This position is important for two reasons. First, catechesis is not equivalent to religious education. While there is a relationship between the two they are clearly aiming at different populations. As the two processes are different it is important that teachers of religious education begin to understand what is their task and how this task can best be achieved.

Second, the misunderstanding is causing teachers and students a great disservice. Crawford and Rossiter (1986) link the misconception that exists between the terms

catechesis and religious education with the disillusionment teachers feel when they cannot achieve their goals of catechesis. They claim that teachers need to narrow their goals and do what they can achieve rather than aim to achieve the unachievable. The Bishop's Synod of 1977 also indicated this need when they stated that "catechesis is not a scholastic process and that the limitations of syllabus, timetable, compulsion and discipline are too great and overwhelm it (catechesis)" (Nichols, 1981, p. 36).

Di Giacomo (1984), Black (1984) and Tuohy (1991) not only recognise that the environment of the religious education classroom has changed but warn that religious educators should not ignore the social realities of the classroom. Leavey (1984) attempts to emphasise the point by challenging the reality of the Catholic school in Australia. She states that "if we really challenged the parents (about their religious beliefs and practices) then the school would be half-empty" (p. 15). The students do not exhibit a hostile anti-religious feeling but rather an indifference or inertia about the goals of the religious education class. This type of resistance is more difficult to deal with mainly because it is not open and covert.

Thus there are two levels of difficulty associated with a religious educator's attempts to achieve the goals of catechesis. First, the necessary faith commitment may not be present. Thus the aims of catechesis may be difficult to achieve. Second, there can be a high level

of resistance to the work of the religious education teacher. This being the case two questions arise. First, can the classroom teacher achieve their goals, and second, is catechesis appropriate in the context of the school?

Compounding the problem caused by non-Catholic students in the religious education classroom is the realisation expressed by Lovat (1983) that even students baptised as Catholic are not acting as initiated Catholics. Catechesis has always been based on the premise of voluntary commitment to the faith. This commitment leads naturally to initiation and then catechesis. The reality for the Catholic child is that initiation generally occurs soon after birth. Catechesis though, requires that "initiation be real and not merely theological" (pp. 85-86). This proposition is compounded by the reality that our students are present for the religious education class because "the bell sounded and religion was the next subject on the timetable" (Malone, 1984, p. 10).

These two points are important to the issue of religious education. The issue of initiation is a real one. In the past, infant baptism was supported by nurturing of faith within the family. The evidence suggests that this is no longer the case. This reality creates a problem for the religious education teacher if that teacher is attempting to teach on the basis of catechesis. The second issue raised is also a real constraint for teachers. Students who are forced to be present in a Catholic school and in a religious education

lesson may not be open to faith development programs. The structures within schools also hinder the development of an environment which may engender catechesis. The students may be thinking about what had preceded the religious education lesson: an activity or an important exam may be following the lesson: an atmosphere of open sharing may be just beginning to unfold when the bell rings to announce the beginning of lunch or maths. These conditions force Rossiter (1981b) to conclude that "classroom religion periods ... are not always an appropriate place for catechesis" (p. 165). Similarly, because "catechesis is not a scholastic process and that the limitations of syllabus, timetable, compulsion and discipline are too great and overwhelm it" (Nichols, 1981, p. 88) perhaps the school environment is not conducive for catechesis.

A Professional Approach to Teaching Religious Education

The Perth Catholic Education Office has established a framework for the development of teaching programmes for Catholic schools in Western Australia. It is necessary though to establish a professional approach to the teaching of religious education within this framework.

Crawford and Rossiter (1986) in their study of religious education practice and theory conclude that "when looking into problems in religious education, teachers should be wary of the tendency to see them exclusively as 'religion' problems" (p. 26). These

problems include poor perception of the subject on the part of students, teachers and parents and little effort regarding learning. Rossiter (1983) (as cited in Castles, & Rossiter, 1983) describes the current malaise when he describes a common religious education classroom scene where "pupils could come to religion class and 'participate' without ever needing to bring books or a biro" (p. 6).

Brennan (1990) states that the three major concerns of the Bishops, at the Australian Catholic Bishops Conference, are the teachers' lack of knowledge of the Catholic faith tradition, the lack of Catholic identity in the teaching of religious education and the lack of moral content and clear statements of Catholic moral principles (p. 21). The Bishops found that the two most positive aspects of religious education in Catholic schools are retreats, camps and weekends; and liturgies and celebrations in the schools. It would seem that religious education teachers are well equipped to give students the experience of faith but lacking when it comes to teacher practices. It is suggested that these problems do not arise because of the nature of the subject but rather because of the poor teaching methodology. A more professional approach to teaching religious education is needed (Crawford & Rossiter, 1986, p. 22).

As religious education is taught within a school and within a classroom one would expect that it would receive the same level of professionalism as other subjects. This seems not to be the case. Crawford and Rossiter (1986)

continue this line of debate by pointing out that "if religion is not able to be a subject in some recognisable way, then it is unlikely that teachers will be able to do much constructive work with it in the classroom" (p. 21). Malone (1984), Catholic Education Office (1985), Black (1985), Leavey (1984), Macdonald (1988) and Rossiter (1983) (as cited in Castles, & Rossiter, 1983) also support the contention that religious education is part of the school curriculum and is a valid subject area in its own right. It is necessary that religious education be given the time and structure necessary for it to be successfully taught within the school context.

There is support for this approach in the literature. Lovat (1989) points out that one of the significant causes of difficulty within religious education classrooms is that many of the specific faith forming models used in classrooms are devised by theologians for theological rather than educational reasons (p. 86). Flynn (1984b), Rossiter (1982, 1987), Macdonald (1988), the Catholic Education Office (1985), Black (1984), Ayel (1981), Moran (1983), Di Giacomo (1984) and Crawford and Rossiter (1986) all support the view that religious education must be more challenging, rigorous and educationally appropriate to the classroom context.

Lovat (1989) takes an eclectic approach to the teaching of religious education. He not only recognises the need to encourage freedom to explore, reflect, discuss and integrate the experience of the classroom but also strongly supports the necessity for genuine instruction.

He highlights four significant stages. These include selection of objectives, determination of content, establishment of methodologies and finally evaluation. The evaluation stage relates to assessment and evaluation (p. 61) in that it emphasises not only assessment of performance, but also the assessment of the appropriateness of the lesson, the value of the lesson and the teacher's performance (p. 12).

Macdonald (1988) highlights four fundamental areas that must be considered when developing a curriculum. These include: the educational purposes of the school seek; the educational experiences which can be provided that are likely to attain these purposes; the organisation of these educational experiences and the determination of whether these purposes are being attained. Again the 'educational' aspects are emphasised together with a systematic approach to the teaching of religious education. Macdonald also includes the assessment component for developing curriculum for religious education classes. The inclusion of this aspect of teaching indicates the importance of assessment in the overall curriculum development model.

The literature not only suggests that a strong educational approach is needed in the teaching of religious education but it also indicates the types of approaches this teaching should take. The researchers in the field of religious education are prepared to utilise educational models to be effective in schools and the classroom rather than opt for a purely religious approach.

An analogy that illustrates this point refers to the observation that many in the field of religious education have been content to allow the Spirit (of God) to achieve what it desires. This has resulted in the mostly haphazard approach to classroom teaching. Teachers of religious education say that religious education is different so teachers should leave it to the Spirit of God and hope they are successful. It may be more important to shape the learning conditions of the classroom in such a way that the Spirit will be successfully operate. Lovat (1987) refutes the proposition that religious education is different. He contends that knowledge is not learnt in different forms. A person learns religion in basically the same way he or she learns the so-called secular reality. Religious education requires, and deserves, the same level of professionalism and the same educational structures utilised to great effect by other school subjects.

The literature highlights what is meant by a professional approach to the teaching of religious education. The literature borrows heavily from general education to establish a series of criteria. It is this format which is necessary for effective education within the religious education classrooms of Western Australia.

The Religious Education Classroom

The Catholic Education Office of Sydney makes reference to the church document The Catholic School (1977) which declares "that religious education should not be restricted to the role of just an academic subject like other subjects" (par 43). In doing so it recognises the importance of classroom activities which may engender commitment to the faith being taught. At the same time the Catholic Education Office warns that there is a danger that an over-emphasis on discussion of pupils' experiences can leave them with deficient knowledge of their faith tradition (p. 3). Thus an eclectic approach is again being extorted. This combines the advantages of both approaches while avoiding an over-emphasis on one or the other.

The importance of catechesis and evangelisation is not in question. What is important is the part played by the religious education teacher in these processes. Bracken (1989) states that the role of the educator should not be to evangelise on behalf of a tradition. Black (1984) points out this is the role of the wider believing community including the family, the church and the whole staff in the school as well as other subject teachers. If this position is understood more widely and accepted by the church community, then Boyce's (1981) declaration that the school is seen as the principal agency for the passing on of the Catholic tradition, our Catholic faith, would not apply. The literature certainly points to the view

that this is not possible. Price and Wilson (1986) quote from research over the past decade that has shown that the "faith commitment of the young is indeed caught not taught" (p. 2). The school has an educational role to play. It is agreed that some catechesis and evangelisation can occur within the context of the school but the Catholic school cannot be burdened with the sole responsibility of the task of handing on the Catholic faith.

The literature supports the idea that religious education should focus more on an educational perspective. Religious education in Catholic schools is a classroom and school process which requires all the expertise and professional skills a teacher can utilise to achieve the goals of religious education. These goals need to reflect educationally sound theory rather than a theological model. In recognising the importance of catechesis and evangelisation the school and the classroom teacher need to recognise the limitations of the classroom as a vehicle for achieving the handing on of faith. Teaching approaches need to support an educational model for the teaching of religious education. Religious education needs an academic approach involving systematic and thorough assessment and evaluation.

Faith: Its Nature

The knowledge goal and the faith goal of the education in faith model are not mutually exclusive. A

range of factors is involved in the development of faith. Both cognitive and affective factors are involved. A full and clear understanding of the process of faith development is beyond the scope of this thesis. This thesis deals with the relationship between faith formation and religious education and does not deny that faith development is "at the heart of religious activity" (Moore & Habel, 1982, p. 26). What is significant to this study is the suggestion that knowledge is related to the development of commitment. Hence, if the knowledge model and its associated assessment procedures enables greater change in the cognitive, without hindering the use of other teaching strategies that may be useful in nourishing and developing student commitment and faith, then a teaching advantage would be evident.

What can be challenged is that religious activity is restricted to the Catholic school and hence family, church and community are somehow not responsible for faith development. This thesis argues that schools are best equipped to teach within an educational model. This teaching can assist faith development but catechesis, evangelisation, and faith development are activities best suited to the environment outside of the classroom.

It is therefore not a question of academic rigour or faith development. Both are possible. The literature suggests that the school is best suited to an educational mode while the faith community (and this includes the school) is perhaps in the best position to successfully contribute to the development of faith.

Faith is a term which has many aspects. It is necessary that an understanding of the meaning of faith be established. Faith is a term that can have very broad and diverse meanings. According to Fowler (1981), faith is a universal human phenomenon which is "not always religious in its context or content (p. 3). He indicates that faith enables a person to find meaning in life. Faith is seen as giving meaning to the forces and relationships that are part of our lives. While this understanding of faith may be generally acceptable in a non-religious sense it can still find application within the context of religious education.

An important aspect of Christian faith is "the way in which the Christian life and experience of individuals is in dialectical interaction with the inherited, living Christian faith tradition" (Confoy, 1982, p. 107). Faith is therefore dynamic and can be recognised in both the individual and in the tradition of the church. Faith involves "belief, trust and commitment" (Gascoigne, 1981, p.11) on a personal level, and as such, can be "proposed but not imposed" (Rossiter, 1981, p. 186). Faith is a "personal gift of God inviting the recipient into a relationship of response to the God who calls" (Rummery, 1981, p. 103). Faith has many expressions within an individual and has been described as having many stages, levels or characteristics (Flynn, 1986, pp. 12-14).

Le Berre (1980) defines three types or levels of faith. Doctrine Faith is defined as a system that explains the world in totality. Personal Faith is the

faith that is lived because of its inherent logic; and Event Faith is characterised by the fact that the history of the church gets its essential meaning from a unique and decisive event which is the life, and death of Christ (pp. 36-39).

In each of these aspects of faith a knowledge component is evident and as such education can play a significant part in its development. Faith as described as a personal commitment would also require some substance for it to remain firm. This brief review of the nature of faith confirms that a role for academic study does exist in faith formation. This aspect of the realm of faith needs further investigation and study.

Faith Formation

Macdonald (1988) discusses the relationship between faith and education and points out that "intellectual assent to the truths of faith does not necessarily lead to a faith response" (p. 72). While recognising that there is not a direct relationship between intellectual assent and faith, nevertheless a connection does appear to exist. Again while acknowledging that faith is a gift from God and that 'faith is caught not taught' a great deal can be done to enhance the student's propensity to commit themselves to faith.

Macdonald (1990a) states that the human response in faith involves the essential dimension of belief (which involves the cognitive dimension) and that "the

development of faith requires the ongoing act of conversion and ... the deepening of one's knowledge of the content of faith" (Macdonald, 1990b, p. 3). Macdonald's conclusions are well supported within the literature. Di Giacomo (1984) makes reference to this relationship with the conclusion that "there is a strong tradition in Catholicism of insisting on the reasonableness and intelligibility of that faith that transcends reason" (Di Giacomo, 1984, p. 400). It is the intellectual component of education in faith that enables the student to respond to the gift of faith with genuine commitment. Thornhill (1987) believes that this level of intellectual commitment is essential as it enables the student to cope with the questions and challenges (p. 9) that he/she will face from peers and from within themselves.

Lovat (1989) developed a 'Faith Forming Model'. Within this model Lovat stated that "the overall goal is to convince, convert and strengthen commitment" (p. 1). This faith forming process depends to a great extent on knowledge. It is knowledge that provides the structure, language and responsibility that allows the individual to take that final leap into faith.

Benjamin (1988) believes that in the journey of faith, we must rediscover the theological language, make it our own and eventually invest a personal understanding into terms which are part of the institution's vocabulary (p. 4). The language is important and must be taught and learnt for the faith commitment to have structure, strength and rationality.

Other research is also strongly supportive of the need for education to support a growing faith. Gascoigne (1987), Macdonald (1988), Rossiter (1987), and Price and Wilson (1986) all support the view that faith resides in both the intellect as well as the heart.

It is in the realm of knowledge that the classroom and the school is ideally suited to perform the task of engendering faith commitment. Even at the basic level of providing some "knowledge of the tradition of the living church and the living faith community" (Thornhill, 1987, p. 7) the school is capable of providing the student with the knowledge needed to make a commitment to faith. While many researchers in the field of religious education and faith seem convinced that education and academic rigour can play a part in faith formation, this view is not universal. Fowler (1981) suggests that "the role of direct instruction is, at best peripheral, but if handled insensitively is more likely to hinder than to help" (p. 10). Beck (1990) also raises a question that "it might be suggested that 'faith education' is impossible since it is concerned with unknowable matter" (p. 11).

Raising these concerns is important but it does not negate the position of the previously discussed literature. Hill (1989) succinctly provides the connection between the two positions for they are not mutually exclusive. Hill suggests that doctrine taught is "an empty advantage if it strikes no chord with students" (p. 3). It only becomes important when the knowledge has value and relevance which the students themselves

perceive. Religious education may therefore play a part in catechesis when all parts of the faith community to work together.

Thus the Catholic school "is expected to play a role in handing on the Catholic tradition" (Catholic Education Office, 1985, p. 2) but it must also be accepted that this is only one of the roles. Knowledge does not of itself generate personal faith (Crawford & Rossiter, 1986, p. 4) and it would be foolish to uncritically assume that schools are the only or the best agencies for communicating and nurturing the faith (Black, 1984, p. 12). Teachers of religious education, parents and the church itself must realise this and recognise the part that schools can play in faith formation is educational. An often quoted criticism of the argument favouring an educational model of teaching religious education and its associated assessment and evaluation structures is the personal nature of faith commitment. Moore (1982) states that faith is a first order activity (p. 116), indicating that it must be experienced to be understood. This being the case "pupils should be free to respond or not to respond to religious faith". This need to allow a free choice is strongly defended in the literature Malone (1984), Rossiter (1981a), (1981b) and (1987). Yet assessment structures in the teaching of religious education are essential if teachers are to establish the success or otherwise of their efforts.

If one does not take a narrow view of what assessment and evaluation involves, it is not impractical to involve

assessment and evaluation in the process of faith formation. The discussion in the sections dealing with the nature of evaluation and assessment and the place of assessment in religious education deals with this issue extensively.

Faith formation is one of the objectives of the classroom activities in religious education and, as such, it is important to determine whether or not the teacher is achieving the objectives. Assessment and evaluation are therefore important aspects of teaching. There are many structures that would enable teachers to assess and evaluate their teaching and still recognise the personal aspects of faith formation. The objective of this process would not be to impose a faith commitment but rather to determine how effective the teaching process was with the view to improving the teaching. If the teaching is improved then one would assume that the achievement of the objective would be more successful, which is, as stated, one of the key goals of religious education. Thus faith formation should not avoid the issue of assessment and evaluation.

Summary

This section outlines the philosophical arguments that relate to the teaching of religious education. The term religious education has many aspects. It is therefore important to establish a clear and concise definition. Understanding what is the principal task of

the religious educator may enable these teachers to better achieve their goals. The next step is to outline the reasons why assessment and evaluation are so important to education. From this position, the value of assessment and evaluation to religious education is discussed.

Having established the philosophical arguments that relate to the use of assessment in the teaching of religious education, this thesis outlines the method, experimental design and testing procedures that are utilised to investigate the research questions. The results and final conclusions follow.

Chapter Two

The Nature Of Assessment And Evaluation

Introduction

One of the strongest themes running through the literature on teaching religious education in Catholic schools relates to the need to develop the process of teaching along educational lines. This may seem at first to be a contradiction in that one may well ask what has been the emphasis of the direction and philosophy of religious education, if not educational? Surely one would expect an 'educational' emphasis given that the activity of religious education takes place in schools, carried out by professional teachers trained in other subjects, conversant in educational theory and practice. In fact, the emphasis on the teaching of religious education in Catholic schools has focused on the word 'religious' thus giving religious education a theological rather than educational slant.

A need to develop a truly educational philosophy comes through the literature. This emphasis is one of the principal 'demands' of the research dealing with religious education, it is necessary, if not educationally sound, to tackle the issue of assessment within religious education from an educational viewpoint.

Assessment and Evaluation: Aspects of Teaching

The process of utilising assessment and evaluation within the context of education relates to the principles of good teaching and classroom management. Bloom, Hastings and Madaus (1971) point out that "one cannot see 'understanding' or observe 'critical thinking'" (p. 33) and so it is necessary for the purposes of meaningful evaluation to develop objectives stated in terms of "more readily observable outcomes or changes on the student's part" (p. 22). This phase of the teaching process is necessary because educational objectives are often very broad in their scope and as such are often vague and hence "cannot serve as an instruction or educational model" (p. 21). The teacher must therefore interpret these broad objectives and establish specific and tangible objectives. This step enables the teacher to discover if aspects of the subject have been taught. This element ties this stage of the teaching process into evaluation and assessment.

The importance of measurement, assessment and evaluation techniques to the teaching process relates to the reason for the process of teaching itself. One assumes that students will be different after a unit of work has been taught. The question arises as to the degree of difference. Hence measurement, assessment and evaluation are important to determine the degree of difference. Within this context, the main purpose of classroom instruction is to "help pupils achieve a set of

intended learning outcomes" (Gronlund, 1985, p. 6). In so doing the teacher becomes a predictor. The teacher needs to decide to utilise a particular technique "'X' rather than ... 'Y' because it is predicted that 'X' will be more effective ... in producing a desired outcome in the learner" (Lee, 1973, p. 41). This requires evaluation of the technique chosen and thus the need for assessment arises. The teaching process requires that assessment and evaluation occur. In this way assessment is not a process done after teaching, it is an integral part of the teaching process.

The Importance of Assessment and Evaluation

The above discussion highlights the importance of assessment to the teaching process. It illustrates that "assessment should not be perceived as something to be conducted 'after the teaching is over' rather it should be viewed as a process that is an integral part of the instructional program" (Cole & Chan, 1987, p. 286). A brief investigation of the importance of assessment and evaluation to teaching will shed light on the issue of teaching religious education with an educational emphasis.

The importance of assessment to the student cannot be overestimated because the focus of teaching is the student. Assessment enables the student to ensure that his/her current mode of learning is adequate and has a reinforcing effect on the learning itself. Cole and Chan (1987) indicate that there is also a motivation effect

associated with frequent formative evaluation. Crooks (1988) supports this view. In his review of the literature relating to measurement and assessment he concluded that the evidence indicates that "moderate frequency of testing is desirable and more frequent testing may produce further ... benefits" (p. 449). He also concludes that summative assessment "tends to enhance longer term retention of the material" (p. 452). Crooks lists a series of benefits to the students including reactivating, prerequisite skills, encouraging active learning strategies, giving opportunities to practice skills and consolidate learning, providing corrective feedback, helping students monitor their own progress and feel a sense of accomplishment (p. 443). To Crooks's list Gronland (1985) adds the clarification of intended learning outcomes that will enable the student to focus on important aspects of the unit, providing short-term goals to work toward and providing information for overcoming learning difficulties (p. 8).

Besides the importance of assessment to the student, the literature highlights the part played by assessment in reviewing the worth of a curriculum. It was argued that there should be evaluation of the curriculum proposal and its objectives and content. The teaching process itself can benefit from assessment. Gronlund (1985) points out that information from evaluation can be used to assess and improve instruction. He indicates that such information can aid in judging the appropriateness and effectiveness of the instructional materials and methods (p. 8).

Cole and Chan (1987) indicate that measurement provides the necessary data to evaluate the effectiveness of instruction, they emphasise that data received from formative assessment should be utilised by teachers to adjust instruction to the needs of the students (p. 277). This emphasis moves the focus of assessment to an ongoing and continually evolving process rather than a final summative and reflective analysis approach. Such information and its judicious use would have far reaching benefits for the teacher and through the decision making process result in better curriculum material, teaching methodology and teaching.

Gronlund (1985) in an effort to stress the importance to effective teaching developed a series of areas that may benefit from data obtained from evaluation. These areas include the effectiveness of teaching plans; the extent to which the pupils ready for the next learning experience; whether pupils be grouped for more effective learning; the extent to which pupils are attaining the courses minimum essentials; the extent to which pupils progress beyond the minimum essentials; the types of learning difficulties the pupils encounter; the pupils who are under-achievers; the pupils who have poor self-understanding; and the effectiveness of teaching (p. 4). An effective teacher would be constantly reviewing each question, not merely at the end of a particular unit, but during the process of teaching. In the beginning, middle and end of each lesson these questions need to be answered objectively so that the teacher can adapt the methodology being used so that

optimal teaching conditions can prevail for that particular lesson.

Cole and Chan (1987) are particularly wary of teachers who are overtly confident of their capacities to make informal judgements about a student's abilities and achievements. They classify this type of teacher as a 'self-reliant assessor' (p. 295). They point out that teachers who shy away from assessment and evaluation strategies on some philosophical ground or principle, believe that they can answer the questions relating to effective teaching without utilising the vast wealth of objective information that can be gained through the use of effective diagnostic, formative and summative evaluation.

Kubiszyn and Borich (1987) support the need for effective objective assessment. They point out that decisions must be made in the process of teaching. This is part of the character of the profession. If measurement data is not available, decisions would still have to be made, "based on non-test data that might be subjective, opinionated and biased" (p. 3). This warning drives home the need for effective assessment. Within the context of education and the climate of teacher and school accountability decisions made on the basis of objective data is more defensible, accurate and beneficial.

The importance of assessment and evaluation can ensure better teaching. This improvement may be broken down into direct advantage for the student and more accurate and informative reporting. Similarly, advantage

can be seen when decisions need to be made regarding curricula and teaching methodology.

Assessment and Evaluation in the Context of Religious Education

The debate regarding the relevance of assessment and evaluation to religious education centres around the argument that teachers cannot evaluate or assess in religious education because "we are dealing with the mystery of God's grace and the action of the Holy Spirit" (Macdonald, 1988, p. 138). One reason for this absence of an assessment and evaluation approach seems to be the contention by traditionalists that do not necessarily expect the "effects of the Christian message to follow immediately" (p. 54) the teaching of a module, unit or lesson. Due to this philosophical position against the value of assessment it is again necessary to return to a clear definition of how assessment and evaluation should be applied to the particular case of religious education in Catholic schools.

Given that religious education contains elements which reflect knowledge and skills the assessment process can focus on the content. Aspects of faith formation and values can be incorporated in the evaluation process through student self-assessment of attitudes, values and behaviour. This self assessment process avoids any possible intrusion on individual values and faith experiences. Together, this will enable the teacher to

determine whether changes are occurring due to the teaching process. The process of assessment in religious education must be judged according to the extent to which the students have successfully completed the objectives set by the teacher. The intent of assessment in religious education is not to test the faith of the student but has as its ultimate aim the provision of objective information that will assist decision making and, in turn improve the teaching and learning process. This conforms to the requirements outlined in the literature that assessment does not invade the personal areas of faith. It also conforms to the demands in the literature which require that assessment in religious education be confined to the content of each unit.

The Process of Assessment and Evaluation in Religious Education

The process of assessment in religious education in Catholic schools is another area fraught with debate and concern. The general themes of this section of the discussion are the process of assessment of the cognitive and affective domains; the arguments in favour of assessment of the faith dimension of religious education and those against such a process.

Macdonald (1990a) and Price and Wilson (1986) all conclude that religious education contains a knowledge component equal to other academic subjects and hence should be assessed and reported on in a "manner comparable

to that of other subjects" (Price & Wilson, 1986, p. 9). Macdonald returns the argument to the educational perspective and points out that we must refer specifically to the objectives of the unit. Where these objectives specify knowledge about the content of the faith tradition, then this aspect of the teaching process must be assessed. The process of assessment of the cognitive domain should conform to the theory and practice of measurement, assessment and evaluation.

The process of utilising assessment strategies in the affective domain is less clear in the literature. One reason why teachers may have neglected the assessment of affective outcomes may include the fear of indoctrination. This is a significant aspect of religious education given that the Catholic Church documents, the literature and teacher's philosophical perspective all recognise the position that the individual must always be free to respond to the values and faith component of religious education lessons. Therefore if assessment of these values takes place, students may feel threatened and may respond in a manner they believe will achieve the most satisfactory response from the teacher.

A second area of concern relates to indoctrination. As the affective domain involves aspects that are private, a teacher may be concerned about impinging on this area. A third area of concern is the contention that change in the affective domain may not be attained in the relative short instructional period of a series of lessons, a unit or even perhaps a semester's work.

Macdonald's (1988) work recognises these concerns and has developed a process to assist assessment in this domain. She developed a structure which allowed both the recognition of freedom and privacy of the individual and the collection of data that would enable teachers to evaluate the effectiveness of teaching in the affective domain and the materials utilised to achieve these objectives. This work is important because "unless assessment is undertaken in this area, affective objectives will continue to be included in the religious education program in an uncritical and uninformed manner" (Macdonald, 1990a, p. 22).

Macdonald (1988) established four basic principles for assessment of the affective domain. These arise directly from the principles of assessment of the cognitive domain outlined in the discussion relating to assessment. To these she added a fifth principle which states that "the method of assessment in the affective domain should respect the freedom and privacy of the individual" (p. 218). Her main resource is the work of Bloom, Hastings and Madaus (1964). Utilising this resource she concludes that religious educators could "fruitfully explore the affective domain ... by enabling them to identify student characteristics within a carefully constructed framework, to state objectives in a clear and unambiguous manner, and to employ methods of evaluating affective outcomes" (p. 221).

The counter argument is equally strong. Price and Wilson (1986) suggest that assessment of the affective

domain may be limited. They indicate that there may be a part of a student's values which the student is not prepared to reveal. Assessment of this area would therefore be fruitless. While recognising the difficulties of assessing the affective domain it is still clear that some aspects of the affective domain are assessable.

Moore (1991) questions the usefulness of attempting to use the cognitive aspects of faith to enable teachers to "assess the affective core" (p. 105). Macdonald (1988) suggests that these difficulties stem from three main sources. These involve the problem of measurement, the nature of attitudes and values and ethical and religious considerations (p. 22). Attitudes and values lie deep within the personality and the techniques currently utilised to measure these attitudes are considerably less reliable than measures of knowledge or skills .

Mehrens and Lehmann (1984) point out that attitudes are very stable and when changes occur they do so over long periods of time (pp. 223-224). Associated with these difficulties is the 'credibility gap' which occurs when students, because of their desire to please, give socially acceptable responses. This 'gap' may prevent teachers from taking student responses at face value. Despite the difficulties of not having a systematic and effective measure for the affective domain, Macdonald concludes that the importance of attempting to get some understanding of this aspect of teaching religious education is "worth the risk of pursuing ... even if we can not reliably discern whether they have been accomplished" (p. 149).

Macdonald (1990b) suggests that there is "general agreement in the literature that assessment of achievement in the cognitive domain is both necessary and desirable in religious education" (p. 2). She also clearly states that as an educational activity religious education intends to bring about change in students. This change is "associated with the cognitive, affective and behavioural" (Macdonald, 1988, p. 172). As all three broad objectives are part of religious education in Catholic schools, assessment and evaluation of all three should also occur.

Macdonald's (1990b) work produced a series of structures that avoids many of the difficulties raised in the literature. Through careful and judicious use of assessment in the affective domain the possibility of improvement in teaching, curriculum design and learning may become a reality.

The Importance of Assessment and Evaluation in Religious Education

Having discussed the types and processes of assessment and evaluation in religious education the next step is to review the literature dealing with the importance of assessment and evaluation in religious education. This is necessary in response to demands within the literature for a more educational, rather than theological reference, for the teaching of religious education. Within the context of that discussion the following section will review the literature with

reference to religious education. Effective teaching practice is required and, as effective assessment procedures are an integral part of teaching, assessment procedures must become an integral part of religious education. Macdonald (1988) relates measurement to the broader processes of assessment and evaluation in order to assess the effectiveness of teaching. It is this ultimate goal of assessment and evaluation that provides the rationale for utilising these important tools in religious education. She points out that assessment and evaluation should provide an objective and valuable information base for evaluating "the various aspects of the curriculum and the quality of teaching" (p. 170) and student progress. It can help teachers determine whether objectives are being achieved and assists students to determine what the goals are for each particular unit of work. Assessment can assist teachers and parents to complement each other's work and in providing information to parents "recognises a key area of accountability in religious education" (p. 162). Assessment also facilitates learning and by providing essential feedback to the student identifies strengths and weaknesses.

While each of the above advantages of assessment clearly mirror the literature previously discussed the significance of Macdonald's work is that the educational perspective is being applied specifically to religious education. Her work is not isolated. It is supported by the work of Wilson (1986) who presents a similar list of reasons for utilising assessment and evaluation in

religious education. Having discussed a list of no less than seven educationally sound reasons to assess in religious education he concludes that "evaluation should stimulate deliberate thought about basic purposes, values and goals within the school community" (p. 20).

How students perceive the subject is seen as a significant factor in the literature. In the brief review of the recent history of teaching religious education in Catholic schools, a significant characteristic of that history was the lack of measurement and academic rigour. It is claimed that the poor image of the subject is in the minds of students, class teachers and school administrators. Barry and King (1988) point out that pupils view tasks within the evaluative climate of the classroom. "They will work at a task only to the nature and degree by which they will be held accountable" (p. 351).

Philosophically, teachers hope that students, at any level of academic pursuit, learn for learning sake rather than because a test on the topic is imminent. Barry and King suggest that this may not be the case. Crooks (1988) analysis of test results and studies of assessment and evaluation data indicate that "higher standards generally led to greater student effort" (p. 449). In reference to the particular situation in the religious education classroom, Macdonald (1988) and Moore (1991) all conclude that "religious education being non-examinable may have low status as a subject, low subject status may in turn contribute to a variety of problems such as lack of

student responsiveness, lack of holding power on student interest and lack of teacher motivation" (Rossiter, 1983, p. 9) (as cited in Castles, & Rossiter, 1983). Therefore, a "second reason (for teachers using assessment) ... is concerned with promoting the importance of the subject" (Macdonald, 1988, p. 285).

Context of the Study

In Perth, Western Australia all Catholic schools are required to base their Religious Education Programmes on the Perth Archdiocesan Guidelines. The Perth Archdiocesan Guidelines contain several hundred teaching points and a larger number of focus points (Appendix E). It is expected that all teaching points are taught by the end of Year 10. Focus points provide additional material that is optional. The Perth Archdiocesan Guidelines do not specify a programme structure but allow schools to develop their own programmes within the broad limits described above.

Each school writes a programme of study for each Year Group. This work is generally the responsibility of the Religious Education Co-ordinator. Once a programme is developed it is then the responsibility of each class teacher to ensure that daily lessons are prepared and the programme taught. The teaching and focus points are divided between Year 8, Year 9 and Year 10. The set of teacher and focus points specific to each year group is then allocated to a series of 8 modules in the study

school. These modules reflect a particular theme and the teacher and focus points form the teaching objectives of these themes. The teacher and focus points in each module contain values and knowledge components. The pathway shown in Figure 1 illustrates this process for Module 4, which was the focus for this study. The religious education programme for Year Eight in the study school is divided into eight modules. Each module is expected to be taught over a four week period. Each teacher is expected to teach all the content in each module. The method of teaching is left to the class teacher. The only stipulation is that the content of each module is covered within the four weeks. To assist the religious education staff, each class teacher is given a copy of Catholic Education Office document The Truth Will Set You Free (1985) which outlines the specific content of each teaching and focus point. Each student also receives a text book which contains additional suggested strategies and activities. This resource has been developed within the study school.

As illustrated in Figure 1, Module Four was selected for the study. Each module contains focus and teaching points. The focus and teaching points provide objectives for the module which contain knowledge outcomes and values outcomes.

The discussion concerning the function of assessment highlights the purpose and need for assessment and evaluation to focus on the objectives of the course. The module content represents the objectives of the module.

This content has both knowledge and values components and so it is necessary to include both aspects in the study. The difficulty of assessing 'values' was recognised and steps were taken to address the difficulties associated with assessing values.

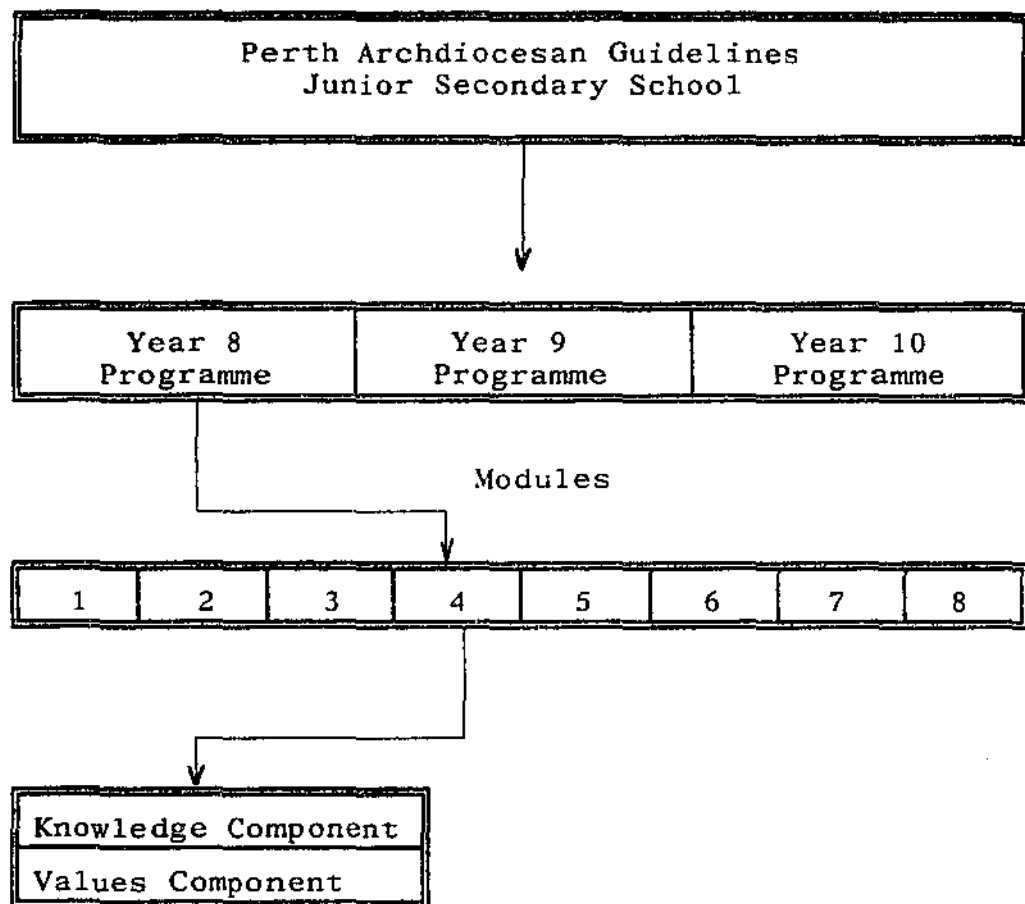


Figure 1. The origin of the knowledge and value objectives used in the study.

Chapter Three

Method

Aims of the study

The aim of this study is to investigate whether the use of formal assessment procedures in the teaching of religious education has an affect on student learning outcomes. A nested experimental design was utilised to provide the necessary data and to draw conclusions to answer the research questions.

Subjects

The subjects were 160 students in Year 8 in a metropolitan Catholic High School in Perth, Western Australia. While attempting to achieve a gender balance the Year 8 cohort was divided by the administration of the school according to alphabetical order.

Initially eight religious education teachers were involved in the study. Four classes were randomly selected to represent the experimental group. One of the four control class teachers withdrew support for the study part way through the experiment leaving only three classes to represent the control group. Given that 77 students, from 3 separate classes remained in the study the loss of one class was not seen as detrimental to the outcomes of the study. The experimental group contained four classes totalling 83 students.

Design

There are two levels within the study. A nested design is required for this investigation. The experimental design is shown in Table 1. Two levels of factors are identified. Factor A is treatment / non-treatment. At this level the two groups include the Experimental Group and the Control Group. The Experimental Group experienced a range of formal assessment procedures. The Control Group did not experience this treatment. Factor B, at level 2, is the seven individual teachers involved in the study.

Table 1

Nested design of the study

Level 1	Experimental	Control
Factor A	Group (Treatment - Formal assessment procedures)	Group (Non-Treatment - No formal assessment)
Level 2	Class 1-4	Class 5-7
Factor B	(Teacher differences)	(Teacher differences)

The nested design enables two levels of analysis to occur. At level one the differences within the sample can be analysed, based on the presence or absence of the treatment (the use of formal assessment procedures). This 'treatment' is labelled Factor A.

The experimental group is a combination of four classes. This creates a second level within the analysis, Level 2. At this level the factor, Factor B, reflects the variation in learning outcomes, that may be present between individual classes. Analysis at this level can therefore consider other variables such as teaching style, which may influence student learning. Therefore at level two the variation of student scores between individual classes becomes the focus of the analysis.

The nested design enables two levels of analysis. The individual class variation in scores is 'nested' within the variation of scores between the experimental and the control groups.

Sources of Data and Information

There were six sources of information for this study. The first involved a test of the knowledge components of the unit's objectives (Appendix B). The second was a values survey where students were asked to respond to questions on the faith and values aspects of the objectives (Appendix A). Each class in the experimental group also completed daily review tests on aspects of work covered during the previous lesson. This provided a third set of information. A questionnaire, the fourth set of data, was completed by each student to provide background information covering aspects of the student's religious background (Appendix D). To add further insight into the processes of teaching, a random selection of lessons from

the experimental and control classes were either taped or viewed. This represented a fifth set of information. The sixth source of information was obtained from ten randomly selected students who were also interviewed to gain further insights into student perception of the teaching process in religious education.

Knowledge tests

To ensure consistency of scoring of the knowledge test it was decided that a four choice multiple choice test of alternatives would be used. Given that each school's programme is quite unique it was difficult to develop test items which covered the content of the module. The inability to pilot the test on a group of students who had been taught the module content necessitated that pilot testing be carried out on students who had not been taught the objectives of the module. Through a series of pilot studies in other schools the test items were gradually refined to produce effective distracters.

The pilot studies involved students responding to the draft versions of the knowledge test. After the first pilot the distracters were reworded, to improve the discrimination index and the appropriateness of the vocabulary of each question. A second and a third pilot test was carried out with a two different groups of students. Again, questions were reworded.

While in some items more than 25% of the students

scored the correct response the average item difficulty for this group remained very near 25%. This is well within the range of +0.20 to +0.80 set by Kubiszyn and Borich (1987, p. 29).

Values tests

The second half of this study involved an attempt to determine whether the students in the experimental group would change their values and attitudes. The value survey items in Appendix A show the aspects of the affective domain under investigation.

Magnitude scaling was the scoring procedure selected for the value survey. A calibration procedure for magnitude scaling has been developed. This procedure is a short prelude to the scaling exercise and requires six to ten minutes of training and practice. The first part of this practice requires the students to estimate the length of drawn lines. A reference line of 50mm is given as a starting point. Examples of this procedure together with the instructions and practice sheet is shown in Appendix C. Having completed this part of the exercise, the students are then required to draw lines in response to a series of number stimuli. Again a reference line is printed to act as a starting point.

The practice exercise provides the students with the necessary thinking and conceptual framework to "make proportional judgements" (Lodge, 1981, p. 45) to the values questions. The practice sheets provide the

students with sufficient experience to respond to the questions in the values survey.

The actual values survey also has a practice page which further assists students to understand how to respond to the stimuli. Three practice questions are completed under the guidance of the teacher. The first two relate to simple experiences. The third, while again being part of the student's experience, is a more closely related to the nature of the items in the value survey.

Scores in the value survey reflect a comparison between the individual's judgement of the average Year 8 student's value score and that of the individual. Scores near zero indicate that the individual perceives their value score as being similar to that of the average Year 8 student. Scores in the positive range indicate that the individual perceives their value score as being 'less than' the average.

Reliability of the knowledge test

The knowledge test was found to be reliable and valid. Internal consistency was tested using a split half reliability index. An odd-even split-half reliability index of .82 was obtained for the knowledge test. This indicates that the knowledge test is reliable.

A discrimination index for each of the twenty knowledge questions was also calculated to indicate the reliability of individual items. To determine this index the upper and lower group boundaries were set at 27%.

Table 2 illustrates the discrimination index for each item and indicates the reliability of the knowledge test. The average discrimination index is .34 which is well within the limits set by Kubiszyn and Borich (1987).

Table 2

Discrimination index for the twenty item knowledge test

Discrimination		Discrimination	
Item	Index	Item	Index
1	0.24	11	0.15
2	0.31	12	0.34
3	0.52	13	0.24
4	0.21	14	0.60
5	0.38	15	0.46
6	0.29	16	0.20
7	0.21	17	0.23
8	0.64	18	0.19
9	0.38	19	0.41
10	0.30	20	0.46

Although a few questions had a discrimination index below the ideal level, the average discrimination index was quite high. It was found that the questions with a low discrimination index were testing knowledge that may have been gained through past learning experiences. Most of the students were from Catholic backgrounds and had

experienced eight years of Catholic education. This background made it difficult to devise successful distracters. As the overall discrimination index was within the required range it was decided to leave the few questions with low index levels in the study.

The posttest and follow-up test design of this study enabled a calculation of a stability reliability index. Given that there was no intervention between these two tests the reliability index was calculated using these two tests. The time span between the posttest and the follow-up test tests was two weeks. This analysis produced a Pearson r of .87 indicating a high degree of similarity between the scores on each test occasion. This result indicates that the knowledge test is reliable.

Validity of the knowledge test

Validity of the knowledge test was indicated through content validity. This process ensures that the items of the knowledge test are drawn from the domain of objectives set out in the module. Each objective is represented by one item in the knowledge test. The test items were selected to ensure that no aspect of the unit was over represented in the tests. The unit has three broad sections. Six of the nine objectives in Section A are represented in the knowledge test while all of the eight objectives in Section B were represented in the test. Six of the eight objectives of Section C are represented.

Validity of the values survey

As previously explained, the unit being taught at the study school was unique. It was therefore impossible to pilot the values survey with students who had been taught the objectives. The test items were given to 30 Year 8 students from another school in an attempt to ascertain the appropriateness of the language of the items and so improve the suitability of the questions. A second pilot of the redrafted questions was administered to another 30 Year 8 students, again to improve the language and suitability of the questions.

Validity of the values survey was indicated through content validity. Many of the objectives in the module taught reflected values rather than knowledge. The questions in the value survey were constructed to relate directly with the objectives of the module. For example, Question 1 (Appendix A), relates to the specific objective of making a responsible choice. The response to this question indicated how 'hard' students felt they, and other students, try to make responsible choices. In this way, each question in the values survey reflects values associated with the objectives in the module.

Reliability of the values survey

The internal reliability of the values survey was indicated by calculating Cronbach's alpha co-efficient. The Cronbach's alpha for the fourteen items of the values

survey was .68. This coefficient was quite stable across the entire range of each of the fourteen value items such that the co-efficient would not be significantly improved by eliminating any individual item. Internal reliability was tested using a split-half reliability index ($r = .72$). This supports the view that the values survey is reliable and consistent. A one week test-retest reliability coefficient was also calculated ($r = .81$ [$p < .001$]).

The Variables

It is recognised that a complex array of factors may influence a student's learning and in turn may impact on the results of this study. These factors may relate to the student's family background or their commitment to the Catholic faith. It was therefore necessary to consider what these factors may be and then to ensure, as far as possible, that these factors were not influencing the outcomes of the study.

Table 3 classifies the variables impacting on the study into four groups. Group 1 contains the indicator variable Assessment Procedure. This variable refers to daily review tests, revision, and exams. Group 2 contains variables associated with the teachers involved in the study. Group 3 represents the range of individual and family background factors that may influence the results of the study. Group 4 contains the variables associated with the topic and test items. Each of these indicator variables may influence 'Student Interest' and through

Table 3

Variables impacting on student learning outcomes

Group 1

Assessment Procedures

Group 2

Teacher Skills
 Teacher Training
 Teacher Expertise
 Teaching Style
 Teacher Motivation

Group 3

Student Behaviour
 Student Ability
 Family Support
 Student Interest
 Topic Relevance
 Commitment to Values

Group 4

Topic Difficulty
 Test Difficulty

Student Interest

Student Learning
 Outcomes

this factor may have an impact on 'Student Learning Outcomes'. For example, the teacher's ability to motivate students may influence the interest of the students in the module of work. Students that are highly motivated may listen more intently and be more involved. The learning outcomes of this class may therefore be different to another.

One indicator variable significant to the study is the student's religion. The religion of the student may have an impact on student learning outcomes in religious education classes. A student who is a Catholic may have

been taught more about Catholic doctrine and values than non-Catholic students prior to enrolling in the school. Catholic students may also have a pre-disposition to being more open, eager and willing to learn and to accept Catholic values. In recognising that it would be extremely difficult to 'measure' commitment to Catholic values and teaching, the designated religion of the student is used as an indicator variable which may reflect possible commitment to Catholic teaching; whether this be a personal commitment or a reflection of their parent's expectation.

The survey required that the students select one of four responses: Catholic; Christian; Non-Christian; No religion. The numbers of students in the latter three categories was small and for analysis purposes were combined to form a non-Catholic category.

Two other indicator variables discussed and highlighted in Table 3 include father's religion and mother's religion. These two variables are used to also reflect 'commitment' to Catholic teaching. They were selected to indicate a potential of commitment to the Catholic faith. The variables were included in this analysis on the basis that where the family background was supportive of the Catholic tradition this support may manifest itself within the student and hence may contribute to variation in knowledge test scores and value survey scores. Thus, students from a Catholic family background may be encouraged to study and work harder at their religious education lessons.

The indicator variables, mother's religion and father's religion, were used to reflect possible family support for study, homework, effort, participation and involvement in religious education classes. The religious affiliation of the student and parents were categorised into Catholic and non-Catholic. If a relationship between parent's religion and the study habits of the religious education student existed one may assume that learning outcomes such as knowledge would be better achieved than in a family situation where there was support from the parents for a greater commitment to the Catholic faith. The time spent doing homework for religious education was therefore related to the religious background of the student's parents.

To ascertain whether a connection between religious education background and effort exists an indicator variable labelled 'Homework' was developed. Students indicated the time they spent doing homework for religious education classes. The three categories were; 1. No nightly homework / study; 2. Less than 10 minutes homework / study nightly and 3. More than 10 minutes homework/study nightly. (Students in year 8 are expected to spend fifteen minutes doing homework for each core subject).

A fourth indicator variable, 'Mass Attendance', is used in this study. This variable was also part of the matrix of factors that was perceived as possibly impinging on the results of the study. The indicator variable mass attendance attempts to ascertain a deeper level of

commitment. If students are regular participators in the Catholic church then perhaps their commitment to learning and openness to accept Catholic values may differ from those who are not actively involved Catholics. It is therefore necessary to investigate any variation between the seven classes and the experimental / control groups. There were three categories associated with this question: Weekly Mass attendance; Monthly Mass attendance; Rare attendance at Mass.

A fifth variable, the Progressive Achievement Test (P.A.T.) in English Comprehension (Ellery & Reid, 1973) was selected as an indicator of student ability. (The P.A.T. was administered to the sample by the school independent of this study. While permission was granted to utilise class averages individual student results were not available.) The results could not be tied directly to each individual student. The figures were useful though as a generalised description of the sample.

The Progressive Achievement Test were standardised in Australia in 1984. The reliability of the tests is reported in terms of KR-20 reliability coefficients and are all satisfactorily high, with an average of 0.90. The validity of these tests is also satisfactory. Scores from the test provided an index of 0.79 (Australian Council for Educational Research, 1993).

Further evidence supporting the proposition of no significant difference existing between the classes in the sample is the pretest scores for the knowledge test. As the knowledge pretest was administered prior to any

students being exposed to the material in the unit any pre-knowledge held by a student would relate to some other factor such as home background, religious teaching through Church groups or the primary school or innate academic ability.

Procedure

The teachers in the experimental group were intensively inserviced on the methodology of teaching that was required to ensure uniformity of treatment in the four experimental classes. This inservicing explained that the treatment to be given to the experimental group was to involve the use of formative and summative assessment. The treatment would involve revising previous lessons, setting homework and home study. Students would be quizzed on work covered during the module, given feedback in each subsequent lesson and frequently motivated to prepare thoroughly for the final test. Normally this approach to teaching has not been part of the methodology of teaching religious education in Catholic schools in Western Australia. The control groups would not receive this treatment nor would the teachers in the control group have this information. Observation and recording of teaching in the control group is used to confirm the level of use of systematic assessment procedures.

Each teacher in the experimental group was given a teaching programme and daily lesson plans. The lesson

plan included review questions, homework and class work. In an effort to prevent teachers teaching to the tests, none of the teachers had access to test papers until the morning designated for each particular test. The daily review tests were administered to the experimental group, were collected and marked by the researcher and returned prior to the next lesson. The teachers then went through each item, corrected any misunderstandings and directed students to correct errors or incomplete answers. Figure 4 illustrates the pattern of teaching and testing for the sample. All eight classes were given a pretest prior to the commencement of the study. Each student was allocated a student code which would enable the individual student to remain anonymous. This was seen as particularly important given the type of questions in the value survey. These questions seek responses in areas of faith and values which were viewed as personal and therefore not generally 'tested' on an individual basis. All classes were given the same test as a posttest at the end of the four week module. Two weeks later, after two weeks of holidays, a follow-up test was administered.

In designing the experiment each of the values questions could be related to a knowledge question. For example one objective sought to teach students that Jesus Christ teaches that we should forgive one another. Using this objective values questions relating to forgiveness were developed. For example: How easily would the average year 8 student forgive a good friend who had said something nasty about them behind their back? How easily

would you forgive a good friend who had said something nasty about you behind your back? It was therefore possible to analyse the different values scores for a group of students who correctly answered the associated knowledge question and for the group of students who did not answer the associated question correctly.

Table 4

Pattern of teaching and testing for the control and experimental classes

	Experimental Classes		Control Classes
Time	<input type="text"/>	Pretest	<input type="text"/>
Week 1	<input type="text"/>		<input type="text"/>
Week 2	<input type="text"/>		<input type="text"/>
Week 3	<input type="text"/>		<input type="text"/>
Week 4	<input type="text"/>		<input type="text"/>
	<input type="text"/>	Posttest	<input type="text"/>
Week 6	<input type="text"/>	Follow-up Test	<input type="text"/>

The analysis of the knowledge test scores and the value scores utilised the procedures outlined by Dayton (1970) for a nested design with unequal class sizes. An

additional complication arose due to the unequal number of classes in each group. To eliminate this complication the mean scores of the three control classes was averaged and then multiplied by four. Through this process, the mean results for the experimental group (four classes) could be compared with the mean score of the control group (three classes).

Analysis of Data

A range of data analysis techniques were utilised for this study. The relationship between the test scores and the indicator variables was analysed with one way ANOVA. The use of t-tests and multiple regression analysis were utilised to investigate possible relationships between the test results and the indicator variables. The analysis was based on the nested design of the experiment which gave two levels of analysis. At level one, the analysis investigated the differences in test scores between the experimental and the control groups. At level two, the analysis investigated the differences between individual classes. At each level the relationship between the test scores and the indicator variables was also analysed.

Limitations

It is recognised that not all factors can be controlled in a classroom situation and that not all factors are listed in Table 3. To attempt such a task was

beyond the limits of this study. For example, many of the Group 2 variables, such as teacher skills and teaching style, are beyond the control of the study. Although the eight teachers are randomly selected, in an attempt to limit the influence of teacher variation on the outcomes of the study, it is beyond the limits of this study to ensure that the ability, motivational skills and so on of each teacher are equal.

Some of the variables can be controlled. For example, 'Assessment Procedures' within the experimental group are uniform. The assessment procedures of the control group would be investigated to ascertain the possible variation and potential influence on the outcomes of the study.

An attempt to control for teacher variation is possible within the design of the experiment. Techniques such as interview, and the taping and viewing lessons as well as clear and uniform lesson plans for the teachers taking the experimental classes would also assist in controlling for any inter-class variation. The design of the study therefore recognises and caters for a number of extraneous factors.

The literature suggests that changes in values may occur more slowly than changes in knowledge learning outcomes. Therefore, although four weeks separated the pretest and posttest any learning effect in the affective domain may be quite small. Students may need time to consider, reflect and possibly change their values. The time constraints of this study necessitate the six week

time frame (the follow-up value's survey was administered two weeks after the posttest). The possible limitations of this time frame are recognised. Nevertheless the same conditions apply to each class and each individual, so no advantage or disadvantage would apply to any group or class.

The study used the entire year 8 cohort of one secondary Catholic school. Given that the school may have particular socio-economic characteristics, that may be different from other Catholic schools, the generalisability of the results of the study may have some limitations. The response of the students in the study to the use of formal assessment procedures may not be replicated in other schools.

Another limitation of the study relates to the age of the students. Year 8 students may be more open, co-operative and willing to learn. Students in religious education classes in later year groups may be more cynical and less co-operative when study expectations are imposed in the religious education classroom.

While these limitations are recognised the results of the study do indicate that changes in student learning are possible when formal assessment procedures are utilised in the teaching of religious education. Differences in age and particular school environments may only require variations in strategies to achieve similar responses in other schools. The results of this study may therefore have wide generalisability. The application to other situations provides an opportunity for further study.

Chapter Four

Results

Introduction

This section describes the results of the study. The indicator variables selected in this study describe the religious affiliation and background of the sample. This data and the results for the knowledge tests and the value surveys are described. The relationship between the test results and the indicator variables is also outlined.

The Indicator Variables

A range of indicator variables was selected to provide background information. These indicator variables may be associated with student learning outcomes. The presence of potential external influences, such as religious background, denomination and frequency of attendance at religious services, on the results of this study necessitated an investigation of these variables. The data describing the sample characteristics for student religion, summarised in Table 5. Table 5 indicates that there is little variation in the student's religious affiliation, between the classes. Each class has a similar proportion of each religious category.

At level 1 of the nested study, the results of the four experimental classes and the three control classes

Table 5

Student's religion showing frequency and percentage for the sample and individual classes

	Catholic	Non-Catholic
	N(%)	N(%)
Class 1	16(11)	6(4)
Class 2	16(11)	2(1)
Class 3	19(12)	3(2)
Class 4	16(11)	4(3)
Class 5	21(14)	2(2)
Class 6	22(15)	2(1)
Class 7	19(13)	4(3)
Sample	129(85)	23(16)

were combined to produce two groups which could be compared. The small variation between the groups when the student's religious background is considered is not significant at the 0.05 level $\chi^2 (1, N = 152) = 0.797, p > 0.05$.

When the data showing the religious affiliation of each student's father and mother were compared, again there is little variation, in the religious affiliation of the parent, between each of the classes. Each class has a similar proportion representing the father's and mother's religion (Table 6). A comparison, of the religious

Table 6

Parent's religion showing frequency and percentage for the study sample and individual classes

	<u>Mother's Religion</u>		<u>Father's Religion</u>	
	Catholic	Non-Catholic	Catholic	Non-Catholic
	N(%)	N(%)	N(%)	N(%)
Class 1	16(11)	6(4)	18(12)	4(3)
Class 2	14(9)	4(3)	15(10)	3(2)
Class 3	15(10)	7(4)	19(13)	3(2)
Class 4	14(9)	6(4)	16(11)	4(3)
Class 5	19(13)	4(3)	17(11)	6(4)
Class 6	18(12)	6(5)	19(13)	5(4)
Class 7	18(12)	5(3)	18(12)	5(4)
Sample	114(75)	38(25)	122(80)	30(21)

affiliation of the parents, of the control and experimental groups indicates that the two groups are not significantly different for father's Religion χ^2 (1, $N = 152$) = 0.798, $p > 0.05$ and χ^2 (1, $N = 152$) = 0.883, $p > 0.05$ for the mother's religion. The analysis of the indicator variables, when father's and mother's religion was considered, indicates that there was no significant difference between either the classes or the experimental and control groups at the .05 level. These results may indicate that these two variables may not be contributing

significantly to any of the subsequent variation in test scores found in the study. This result holds true for both levels of the nested design.

Table 7 summarises the data indicating Mass attendance of the students in this study. The difference between classes when mass attendance was considered is

Table 7

Mass attendance showing frequency and percentage for the study sample and individual classes

Frequency of Mass Attendance			
	Weekly	Monthly	Rarely
	N(%)	N(%)	N(%)
Class 1	5(3)	4(3)	13(9)
Class 2	7(5)	3(2)	8(5)
Class 3	10(7)	3(2)	9(6)
Class 4	11(7)	3(2)	6(4)
Class 5	13(9)	5(3)	8(5)
Class 6	5(3)	8(5)	11(7)
Class 7	8(5)	4(3)	10(7)
Sample	59(39)	30(20)	63(42)

very small. In combining the results of the individual classes for the two groups (experimental and control) the analysis indicates that the variation is not significant at the 0.05 level $\chi^2 (2, 152) = 1.713, p > 0.05$.

Table 8 indicates the Progressive Achievement Test (P.A.T.) scores for each class. The experimental and control groups had very similar mean scores, 18.69 and 18.75 respectively. The small amount of variation in P.A.T. scores that is evident between classes is not significant at the 0.05 level. The one way ANOVA indicated that there were no classes significantly different from any other at the 0.05 level $F(6, 151) = 0.74$, $p > 0.05$. The two-tail t-test also indicated that there was no significant difference between the control and the experimental groups, $t(156) = 0.05$, $p > 0.05$.

Table 8

Mean scores of Progressive Achievement Comprehension Test (P.A.T)

	Mean Score	Standard Deviation
Class 1	16.96	7.96
Class 2	20.67	10.60
Class 3	17.36	6.25
Class 4	20.35	6.79
Class 5	18.43	6.64
Class 6	18.16	8.43
Class 7	19.56	7.47
Sample	18.71	7.67

Table 9 summarises the scores of the knowledge pretest. The knowledge pretest scores indicate that no one class has a score in the knowledge pretest that is markedly different from any other class. The mean score on the knowledge pretest for each class also indicated that no significant knowledge of the content of the unit existed. The sample mean was 5.14 with a standard deviation of 1.93. Each individual class had similar results with a similar distribution. The mean scores of the experimental and control groups were also very similar, 5.22 and 5.05 respectively.

The difference between the experimental and the control groups, when the knowledge pretest scores are considered, is not significant at the 0.05 level $t(158) = 0.54$, $p > 0.05$. An ANOVA of the results of the seven classes indicates that no two classes are significantly different at the 0.05 level $F(6, 153) = 1.19$, $p > 0.05$.

The results of the analysis of the available data and an understanding of how the students were assigned to each class indicates that no one class or one group (experimental and control) is significantly different to any other prior to the commencement of the study. Any apparent variation between individual classes and between the two groups is not significant at the 0.05 level. This indicates that each class and group began the study at similar starting points and hence any observable variation in learning outcomes may well be attributed to the treatment given to the experimental group.

Table 9

Mean scores of knowledge pretest

	Mean Score	Standard Deviation
Class 1	6.0	2.37
Class 2	5.17	2.04
Class 3	4.86	2.12
Class 4	4.75	1.86
Class 5	4.74	1.69
Class 6	5.04	1.57
Class 7	5.31	1.79
Sample	5.14	1.93

The Knowledge Test Results

Tests for skewness indicated that the knowledge and values scores did not differ significantly from the normal distribution at the pretest, posttest or at the follow-up test stage.

The results of the posttest illustrate that a difference exists between the experimental and control classes. Each of the experimental classes scored mean posttest results well above the means of the control classes. The experimental classes had means of 13.5, 9.9, 12.6 and 11.2 while the three control classes had mean scores of 5.9, 5.6 and 4.9. The standard deviation of each class was very similar ranging from 2.4 to 3.2. The

difference between these means is summarised by the mean score for the experimental group (11.9). The mean score for the control group was 5.4. The standard deviation of the scores of the experimental group was 3.3 while the control group had a standard deviation of 2.5.

The change in scores between the pretest and posttest scores also indicates that the control and the experimental classes were very different. The four experimental classes improved the mean score by 7.5, 4.7, 7.8 and 6.4. The standard deviations were 3.5, 2.7, 4.0 and 3.0 respectively. This is in contrast with the three control classes where the mean score showed very little change. The means changed by 1.1, -0.2 and by 0.2. The standard deviations were 2.9, 2.5 and 2.8 respectively. To further illustrate the difference between the control and the experimental groups the mean difference score for the control group was +0.4 while the mean difference for the experimental group was 6.7.

The results of the knowledge posttest indicate differences at both levels of the nested design. The three control classes have shown almost no change in score. Figure 2 gives a visual impression of the degree of change that occurred between the knowledge pretest and knowledge posttest. It shows that each of the four experimental classes had scores that improved after the pretest. The small amount of change in the scores of the control classes is also very evident. Figure 3 illustrates the change in scores for the experimental and the control groups and again shows the difference between the results.

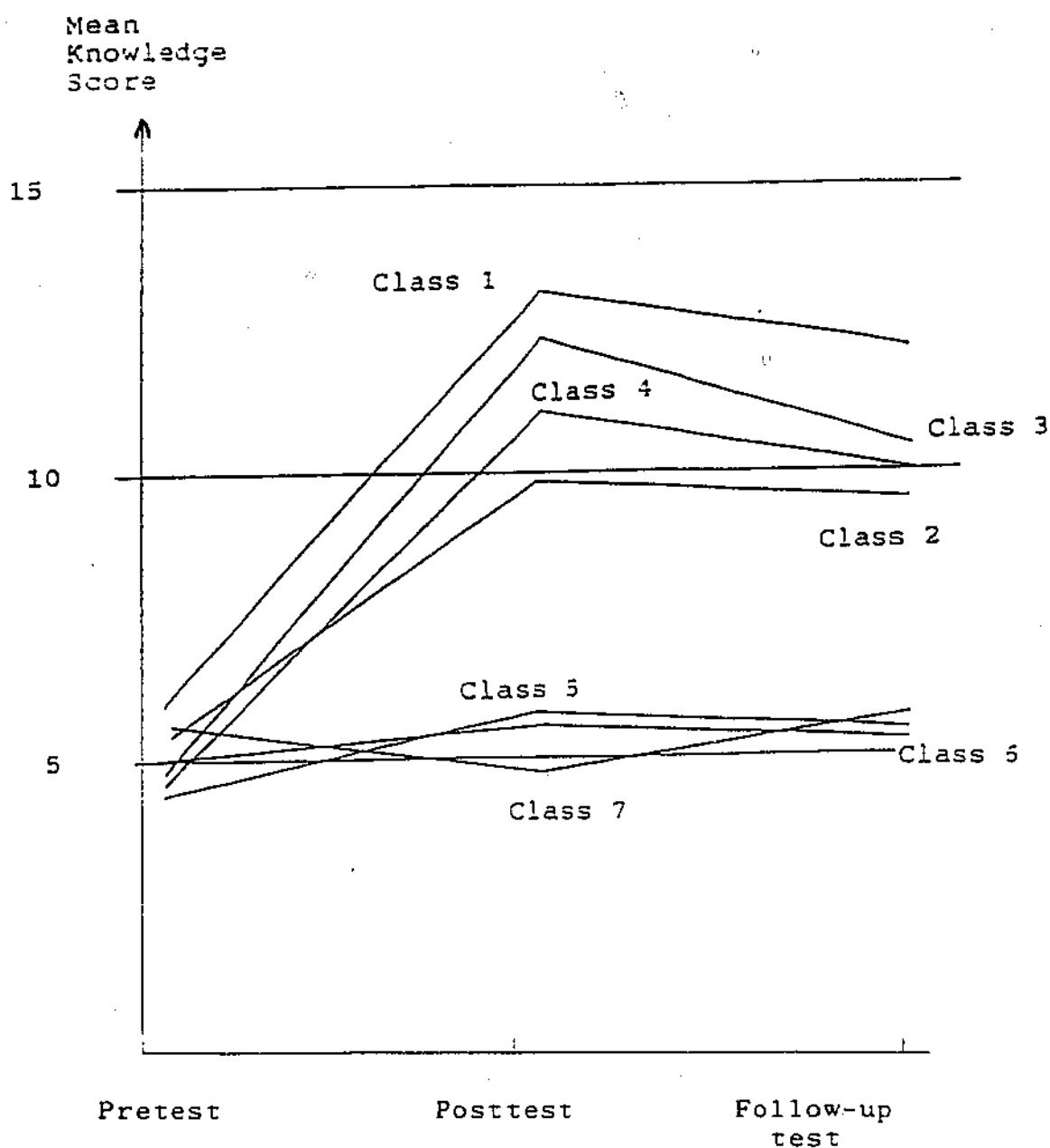


Figure 2. Mean knowledge test scores for individual classes.

Further analysis of these results confirms the impressions evident in Figure 2 and Figure 3. This result indicates a significant level of difference in knowledge learning outcomes at the two levels of the nested design.

The nested design analysis indicates that the variation in posttest knowledge scores is significantly different at the 0.05 level when 'method' is considered (Table 10). The differences between individual teachers was not significant at the 0.05 level.

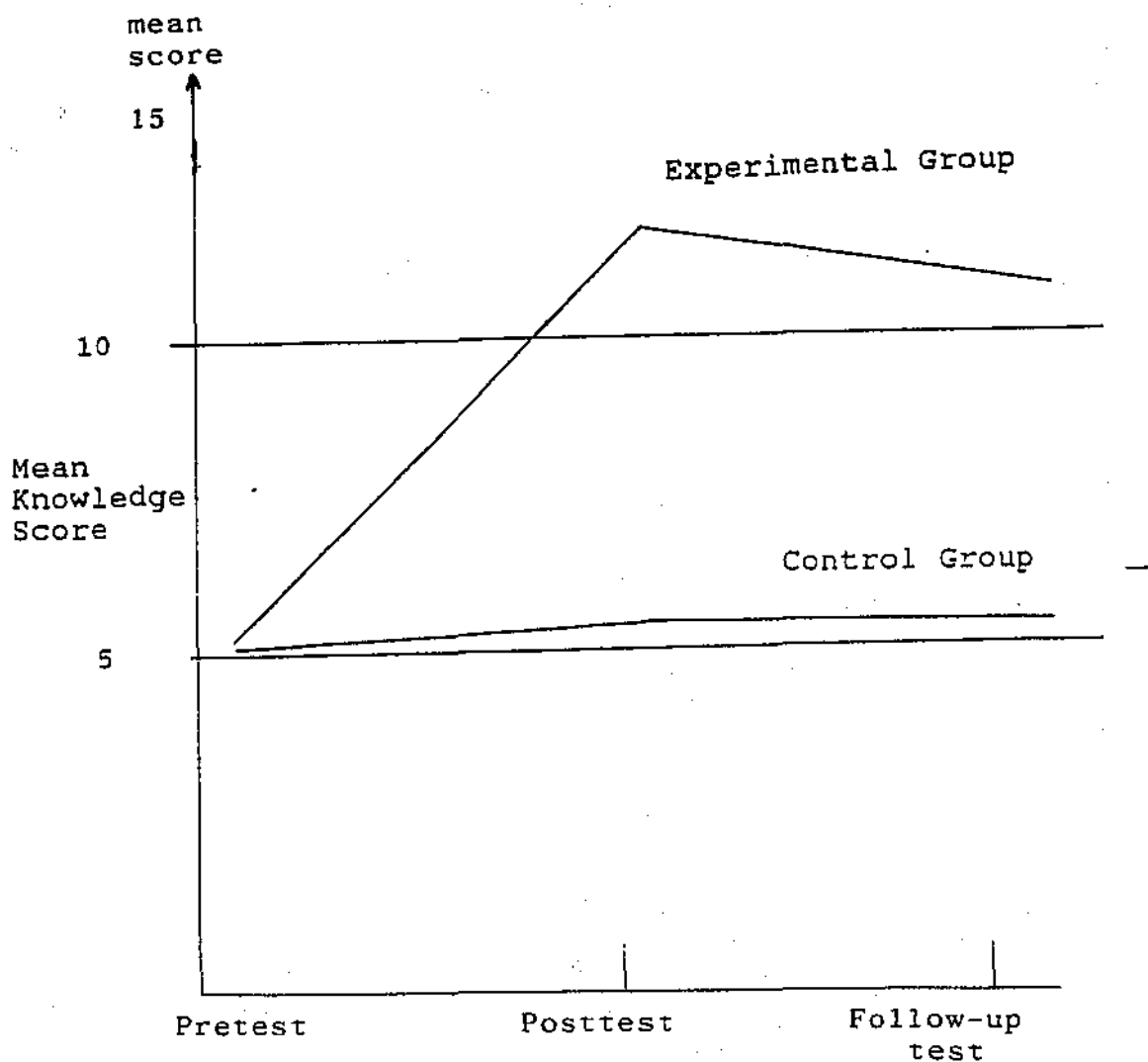


Figure 3. Mean knowledge test scores for the experimental and the control groups.

The treatment given to the experimental classes does seem to have resulted in significant differences in knowledge learning outcomes. These differences exist when the results of each class are compared and when the individual experimental and control class results are combined to form two groups. The knowledge test results indicate that significant differences exist between the experimental and control groups.

Table 10

Summary of nested design analysis of knowledge posttest results.

Source	df	S of S	MS
Methods(A)	1	1367.65	1367.65
Teachers B(A)	6	183.42	30.57
Error	25	1178.50	47.14
F Ratio			
Method	$\frac{MS(A)}{MSB(A)}$	44.74*	
Teacher	$\frac{MS_{BA}}{MS_{error}}$	0.65**	

Note: * Significant at the 0.05 level

** Not significant at the 0.05 level

The analysis of the posttest results suggest that knowledge learning outcomes can be significantly improved where an emphasis on assessment and evaluation is part of

the teaching process. This conclusion though, is drawn from only a pretest, posttest experimental design. The frequent use of daily tests, revision through questioning, nightly study and so on may have maintained a memory of the content of the module only in the student's short term memory. A follow-up test would suggest a longer term effect on the knowledge learning outcomes had resulted.

The results of the follow-up test indicate that the four classes representing the experimental group scored at a higher level than the three classes in the control group. The mean score for the experimental classes was 10.65 with the mean scores of the four experimental classes ranging from 9.33 to 12.22. The mean score for the control classes was 5.44 (Table 11).

The mean scores of the control classes are little different from the pretest scores. Table 10 indicates that the ANOVA shows that there is no significant difference, at the 0.05 level, between the pretest and posttest scores. The mean change in test score between the pretest and the follow-up test for each of the three control classes was generally less than 1 point. The mean change for the control group was 0.39. The level of change for the four experimental classes was more substantial. The four classes recorded mean changes of 6.2, 4.2, 5.8 and 5.3. The average change in score for the experimental classes was 5.4. The standard deviation for each class was very similar ranging from 2.2 to 3.8. The standard deviation for the control group was 2.4 while the experimental group had a standard deviation of 3.8.

Table 11

Means and standard deviations for the follow-up knowledge test results.

	Mean	SD	N
Class 1	12.22	3.28	23
Class 2	9.33	3.58	18
Class 3	10.68	2.97	22
Class 4	10.00	2.66	20
Class 5	5.44	2.31	23
Class 6	5.24	1.83	25
Class 7	5.62	2.40	29
Control	5.44	2.18	77
Experiment	10.65	3.26	83
Sample	8.14	3.82	160

Figure 2 gives a visual impression of the degree of change that occurred between the knowledge pretest scores and follow-up test results. It shows that each of the four experimental classes had scores that maintained their level at the follow-up test stage. The amount of change in the scores of the control classes remains at a very low level indicating little change from the pretest results. Figure 3 illustrates the change in scores for experimental and the control groups and again shows the difference between the results of these two groups. The experimental

group maintained a significantly higher score in the follow-up test despite the intervening two week period.

The knowledge test results indicate significant differences between the experimental and control groups. The nested design analysis (Table 12) indicates that the variation in the follow-up test knowledge scores is significantly different at the 0.05 level when 'method' is considered. The differences between individual teachers was not significant at the 0.05 level.

Table 12

Summary of nested design analysis results of knowledge follow-up test results

Source	df	S of S	MS
Methods(A)	1	876.60	876.60
Teachers B(A)	6	103.95	17.33
Error	25	1128.83	45.15
F Ratio			
Method	$\frac{MS(A)}{MSB(A)}$	50.58*	
Teacher	$\frac{MS_{BA}}{MS_{error}}$	0.38**	

Note: * Significant at the 0.05 level

** Not significant at the 0.05 level

Other Influences On Student Learning Outcomes

To further investigate the variation in knowledge test scores, a series of analyses was carried out using the individual test scores and the indicator variables.

When the knowledge posttest results were considered for each of the categories of the indicator variable Mass Attendance, the variation in posttest scores was not significant at the 0.05 level. Students who attended mass each week scored 9.9 on average, those who attended mass monthly scored 7.4. Students who attended mass rarely scored an average of 8.4. The standard deviations were 4.46, 4.47, and 4.47 respectively. The high degree of similarity the knowledge scores of students who attended mass weekly, monthly and rarely, is confirmed with multiple regression analysis. Table 13 summarises the results of this analysis and shows that the variation in posttest scores, when the variable Mass Attendance is considered, was not significant at the 0.05 level.

Similar results are evident when the follow-up test results are considered. Students who attended mass each week scored 9.0 on average, those who attended mass monthly or rarely scored 6.8 and 7.3 respectively. The similarity of the test scores of students who attended mass weekly, monthly and rarely are confirmed with multiple regression analysis. Table 14 summarises the results of this analysis and shows that the variation in follow-up test scores, when the variable Mass Attendance is considered, was not significant at the 0.05 level.

Table 13

Summary of multiple regression analysis of knowledge posttest scores with selected variables (N = 160)

Variable	<u>B</u>	<u>SE B</u>	<u>β</u>
Homework	1.52	0.51	0.25*
Mass Attendance	-0.39	0.44	-0.08
Mother's Religion	1.27	1.12	0.12
Child's Religion	1.55	1.17	0.13
Father's Religion	1.32	1.16	0.13

Note. $R^2 = 0.10$; $\Delta R^2 = .07$ ($ps < 0.05$); * $p < .05$

Table 14

Summary of multiple regression analysis of knowledge follow-up scores with selected variables (N = 160)

Variable	<u>B</u>	<u>SE B</u>	<u>β</u>
Homework	1.18	0.43	0.22*
Mass Attendance	-0.61	0.39	-0.14
Mother's Religion	1.45	0.96	0.17
Child's Religion	1.18	0.94	0.16
Father's Religion	1.33	0.97	0.16

Note. $R^2 = 0.10$; $\Delta R^2 = 0.07$ ($ps < 0.05$); * $p < .05$

The mean knowledge posttest scores for the students according to the indicator variables 'mother's religion' and 'father's religion' are shown in Tables 15 and 16.

Table 15

Mean knowledge test scores with the factor of mother's religion

Mean Knowledge Test Scores			
Mother's Religion	Pretest	Posttest	Follow-up Test
Catholic	5.13	8.63	7.97
Non catholic	4.97	8.74	8.23
Sample	5.09	8.66	8.03

Table 16

Mean knowledge test scores with the factor of father's religion

Mean Knowledge Test Scores			
Father's Religion	Pretest	Posttest	Follow-up Test
Catholic	5.25	8.72	8.09
Non Catholic	4.59	8.35	8.04
Sample	5.12	8.65	8.78

Each category reflected scores that were similar to, or varied little from the overall sample mean. The mean score of students whose mothers were Catholic was 8.6. Those students whose mothers are non-Catholic had a mean score of 8.7. When father's religion is considered the mean scores are 8.7 and 8.4 respectively. Multiple regression analysis (Table 13) indicates that there is no significant relationship between the knowledge posttest scores and the religion of the student's mother and that of the student's father at the 0.05 level.

Similar results are evident when the follow-up knowledge test scores are considered. These scores are shown in Tables 16 and 17. The multiple regression analysis results indicated that the knowledge scores of students whose mothers were Catholic and non-Catholic were also very similar, again indicating that at the 0.05 level no significant relationship is evident between the scores and these indicator variables.

The mean scores of both the post and follow-up knowledge test results for the categories associated with the indicator variable student's religion again indicate little variation. Students who were Catholic had a mean posttest knowledge score of 8.7. The mean score of the non-Catholic students was 8.8. The similarity between the two means is apparent indicating almost no difference, $t(156) = 0.05$, $p > 0.05$. The scores for the follow-up test were also similar. Students who are Catholic scored on average 8.0 while the mean for non-Catholic students is 8.6 again indicating no significant difference, $t(156) =$

0.05, $p > 0.05$. Multiple regression analysis of knowledge posttest scores indicates that there is no significant difference, between the scores of the students who are Catholic and the scores of the students who are non-Catholic, the .05 level (Table 15).

Table 17 indicates the results of the investigation

Table 17

Percentage students doing nightly homework in each class

Class	No homework	> 10 minutes	< 10 minutes
1	4	11	7
2	7	7	4
3	1	15	6
4	9	8	3
5	13	8	2
6	13	10	1
7	9	9	5

into the amount of homework done by students in each class. Students from the classes representing the experimental group tended to do more homework than students in the control group. Classes 1 to 4 tended to have more students spending ten minutes or more on nightly homework than classes 5 to 7. The reverse is true for the

percentage of students who indicated that they did no homework each night. Further analysis of these differences and the knowledge test scores indicated that these observed differences are significant, $t(155) = 3.28$, $p < 0.05$.

The analysis of the knowledge test results and the amount of time spent on homework confirms that a significant relationship exists between the amount of time a student spends doing homework and their knowledge posttest score (Table 13). Students who indicated that they spent over ten minutes each night doing religious education homework had a mean knowledge test score of 10.3. This compares with a mean score of 9.0 for students who did less than ten minutes nightly and 7.7 for students who did no home study at all. In the follow-up test these mean scores were 9.6, 8.3 and 7.2 respectively, $t(156) = 0.37$, $p > 0.05$.

The Value Survey Results

Initial investigations indicated that some change in value scores is evident in the data (Table 18). From the pretest level the average value score decreased to a posttest level of -0.57 and remained fairly steady at -0.56 two weeks later at the follow-up value survey. An investigation of the value scores of the experimental and the control groups and that of individual classes indicates that change in value scores is not consistent with the generalised pattern seen in Table 18.

Table 18

Mean scores for value survey for the sample

Pretest mean	Posttest Mean	Follow-up test mean
-.786	-.568	-.555

Table 19 summarises the results of the values survey for individual classes and for the control and the experimental groups. The mean value score of the experimental group indicated a small level of change. The control group had a similar direction and level of change in mean score. At level one of this nested design (comparing the experimental and the control groups) this similarity in variation of scores after the pretest was confirmed. The nested design analysis (Table 20) indicates that the difference between the experimental and the control groups is not significantly different at the 0.05 level for both the posttest and the follow-up test results.

At the second level of this nested study, the pattern of results of the individual classes enables a comparison of individual teachers and classes. Individual teacher differences may account for variations in the pattern. Class 6 had a mean pretest value score of -0.77 changing to -0.70 at the posttest and to -0.76 at the follow-up value survey stage. The value scores of class 7 were -0.54, -0.60 and -0.55 respectively also indicating very

little change in value scores (Table 20). The changes in the value scores of class 5 were much higher. The mean value score at the pretest was -0.78, was -0.47 at the posttest and remained fairly stable at -0.42 at the follow-up test stage. This class therefore seemed to show a more substantial change in value score.

Table 19

Mean scores for the value survey questions for individual classes and for the experimental and control groups

	Mean Score		
	Pretest	Posttest	Follow-up Test
Class 1	-0.75	-0.92	-0.70
Class 2	-1.12	-0.55	-0.71
Class 3	-0.44	-0.34	-0.25
Class 4	-1.35	-0.29	-0.50
Class 5	-0.78	-0.47	-0.42
Class 6	-0.77	-0.70	-0.76
Class 7	-0.54	-0.60	-0.55
Experimental	-0.89	-0.54	-0.54
Control	-0.69	-0.58	-0.59

All four experimental classes produced shifts in value scores. Class 1, for example, had value scores which changed in the direction expected. The pretest

score was -0.75 while the posttest score was -0.92 indicating a positive change in values. The remaining experimental classes produced changes in the opposite direction.

Table 20

Summary of nested design analysis results of value scores results

Source	df	Posttest		Follow-up Test	
		SS	MS	SS	MS
Methods (A)	1	0.13	0.13	0.05	0.05
Teachers B(A)	6	6.01	1.00	0.45	0.08
Error	25	163.81	6.55	188.39	7.54
F Ratio					
Method	$\frac{MS(A)}{MSB(A)}$	Posttest		Follow-up Test	
Teacher	MS_{BA}				
	MS_{error}				
		0.13**		0.63**	
		0.15**		0.01**	

Note: ** Not significant at the 0.05 level

Value change in the experimental group was also not uniform. Class 2 and 4 illustrated the greatest degree of change between the pretest and posttests. The value score for class 2 changed from -1.12 to -0.55 while the value score of class 4 changed from -1.35 to -0.29. From the

posttest the value score moved back toward the score at the pretest position. The score for class 2 was -0.55 at the posttest and -0.70 at the follow-up test stage. The mean value score for class 4 was -0.29 and -0.50 respectively. The change in value scores of class 3 continued beyond the posttest through to the follow-up test. The value score of class one also indicated a shift back toward the pretest position indicating not only a non-permanent change but also an almost complete reversal to the value score the students recorded before teaching began. The mean value score for this class was -0.75 at the pretest, -0.90 at the posttest and -0.70 at the follow-up test stage.

At level 2 of the nested design of the study a comparison of individual class scores is possible. The ANOVA analysis of the value scores of each class for the posttest and the follow-up test indicates that there is no significant difference, in value scores, between any of the classes at the 0.05 level (Table 20).

A pattern seems to have arisen within the experimental group, the pattern is not uniform across all classes. The control classes indicate an opposite pattern, that was not uniform. There is, therefore, no clear distinctions between either the experimental and control groups or the individual classes when value scores are considered.

When the value scores of students who responded correctly to each associated knowledge question were compared to the value scores of students who did not

correctly respond to each associated knowledge question there was still no significant difference at the 0.05 level, $t(156) = 0.36$, $p > 0.05$. The level of change of value score from the pretest to the posttest was also very small and not significant at the 0.05 level, $t(156) = 0.49$, $p > 0.05$. This indicates that students who 'knew' the correct answers to the knowledge questions did not have value scores that were significantly different from students who did not 'know' the correct responses.

Other Influences On Student Values Scores

In an attempt to account for the variation in value survey scores a series of analyses were carried out using the individual value scores and the indicator variables.

When the value scores were considered each category had similar results in the pretest. The value scores for the three categories of the indicator variable Mass attendance are as follows. Students who attended Mass each week had a mean value score of -0.84, those who attended Mass monthly had a mean value score of -0.79, while those who attended Mass rarely, had a mean value score of -0.76. At the posttest the mean value scores were -0.49, -0.55 and -0.67 respectively. The follow-up test mean value scores were -0.59, -0.23 and -0.69.

A multiple regression analysis (Table 21) indicates that there is no significant difference, when the posttest and follow-up test scores for the value survey are considered. The analysis indicates that the change in

value scores may not be associated with the indicator variable Mass attendance.

The mean pretest value score for the students whose father was Catholic was -0.84. This score was -0.65 at the posttest and remained stable at -0.63 at the follow-up test. This change is again in an opposite direction to what was predicted. Student value scores decreased after the module had been taught. Students whose fathers are non-Catholic had a pretest score of -0.63. This score was -0.31 at the posttest and -0.26 at the follow-up test. Again the change was in a direction opposite to what was expected.

At the 0.05 level there was no significant difference, $t(156) = 0.04$, $p > 0.05$, between the values scores at the posttest and the follow-up test stage (Table 21) when the father's religion was considered. It would therefore seem that, in this case at least, the religious background of the father does not hold any advantage for the students.

When the indicator variable mother's religion is considered (Table 22), the change of values was again opposite to what was expected and the students whose mothers were Catholic again recorded scores that were not significantly different to those students whose mothers were not Catholic.

Table 21

Summary of multiple regression analysis of value scores(N = 160)

Variable	Posttest Stage		
	<u>B</u>	<u>SE B</u>	<u>B</u>
Homework	-0.04	0.13	-0.02
Mass Attendance	-0.22	0.12	-0.18
Mother's Religion	0.24	0.21	0.10
Child's Religion	0.19	0.43	0.62
Father's Religion	-0.87	0.43	0.09

Note. $R^2 = 0.10$; $\Delta R^2 = 0.07$ ($ps < 0.05$);

(No variables are significant at the 0.05 level)

Follow-up Test Stage

Variable	<u>B</u>	<u>SE B</u>	<u>B</u>
Homework	0.14	0.12	0.09
Mass Attendance	-0.17	0.11	-0.14
Mother's Religion	0.34	0.21	0.12
Child's Religion	0.06	0.43	0.02
Father's Religion	0.32	0.20	0.12

Note. $R^2 = 0.10$; $\Delta R^2 = 0.07$ ($ps < 0.05$);

(No variables are significant at the 0.05 level)

The values scores are almost identical to the value scores of the students whose mothers are Catholic. The scores at each stage of testing were also very similar. Therefore similar conclusions can be made regarding this indicator variable.

Table 22

Values scores for students according to their mother's religion

	Pretest	Posttest	Follow-up Test
Catholic	-0.80	-0.65	-0.63
Non Catholic	-0.79	-0.38	-0.34

Table 23

Values scores for students according to their religion

	Pretest	Posttest	Follow-up Test
Catholic	-0.83	-0.63	-0.61
Non Catholic	-0.64	-0.30	-0.28

The variation of value scores when compared with the students own religion was again similar to the above results and are presented in Table 23. The results therefore seem to confirm the observations made with reference to the value scores of the students whose

parents were Catholic and are confirmed with the multiple regression analysis (Table 21).

The values scores according to the time spent doing home study are shown in Table 24. Students who indicated that they did no nightly homework in religious education had value scores at each of the three stages of testing that were very similar to those students who reported that they studied religious education less than ten minutes nightly. The direction of change of scores was again similar to the direction of the previous results. The students who did more than ten minutes study tended to 'improve' their value score at the end of the module. The value score was -0.71 at the pretest stage and -0.80 at the posttest stage. The posttest score was not maintained becoming -0.50 at the follow-up test stage. This score is similar to the follow-up scores of the students who did less than ten minutes homework (-0.67) and those who did no homework (-0.49).

Table 24

Values scores for students according to the amount of time spent doing nightly homework in religious education

	Pretest	Posttest Test	Follow-up
No Homework	-0.92	-0.61	-0.67
Less Than 10 Minutes	-0.74	-0.47	-0.49
More Than 10 Minutes	-0.71	-0.80	-0.50

The analysis of the value posttest and follow-up test results show that there is no significant difference in value scores at the 0.05 level (Table 21) when the amount of homework done in religious education is considered. The results of this analysis indicate that at level one of the nested study there was no significant difference between the experimental and control groups for this factor.

Summary of Results

The sample was shown to have very uniform characteristics. There was no significant difference, in the indicator variables, between the control and the experimental groups nor between the individual classes. Variation in mass attendance, student religious affiliation, parent religious affiliation and student Progressive Achievement Scores were very uniform throughout the sample.

Significant differences between the control and the experimental groups were evident when the knowledge test scores were analysed. The pretest scores indicated that all students had similar levels of knowledge prior to teaching of the module. At the posttest stage the control group had shown little change in test scores while the experimental group illustrated significant change in test scores. The difference between the two groups was maintained at the follow-up test stage.

Multiple regression analysis indicated that little of the variation in test score could be explained by the indicator variables. Analysis of variation, within the format of the nested design of the experiment, indicated that the variation in test scores was the result of the 'treatment' that the experimental group had received.

The analysis of the value survey results indicated no significant pattern. Value survey scores had changed during the experiment but the change was not uniform nor clear. Students tended to change their value score in the opposite direction to that which was expected.

Chapter Five

Discussion and Implications

Introduction

This study firstly established the philosophical arguments that related to the teaching of religious education. The literature showed that considerable confusion exists as to the nature and purpose of religious education. It was therefore necessary to establish a definition of the term religious education.

Classroom practice in the teaching of religious education was shown to have lacked academic rigour in the past. This situation, the literature suggested had led to religious education having a low image in the minds of many students and, at times, teachers.

Religious education in Catholic schools was seen by different people in the community as having different tasks. Many felt that the main purpose of teaching religious education was catechesis. Many disagreed with this position and indicated that schools were not the place to successfully achieve the aims of catechesis. Many indicated that education was the principal aim of religious education and so therefore supported the use of assessment procedures in the religious education classroom. A group of researchers outlined a middle position which attempted to develop an eclectic approach to the teaching of religious education.

The more professional approach to the teaching of religious education was called for in the literature. The administration of the subject, the professional development of staff and the teaching process all required significant shifts towards a more professional outlook. An aspect of this change incorporated the introduction of formal assessment and evaluation procedures into the teaching strategies of the religious educator.

Teaching strategies of many subjects utilise formal assessment and evaluation procedures, and have, established a philosophical framework and significant evidence to support the need for assessment and evaluation in the classroom. The importance of assessment and evaluation as a teaching strategy itself, can therefore be applied to the teaching of religious education.

Significant differences between the control and the experimental groups were evident when the knowledge test scores were analysed. The pretest scores indicated that all students had similar levels of knowledge prior to teaching of the module. At the posttest stage the control group had shown little change in test scores while the experimental group illustrated significant change in test scores. The difference between the two groups was maintained at the follow-up test stage.

While analysis of the value survey results indicated no statistically significant pattern, some general conclusions were possible. Value survey scores had changed during the experiment, but the change was not

uniform. Students tended to change their value score in the opposite direction to that which was expected.

The interpretation of these results, within the philosophical framework developed in the introductory sections of the study, can be drawn together to produce clear conclusions and implications for teachers of religious education.

Discussion

The recent history of teaching religious education in Catholic schools suggests that students play a passive part in the classroom. The blame was directed at the process of teaching which was seen as lacking purpose, direction and structure. This in turn was perceived as effecting the students' perception of the importance and relevance of the subject. The results of this study seem to confirm this observation.

Rossiter (1981) suggested that some teachers of religious education in Catholic schools are confused as to their principal task. This confusion may lead to a lack of direction in their teaching. He suggested that this leads to poor teaching in the religious education classroom and so both (the cognitive and the affective) goals of education in faith suffer. Rossiter's concern seems to be reflected in the results of this study. The 'treatment' given to the experimental classes involved giving teachers clear goals for their teaching. The teaching points for the module were transcribed into clear

objectives for each lesson. The teachers knew what was to be achieved in each lesson and the students realised these objectives needed to be understood and learnt. They were encouraged to study, were questioned, were tested and knew they were to be examined on the content. There was no lack of clarity.

The results clearly supported Rossiter's view that a relationship exists between clarity of purpose and learning outcomes. The students who received the 'treatment' had results that were significantly better than the students whose teachers had not been exposed to the same specific directions. The nested design of this study allowed individual classes to be compared as well as a comparison of the experimental group and the control group. In both instances the results of the experimental classes were significantly different to the results of the control classes. The results of each control class were similar, and indicated that no learning of content had occurred. The results of the four experimental classes were similar to each other and indicated a significant positive change in knowledge test scores between the pretest and the posttest. These results therefore seem to support Rossiter's contention that clarity of purpose can directly influence learning outcomes. The four experimental classes had direction and purpose. The control classes did not have this level of clarity.

Some teachers of religious education believe that their subject is different from subjects such as mathematics, science and history. They believe they can

teach effectively without the benefits of assessment and evaluation. It is important to consider the results of this study in the light of incorporating assessment and evaluation procedures in the teaching methodology of religious education.

Content that had been covered by the teachers of the three control classes seem to have not been learnt. Posttest and follow-up knowledge test results indicated almost no change in knowledge test scores from the scores attained by the students prior to the module of work beginning. Teachers were 'teaching' but the module content was not being learnt. This result was in contrast to the observed outcomes of the experimental classes. Here, teachers imposed a formal assessment structure, actively revised each lesson, set minor tests, reviewed material and actively utilised many forms of formative assessment. In these classes students learnt the material that was being taught. Knowledge posttest scores were significantly higher than the pretest scores. Learning was shown to be long term as the follow-up test results were also significantly higher than the pretest scores.

The differences between the experimental and the control posttest and follow-up knowledge test scores cannot be explained by differences that existed between the classes prior to the study beginning. This has been shown with the analysis of pretest data. With each set of results there were no significant differences between classes for any of the indicator variables. These included indicators of religious background, commitment to

religion, home study, prior knowledge of the unit of work and reading ability. The observed differences in knowledge test scores must therefore be associated with the treatment the experimental classes received during the study.

In calculating the within group difference as well as the between group differences, the nested design analysis allows comment on the possible differences between each teacher in the control and experimental classes. While every care was taken in the experimental design to randomly allocate teachers to each class, some advantage could have occurred for the experimental classes. These teachers may have been more dynamic, more committed and more inspirational. The nested design analysis indicated that when the scores of individual classes were compared there were no significant differences. This pattern was evident for the knowledge test and the value survey results at the pretest, posttest and follow-up test stages. The nested design analysis indicated that there was no significant difference between any of the four experimental classes when the posttest and follow-up test results were considered. Similarly the analysis indicated that there was also no significant difference between any of the three control classes. This indicates that teacher differences in this study did not significantly influence the knowledge test scores. It would seem that the difference in test scores was the result of the difference in teaching.

Some of the literature suggests that the environment of the family is no longer supporting the growth of religious commitment within the student. This situation seems to hold true in this study. With regards to knowledge learning outcomes there was no significant effect when knowledge test scores were related to the indicator variables reflecting commitment to the Catholic faith. Whether the student was Catholic or not, or had parents who were Catholics or not, had little bearing on the learning outcomes of the students. There was no significant difference between the knowledge test scores of those who were Catholic and those who indicated that they were non-Catholic. The 'support' for learning that might have been expected from a Catholic background was either not present as predicted within the literature or was at a level similar to that experienced by students from non-Catholic backgrounds. The students from a non-Catholic background may be receiving more encouragement to learn due to parents wanting their children to 'fit in'. Other than this possibility it would seem that family background has little impact on learning outcomes for religious education in Catholic schools.

The results suggest that the indicator variable Mass attendance cannot be used to account for a significant proportion of the differences in the knowledge test scores. Students who displayed commitment to their Catholic tradition by attending Mass weekly did not have results that were significantly better than other students in the study. If Mass attendance, an indicator variable

for commitment to the Catholic faith, was influencing student interest and learning one would perhaps expect a higher score for students who regularly attended Mass. This pattern did not occur. While students who attended Mass on a weekly basis did have a slightly (although not significant) higher score than those who attended Mass monthly, the average score of those who rarely attended Mass increased rather than decreased. There is therefore no consistency in the pattern. Again the possibility arises that students who did not attend Mass regularly were more committed to their studies in an effort to 'fit in'. While the students who attended Mass regularly may have felt that they had 'heard it all before' and so did not need to study. While this may be a possibility it would seem more likely that commitment to the Catholic faith has little impact on student learning.

A similar pattern was found when student value scores were considered. It may have been assumed that students with a Catholic background would be more open to accepting the affective domain values contained in the objectives. The results of this study indicate that this was not the case. The value scores of students who were Catholic were not significantly different from those who were not Catholic. This observation may again be the result of non-Catholic parents encouraging their children in their studies in religious education. The results of the data analysis suggested that family environment may have little effect on the students values scores.

Beside family background much of the literature discussed the nature of the students themselves. Crawford and Rossiter (1989) suggested that students were now more questioning, less accepting and were no longer actively involved in the life of the church. The teaching of religious education in Catholic schools could therefore no longer rely on passive acceptance of material presented in class. Teaching had to face the challenge of a broad range of religious commitment within each classroom. The view presented involved an academic mode of teaching. It was argued that if this approach to teaching was taken then at least all students (irrespective of the stage of faith commitment) could be taught and learn the material presented by the teacher.

Crawford and Rossiter's perceptions regarding the clientele seem to be correct within the study school. Eighty-five percent of the students indicated that they considered themselves Catholic and yet only 39% attended Mass on a weekly basis (an indicator of commitment to and involvement in the Catholic religion). The apparent lack of learning evident in the control group supports Crawford and Rossiter's contention. Students in the experimental group had the same level of commitment as those in the control group yet indicated a significantly higher level of learning. It would seem that an academic mode of teaching experienced by the students in the experimental group did result in significant changes in student learning outcomes in religious education.

A significant theme in the literature pointed to the effect of poor teaching within religious education in Catholic schools. This perception was shown to hold true within the study school. Observation of the control group of classes indicated that the teaching lacked academic rigour. No tests were planned, teachers failed to utilise any structured formative or summative assessment procedures. In these three classes knowledge test scores were very low. Scores at the end of a four week module were barely different from the scores recorded in the pretest. No learning appeared to have taken place. On the other hand the four experimental classes showed significant changes in knowledge test scores. Teaching in these classes included systematic formative and summative assessment. They were shown to do much more study. It would seem that the concern expressed in the literature regarding teaching technique in religious education is supported by the results of this study.

On the other hand the differences in teaching appear to have had no significant bearing on the affective domain. Student value scores were not significantly different when the experimental and control groups were compared. The teaching methods utilised by the teachers in the experimental group seem to positively influence the cognitive domain but did not apparently influence the affective domain.

Students who did more homework had significantly higher knowledge test scores than those who did less homework. The results of this analysis seem to indicate

that in the experimental classes, where classes were set homework each night; where students were tested each day on the work of the previous lesson and where the students were aware of and were working toward an end of topic exam, students were doing significantly more homework. This translated into higher knowledge test scores. In the case of the value test scores though, there was no apparent association between the total time spent doing homework and values scores. It would therefore seem that commitment to study, homework and changes in the cognitive domain have little influence on the affective domain.

The students who indicated that they spent time doing home study were not necessarily those who were Catholic, had Catholic parents or who attended Mass regularly. It is therefore not possible to argue, with any significant degree of confidence, that commitment to the Catholic tradition, as indicated by Mass attendance or religious background flows through to the student's efforts in the class or at homework. Student and family religious background did not relate to study habits. Study and effort were shown to relate more specially to the teaching methodology utilised by each teacher.

The problems facing religious education in Catholic schools have been viewed too exclusively as problems of 'religion' rather than problems of education. The literature faces this issue from an educational perspective. The literature calls for a more professional approach to the teaching of religious education. This professional approach involves determining objectives,

determining classroom process and designing methods for determining whether the classroom processes achieved the objectives. Thus the need for assessment and evaluation is integral for good education. As good education is integral for religious education, the inclusion of assessment and evaluation is crucial for a professional approach to teaching religious education in Catholic schools. The results of this study confirm that the use of assessment and evaluation in the teaching of religious education is of benefit to both the student and the teacher.

The 'treatment' experienced by the students in the experimental classes did not focus solely on measurement. All aspects of assessment/evaluation were utilised. Daily tests provided immediate feedback to the student regarding both poorly and well learnt material. Poorly learnt material could therefore be revised by the student. Well learnt material could be built upon in subsequent lessons. The teacher received immediate feedback on aspects of teaching that were inadequate and hence needing improvement. Interviews with students confirmed this potential benefit. Students who received the 'treatment' recognised the potential benefit. They saw that testing gave them feedback that could be acted upon and motivated them to improve their learning. These benefits obviously flowed through to posttest and follow-up test scores. The students in the control classes did not receive the treatment. Taping of lessons revealed a low level of formative and diagnostic evaluation which tended to be

very lesson specific. Evaluation did not extend to previous lessons nor act as a motivator for learning. The results of this lack of 'treatment' flowed through to the posttest and follow-up tests which indicated that very little learning had occurred.

The formal teaching structure imposed on the experimental group did not appear to have a negative effect on change in the affective domain. No significant difference between the experimental and the control classes was observed. Within the limitations of the time frame of this study the utilisation of a formal teaching methodology appears to have not hindered the value scores. Student scores in the values survey were little different regardless of the teaching methodology. This latter result is significant in that some of the literature argued strongly that an academic approach to the teaching of religious education would hinder teaching in the affective domain. This was not shown to be the case.

Despite there not being significant change in value scores, a general pattern in the value scores could be observed. Initially students scored themselves at a very high level compared to their perception of the average score of the population. From this 'extreme' position at the pretest, the students adjusted their scores more toward the average position. One possibility for the unexpected direction of change was that at the pretest the students rated themselves at a very 'unrealistic' level in comparison to the average year eight student. The teaching process actually helped the students to realise

that their values were perhaps not so ideal. The shift was therefore toward a more realistic position. This possibility is supported by the results of the value scores of the control classes and subsequent analysis of individual questions. From the knowledge test results it is known that little change in knowledge learning outcomes occurred in the control classes. Given this position the students in the control classes have had very little to guide them in re-evaluating their value scores. As would be expected their value scores changed less in comparison to the value scores of the experimental classes. The degree of change in mean value score was not uniform across all four classes. Each of the three control classes indicated almost no change over that period. In two of these classes there was almost no change between the pretest and posttests indicating that value scores remained very stable throughout the teaching process and beyond. One of the control classes demonstrated value score change during the teaching process. The value score remained stable between the posttest and the follow-up test. This indicates that the change that had initially occurred remained after the teaching process for that module had ended.

The value survey results do not indicate that the teachers of the control classes were any more successful in effecting value change than the teachers whose teaching reflected the more traditional mode. Students in the control classes showed no significant change in value scores. In these items, at least, the teacher's influence

was not reflected in the value survey scores. Further study may reveal a more discernible influence given a longer time scale.

Although no significant and consistent change in values score was evident in this study some individual classes demonstrated small change in value scores. The classes that did demonstrate change were from both the experimental and the control group. It would seem that these changes were in some way related to the individual teacher differences that are beyond the limits of this study.

When the value scores of students who responded correctly to each associated knowledge question were compared to the value scores of students who did not correctly respond to each associated knowledge question the results seemed to indicate that the students were adjusting their value scores after having been exposed to the objectives of the module. Having understood the cognitive component of any objective and being able to answer a knowledge test item correctly did not translate into acceptance of the affective objectives related to the cognitive objectives. The value scores of these students was no different to the values scores of the students who did not score the knowledge question correctly. The acceptance of values may be influenced by other factors. These are beyond the limits of this study. Students exposed to a range of strategies may well not learn the facts, doctrine or knowledge component of an objective but they may absorb some understanding of what is being taught

and do alter their value scores. The students who scored the knowledge question incorrectly still adjusted their values scores in a similar direction and at a similar strength.

Students who displayed commitment to their Catholic tradition by attending Mass weekly did not have value scores that were significantly different to other students in the study. If Mass Attendance was significant one would perhaps expect a higher score for regular attendance with decreasing scores in the other two categories. This pattern did not occur. As this appears to be the case the variation in value scores seems to support the proposition that the change is associated with the teaching process.

The data indicates that the religious background of the father does not seem to hold any advantage for the students. As discussed earlier the movement in the direction of value scores opposite to that expected may be related to increased knowledge. In this instance, this could still be the case as both groups adjust their value ratings in the same direction and at a similar strength, in the light of their new knowledge. At the same time though, the students whose father is Catholic, maintain their value scores at a generally higher level. The assumption behind these two variables relates to family support for study, homework, effort, participation and involvement in religious education classes. If these characteristics existed one may assume that the 'teaching' of Catholic values would be better achieved than in a family situation where there was lack of support.

As with parent religious affiliations, there was no significant differences between the group of students who were Catholic and those who were not Catholic when the student's own religion was considered. This was true at the pretest, posttest and follow-up test level. Students who had a Catholic background recorded scores that were higher than the scores of the non-Catholic students and so seemed to reflect this environment and so recorded value scores that were higher than the value scores of the students who were non-Catholic. The change in both groups was in the same direction, toward zero. The students who had a Catholic background retained the observed 'advantage' they had indicated in the pretest and recorded posttest and follow-up test scores that were higher. Students with a Catholic background do retain a 'higher' value score despite the observed shifts. It is therefore not possible within the context of this study to suggest that a significant relationship exists between religious commitment and commitment to values taught within the religious education classroom.

The arguments within the literature supporting a move towards a more academic mode of teaching religious education in Catholic schools seems to be supported by the results of this study. Crawford and Rossiter (1986) point out that young people need the experience of intellectual searching to help them answer their faith questions. Teenagers are questioning and searching for answers and hence need substance to help them make valid, rational decisions.

The objectives of the module included those in the affective domain. They form an integral part of religious education in Catholic schools and can therefore not be ignored any more than the objectives that are clearly cognitive. An eclectic approach to the teaching of religious education in Catholic schools has a great deal of support in the literature. Macdonald (1988) while offering strong support for a more academic and rigorous study in religious education points out that "as good education, religious education should enable students to clarify and organise values" (p. 39). The results of this study demonstrate that a rigorous academic approach to the study of religious education in Catholic schools which involves regular formative and summative assessment and evaluation can successfully contribute to learning outcomes in the affective domain. An eclectic approach to teaching religious education can be successful. The inclusion of assessment and evaluation does not seem to distract students from the questions of faith but can be shown to enhance their ability to deal with these questions.

Each of the classes that represented the experimental group performed at a significantly higher level than each of the classes from the control group. There is much that can be assessed in religious education in Catholic schools and the use of assessment procedures not only seems to enhance student learning but may also enhance teaching given the results of this study.

The module of work that was the focus of this study also had a number of objectives from the affective domain. Where teachers utilised the various forms of assessment and evaluation their students demonstrated a significant ability to alter their values. Students who did not experience the systematic treatment of assessment and evaluation procedures did not alter their values scores over the length of the experiment. This included the two week period after the module of work was completed.

It might be hoped that these students would continue to reflect on their lessons and may continue to adjust their values. From an educational perspective it is not possible to merely hope that this growth occurs. The use of assessment and evaluation procedures does appear to be of benefit in the affective domain. Its benefit in terms of teaching and learning is clear. Therefore one would conclude that the use of assessment and evaluation was not detrimental to the teaching and learning process.

This study recognises the problems and difficulties associated with the use of assessment strategies for the affective domain but it also recognises the potential benefits to teaching in this domain. The literature outlines principles to overcome many difficulties. This study used these principles and was able to produce results that allowed teachers to make reasoned judgments regarding their teaching. The values survey scores could be combined with information gleaned via informal assessment processes and so provide additional information for the decision making process.

One main criticism of attempting to assess the affective domain was challenged by the results of this study. The literature registered concerns regarding the relationship between knowledge and the affective domain. Moore (1991) challenged the value of attempting to use the cognitive aspects of faith to "assess the affective core" (p. 105). The results of this study do not support this view. The students who showed the highest level of gain in the cognitive domain demonstrated a greater ability to alter their value scores. The students who showed little or no gain in knowledge throughout the module indicated a lesser propensity to change their value scores. In recognising the difficulties of assessing the affective domain the results of this study support the notion that well constructed and reasoned attempts are within the scope of the classroom teacher and can provide useful information that can lead to improved teaching and ultimately learning.

It is this focus that provides the rationale for utilising assessment and evaluation in religious education in Catholic schools. One of the principal goals for measurement is to assess the effectiveness of teaching. The value of the assessment process is illustrated in the results of this study.

One may expect that the amount of time spent revising the work of the day and preparing for the test through study and by doing set homework would have a significant effect on learning outcomes. This proposition is supported by the evidence in this study.

A second finding of this study is that the teacher can have a significant impact on the amount of time the students spend doing homework in religious education in Catholic schools. In the past, there was little or no emphasis on learning, doing homework or preparing for tests (Macdonald 1988, Moore 1991). This situation is evident in the control classes of this study. Statistically, there is no significant change in the value scores, so all subsequent discussion and reporting of results is limited to general observable trends. From these results it would appear that the greatest degree of change occurred within the students who demonstrated the greatest degree of knowledge retention.

In addition to the improvements in teaching and learning, the use of assessment procedures has a by-product effect. It is suggested that students may perceive religious education in Catholic schools as having little significance. Literature in the area of religious education supports the observation that the poor status of the subject in Catholic schools is related to the subject being non-examinable. The results of this analysis support this view.

The students in the classes who were told about the final test performed at a significantly higher level than those who had no knowledge of this end of module test. The focus of this long term goal was maintained with daily tests. Students knew that each day their learning would be tested and their results constantly reviewed. Students quickly see the direct connection between the

effectiveness of their home study and the results of their daily tests.

Interviews with the students confirmed the connection between assessment and status. Many students reported that they felt 'good' about their test results. They reported that they felt that religious education was 'more interesting', 'valuable' and 'worthwhile'. They felt that they were achieving something each day. These reports were in contrast to the students representing the control group. In addition to benefits to teaching and learning, student perception of religious education can improve where assessment and evaluation procedures are utilised as part of the teaching methodology.

The results of this study suggest that the use of formal assessment and evaluation procedures in the teaching of religious education may have benefits for learning outcomes. The arguments which place the focus of religious education on faith formation and catechesis cannot be ignored but must be considered anew in the light of the literature and the results of this study.

While many researchers in the field of religious education and faith formation seem convinced that academic rigour can play an important part in faith formation this view is not universal. The argument that places faith into the 'unknowable' is recognised and accepted in this study.

It may also be possible to blend the two approaches. Doctrine only becomes important to the student when the knowledge has value and relevance to the students

themselves. It is in this area that those who reject the use of formal assessment and evaluation procedures in teaching religious education fail to be convincing. Students are very questioning, demanding and challenging and so refuse to merely accept what is presented in the classroom. In the Perth Catholic Education Office document The Truth Will Set You Free (1987) teachers of religious education are encouraged to draw their students toward greater understanding and commitment to aspects of faith by making their teaching meaningful, relevant and based on the life experiences of the student.

The results of this study seem to confirm these observations. Where faith formation was strongly supported by increasing knowledge students seemed better able to adjust their perceptions of their values. Those students who lacked the support of knowledge seemed less able to alter their values.

Conclusions: Knowledge

The results of this study seem to have produced an answer to research question one. At level one of the nested study, a clear difference between the experimental group and the control group is observed. This difference was evident not only at the posttest stage but continued beyond the teaching phase and was evident in the follow-up test. These results indicate that the treatment was able to produce significant change in knowledge learning outcomes. The treatment involved the use of assessment

and evaluation procedures in the teaching of religious education. The control group was not exposed to this method of teaching. The results of the control group indicated that no significant change in knowledge learning outcomes occurred between the pretest, posttest and at the follow-up test stage.

Analysis of a range of indicator variables which may have an influence on student learning indicated that there was no significant difference between the profile of the control and the experimental groups. Relating knowledge test scores to these variables indicated no significant relationship. Knowledge test scores did not significantly vary when each factor was considered. A student's religious background and commitment to the Catholic religion did not appear to impact on knowledge learning outcomes.

The elimination of each of these extraneous variables leaves the 'treatment' as an intervening variable on student learning outcomes. The differences in knowledge learning outcomes can therefore only be accounted for by the difference in teaching methodology.

The amount of homework done by students in each group was not uniform. The students in the experimental group indicated that they spent more time doing homework than the students in the control group. This difference can only be related to the treatment given to the experimental group. Relating home study to scores in the knowledge tests indicated that the students who did no study scored significantly lower test results than those who spent more

than ten minutes doing religious education homework each night. It would therefore seem that setting daily homework produced a response in students. Those who were exposed to the treatment not only spent more time doing homework but had significantly different knowledge test results.

At level two of this nested design the conclusions are the same. Level two considered individual class differences. The analysis of knowledge results indicated that while small differences in knowledge scores were evident between each of the four experimental classes these differences were not significant. This was the case at all three stages of testing. The same outcome arose when the knowledge scores of the three control classes were compared. Individual teacher differences therefore did not complicate student learning outcomes in this study.

Each of the four experimental classes scored significantly higher knowledge test results than each of the three control classes. The extraneous variables (religious background, commitment to the Catholic religion) were also considered at level two of this analysis. No differences were evident indicating that all classes had similar personal and family characteristics. These factors were shown to not have any significant effect on student learning outcomes.

The results of the study are clear. The use of a more academic mode of teaching, with its associated assessment and evaluation procedures, in religious

education in Catholic schools does affect the knowledge learning outcomes of students. The learning effect is significant and positive. The students who did not receive the treatment indicated little change of knowledge scores. The students who did receive the treatment demonstrated significant gain in knowledge scores. The multiple regression analysis indicated that only 10% of the variation in knowledge scores could be explained by the indicator variables. Therefore change in knowledge scores was not the result of other factors but may be directly attributable to the teaching process.

Conclusions: Values

The results of the value survey produced less clear patterns than the knowledge score pattern. At level one of the nested study, no clear difference arose between the experimental and the control groups at any stage of the study. No significant differences were apparent when analysis of change of value scores was considered.

It is therefore only possible to comment on the results in a general sense. Students scored themselves in a very positive light at the pretest. By the end of the teaching process this average value score decreased. The students still recorded a more positive value score relative to their perceptions of the average year 8 student at the posttest and follow-up test stages. This occurred in both the experimental and the control groups. The change in the experimental group was a larger change

than that of the control group. After the posttest little further change was apparent.

At this level of the study, the second research question can be answered only to a limited degree. The students who received the treatment (formal assessment and evaluation procedures) illustrated the greatest level of change of value scores. The multiple regression analysis indicated that less than 10% of the variation in value score could be explained by the indicator variables. Therefore students who experienced a teaching methodology which encompassed systematic assessment and evaluation procedures indicated a greater degree of change in value scores than those students who had not received that teaching.

The direction of change was not in line with the expectation. Student value scores indicated a change away from the pretest high toward the average. Without further research, accounting for this observation could only be conjecture. One possibility is that young Catholics, having been exposed over a longer period of time to the types of values taught in module four, may perceive their values in a very positive light. As the education process proceeded, the new knowledge they received enabled the students to reassess their relative position and adjust their value scores accordingly. The value scores did remain high but changed toward the mean. The experimental group showed the greatest gain in knowledge scores and this group has demonstrated the greatest degree of change in value scores. The control group demonstrated little

gain in knowledge test scores and had only a small change in values.

At the second level of this study the above conclusion tended to hold true. The change in average value score for each individual class tended to reflect the above pattern. In three of the four experimental classes, the mean value score changed from a pretest level toward a more average position at the posttest. This trend appeared in only one of the control classes. It would therefore seem that a relationship between knowledge and values can be supported by this study. Classes which indicated significant gains in knowledge tended to illustrate greater shifts in value scores. In reference to the second research question, it would seem that where students were taught utilising a range of assessment and evaluation procedures, the change in value scores was higher. Students who have not received this treatment tended to record smaller changes in their value scores.

The direction of change of value scores was not what was expected with reference to the affective objectives of the module of work. Certainly the objective of religious education teachers in Catholic schools would be to encourage their students to change their values for the better. Given that no coercion or indoctrination can occur the achievement of this task is not certain. The change in value score was indicated by the results the teachers may well be content that their students had obviously reflected on their personal values in the light of the class work and were prepared to change.

Opponents to the use of a more academic model of teaching religious education claimed in the literature that such an approach would create an atmosphere within the religious education classroom that would not provide the opportunity for students to consider, and possibly change their values. This claim was not substantiated by the results of this study. Two of the control classes illustrated no change in values. Value scores remained the same throughout the period of the study. No change in values was observable. On the other hand, in three of the experimental classes shifts in value scores were recorded. These classes were taught with a more academic mode of teaching using the full range of assessment and evaluation procedures. Utilising this methodology has not hindered value change but rather has enhanced change.

Individual differences in the observed trends did occur. One control class did illustrate change in values similar to that observed in the experimental classes. One of the experimental classes illustrated a temporary positive change in values which disappeared at the follow-up test. These individual results while going against the observed pattern do highlight the complex nature of the teaching process and difficulties in assessing change in the affective domain. These results may be the result of individual teacher differences relating to personality, teaching methodology or the relationship between the teacher and the students. Such differences point to the need for further research in this field. While the individual class results run against the

general pattern, they do not negate the conclusions drawn from the general trends observed in this study. Further refinement of the measuring devices and closer scrutiny of teaching methodology may shed further light on the complex relationship between teacher, teaching methodology, students and the affective domain.

It is recognised that many factors may contribute to the change of values. The teaching process is only one of these factors. To investigate the factors that may contribute to value change a range of indicator variables such as religious affiliation, were selected for the study. When considering the indicator variables of student religion and the student's family, support for the earlier observations can be found. The students rated themselves in a very positive light in the pretest values survey. It was suggested that this was the result of the student's family background. As young Catholics they had been continually exposed to Catholic values throughout their schooling and family teaching.

The literature points to the importance of family teaching to the development of faith. When the students were divided into the two categories, Catholic and non-Catholic, this observation was supported by the data. Students whose family background was Catholic had values scores that were higher than those students who were non-Catholic. As the education process began, students adjusted their value scores downward in the light of greater knowledge. The Catholic students though, retained a more positive score than that of the non-Catholic

students. The posttest value scores tended to remain stable after teaching had ceased indicating that the change in value scores may be long term.

As an indicator of commitment to the Catholic faith, the factor Mass attendance was incorporated in the study. Mass attendance did not seem to influence value scores. At the pretest stage, value scores were similar. Those students who rarely attended Mass indicated much less change in value scores than those who regularly attended mass. It would seem that those Catholic students who rarely attended Mass were less prepared to adjust their values. Those who were more actively involved in the Catholic church seemed to be more prepared to adjust their values given the increased knowledge they gained throughout the teaching process.

The amount of homework done each night did not impact on change in value scores. Shifts in value scores appeared irrespective of the amount of time spent doing homework for religious education. This indicates that the amount of study done each night, while enhancing knowledge gain, was not impacting significantly on value scores. Possibly the work done by teachers in class, through the various activities that comprised each lesson, produced the shifts in value scores. This indicates that the classes who were exposed to the more academic mode of teaching did not miss out on the strategies which may impact on the affective domain. It would therefore seem that a more academic mode of teaching is not detrimental to the possibility of change in student value scores.

Analysis of the change in the value score of students who scored individual knowledge questions correctly does indicate that while the association between knowledge and values may be supported by this study, the link is not a clear one. There appeared to be very little difference between the value scores of those students who know the facts and those students who did not. As suggested in the literature, understanding does not ensure belief. Having illustrated clear understanding of particular cognitive components of the source did not directly translate into large shifts of value scores. Indeed the students were shown to shift their values toward the mean and away from their original 'high'.

The results of this study therefore indicate that no significant change in student values could be measured. Neither the control group nor the experimental groups demonstrated significant shifts in values. None of the other variables incorporated into this study indicated any impact on student values or value change.

One important conclusion can be drawn from the lack of significant change in value scores. The opponents to the use of a more academic mode of teaching religious education in Catholic schools argue that this approach would hinder change in the affective domain. This was shown not to be the case. Those students who were exposed to the 'treatment' did not demonstrate any disadvantage in the affective domain. Further research into 'measuring' change in the affective domain is necessary before any firm conclusions can be established.

Summary of Conclusions

Conclusions from the above discussion can be classified into three broad areas. The first set of conclusions relate to the results of the knowledge tests results. The second, arise from the results of the value survey. Finally, a series of general conclusions can be drawn from the results of this study.

The knowledge test results indicate clearly that change in student learning outcomes in religious education are evident when formal assessment procedures are utilised in the religious education classroom. Teaching strategies of the control group did not include formal assessment and evaluation procedures. The knowledge test scores of the students in the control group did not change throughout the experiment.

The four classes in the experimental group had similar results and had similar levels of change in test scores. Teacher differences appeared not to significantly effect the results. The three classes that represented the control group, also had similar results. Again differences between teachers was not evident.

An analysis of the relationship between the test scores and the indicator variables indicated that religious background was not a determining factor in the study. The only indicator variable that illustrated any significant relationship to test scores was time spent doing homework in religious education.

The value survey results were less clear. There appeared to be no difference in value scores between the control and the experimental groups. At the individual class level differences arose, but the differences were not consistent. Students were prepared to change their value scores throughout the study but the direction of change was opposite to what was expected. It seemed that students rated themselves very highly prior to the teaching process beginning. As the module was taught the students adjusted their value scores in the light of the new knowledge.

General conclusions can be inferred from the results on this study. It would seem that teachers were better able to clarify the objectives of each lesson. The assessment process enabled evaluation and change in teaching strategies that benefited learning. It is also possible that students, being aware of the assessment programme were more motivated to learn set work. Finally the religious affiliation of the student, parents and attendance at mass had no significant relationship with student knowledge or value scores.

Implications for further research

The results of this study may have implications for those teaching religious education in Catholic schools. The use of formal assessment and evaluation procedures in the religious education classroom may have benefits for knowledge learning outcomes. The benefit to the students

of increased knowledge was clearly illustrated by the difference in average knowledge scores, between the experimental and the control groups. Clearly, improved knowledge test scores resulted from the use of formal assessment and evaluation procedures. Teachers of religious education may therefore have a clearer perspective from which to evaluate the value of utilising assessment procedures in their classrooms.

School administrators may also utilise the results of this study to instigate assessment structures within their faculties and schools. A school wide approach to the process of teaching religious education may have further benefits for the student. The use of assessment procedures in religious education may improve the 'image' of the subject and gradually improve the atmosphere of teaching and learning.

While the results of the study were clear when the cognitive domain was considered, the pattern of change in the affective domain was less clear. This too has implications for both the teacher and religious education administrators. Teachers need to reflect further on the teaching strategies they utilise when the focus of their teaching is on the affective domain.

This study indicated that students who scored well in the knowledge test were also prepared to change their value scores. It would therefore seem that religious education teachers need to consider the importance of knowledge and understanding to change in the affective domain.

The results and conclusions of this study indicate that change in student learning outcomes, in the cognitive domain, do result from utilising formal assessment procedures. The limitations of this study, such as size and the socio-economic characteristics of the sample, indicates that further research is essential to further clarify the results. A duplicate study expanding the sample to include students from a range of age groups, schools and socio-economic backgrounds may provide further data that would contribute to the research in the area of assessment and evaluation in religious education.

The time limitations of this study may have resulted in the less than clear patterns of scores from the value survey. A study covering a greater time span may therefore clarify some of the issues raised in this study.

References

Australian Council for Educational Research (1993).
Progressive achievement tests in reading. Hawthorn,
 Victoria.: ACER.

Australian Episcopal Conference (1970). We preach Jesus
 Christ as Lord. Sydney: Dwyer, E. J.

Ayel, V. (1981). Shifts in catechesis 1950 - 1980. Word
 in Life, 29, 110 - 120.

Barry, K., & King, L. (1988). Beginning teaching.
 Wentworth Falls, N. S. W. : Social Science Press.

Beck, C. (1990). Faith in a broad sense as a goal in
 promoting human development. Miami: Philosophy of
 Education Society.

Black, M. (1984). The catholic school and religious
 education. Critical questions for school
 administrators. Catholic School Studies, 57, 12-15

Bloom, B., Hastings, J. T. & Madaus, G. F. (1964).
Taxonomy of educational objectives: the
 classification of educational goals. Handbook 2.
 London: Longman.

Bloom, B., Hastings, J. T. & Madaus, G. F. (1971).

Handbook on formative and summative evaluation of student learning. New York: McGraw-Hill.

Bracken, T. (1989, November). The praxis approach to religious education: An educational perspective. Word in Life, pp. 4-7.

Brennan, W. (1990, August). Religious education in a secondary catholic school. Word in Life, pp. 19-23.

Burgess, H. (1975). An invitation to religious education. Birmingham, Alabama: Religious Education Press.

Castles, G. M., & Rossiter, G. M. (eds.) (1983). Curriculum theory and religious education. Sydney: Australian Association for Religious Education.

Catechesi tradendae. (1980). Second Edition. Homebush, N.S.W.: Society of St. Paul.

(1985). Religious education in Catholic schools: A discussion paper. Sydney: Catholic Education Office.

Catholic Education Office. (1987). The truth will set you free. Department of Religious Education, Perth Archdiocese.

- Chesterton, P. (1984). Curriculum development and evaluation in religious education. Word in Life, 32. pp. 14-17.
- Cole, P. G., & Chan, L. K. S. (1987). Teaching principles and practice. Sydney: Prentice Hall
- Confoy, M. (1982, August). Human faith, christian faith in religious education. Word in Life, pp. 107-111.
- Crawford, M. L., & Rossiter, G. (1986). Teaching religion in the secondary school: Theory and practice. Strathfield, N.S.W.: Province Resource Group Christian Brothers Sydney.
- Crawford, M. L. & Rossiter, G. (1989, February). Religion teachers as missionaries. To a teenage culture. Word in Life, pp. 17-20.
- Crooks, T. J. (1988). The impact of classroom evaluation practices on students. Review of Educational Research, 58(4), 438-481.
- Curriculum Services Branch. (1987). Religious education: teaching approaches. Brisbane, Queensland: Department of Education.
- Dayton, C. (1970) . The design of educational experiments. New York: McGraw-Hill.

Di Giacomo, J. (1984). Religious education in Australian secondary schools. Australasian Catholic Record, 61, 405.

Eastman, M. (1984, February). The family-environment of faith. Word in Life. pp. 3-7.

Ellery, W., & Reiol, N. (1973). The progressive achievement tests of reading comprehension and vocabulary. (Australian Edition). Hawthorn, Victoria: Australian Council for Educational Research.

Elliot, R. H. & Rossiter, G. M. (1982). Towards critical dialogue in religious education. Marsfield, N. S. W. : Australian Association for Religious Education.

Flynn, P. (1975a). Some Catholic schools in action: A survey of sixth form students at 21 catholic boys' high schools in New South Wales and the A. C. T.. Unpublished M. A. Thesis, Macquarie University, Sydney, N. S. W.

Flynn, P. (1975b). Some catholic schools in action. Sydney: Catholic Education Office.

- Flynn, M. (1984a. May). Expectations of catholic schools: What place has R. E. in the 1980s. Word in Life, pp. 5-9.
- Flynn, M. (1984b, November). Religious education in Catholic schools: Which direction should we take? Word in Life, pp. 20-25.
- Fowler, J. (1981). Stages of faith. Melbourne: Dove Communications.
- Gascoigne, R. (1987, February). The Relationship of faith and knowledge from a philosophical perspective. Word in Life, pp. 8-12.
- Gronlund, N. E. (1985). Measurement and evaluation in teaching. New York: Macmillan.
- Goldman, R. (1965). Readiness for religion. London: Routledge and Kegan.
- Hill, B. V. (1989, February). Prophets for tomorrow: The contribution of religious studies to transcultural education. Word in Life, pp. 3-8.
- Italian Episcopal Conference. (1970). Il rinnovamento della catechesi. Translated by the Australian Episcopal Conference. The renewal of the education of faith. (1970). Sydney: Dwyer, E. J.

Jones, T. (1987, March). Teaching religious education in Catholic schools what model should I employ? Word in Life, pp. 39-41.

Kubiszyn, T., & Borich, G. (1987). Educational testing and measurement. Classroom application and practice. Second Edition, Glenview, Illinois, U. S. A.

Leavey, C. (1982, March). Year 12 Catholic schools study 1970-1981. Paper presented at the meeting of the Catholic Secondary Teacher's Association.

Leavey, C. (1984, August). Some issues facing the Catholic school. Word in Life, pp. 14-28.

le Berre, J. (1980, May). Ways of expressing faith. Word in Life, pp. 36-41.

Lee, J. M. (1973). The flow of religious education: A social science approach. Birmingham, Alabama: Religious Education Press.

Lodge, M. (1981). Magnitude scaling. London: Sage Publications.

Lovat, T. (1983, September). In defence of 'education'. Word in Life, pp. 85-86.

- Lovat, T. (1987, November). Life centred models of R. E.: An educational and theological critique. Word in Life, pp. 16-20.
- Lovat, T. (1989). What is this thing called religious education. Wentworth Falls, N. S. W. : Social Science Press.
- Macdonald, M. (1988). Assessment in religious education in Catholic secondary schools. Unpublished Doctoral dissertation. Melbourne, College of Divinity, Melbourne.
- Macdonald, M. (1989). What to assess in religious education. Catholic School Studies, 62, 39-41.
- Macdonald, M. (1990a). Assessment of affective objectives in religious education. Word in Life, 38, 22-26.
- Macdonald, M. (1990b). Assessment and reporting in religious education: A catholic perspective. Fyshwick, A.C.T.: National Catholic Education Commission.
- Malone, P. (1984, May). Religious education in catholic secondary schools. Word in Life, pp. 10-13.

- Mehrens, W. A., & Lehmann, I. J. (1984). Measurement and evaluation in education and psychology. New York: Holt, Rinehart and Winston.
- Moore, B. (1982). What of faith in the religion studies approaches to religious education?. In Elliott, R. A. & Rossiter, G. M. (eds.) Towards critical dialogue in religious education. Marsfield, N. S. W.: Australian Association for Religious Education.
- Moore, B. (1991). Religion education: issues and methods in curriculum design. Adelaide: University of South Australia.
- Moore, B., & Habel, N. (1982). When religion goes to school. Adelaide: South Australian College of Advanced Education.
- Moran, G. (1983). Religious education development. Minneapolis: Winston Press.
- Newton, R. R. (1981). Four models of teaching religion. Pace 11, Winona, U. S. A.: St Mary's Press.
- Nichols, K. (1978). Guidelines for religious education 1: cornerstone. Bishop's Conference of England and Wales. Slough: St. Paul Publications.

Nichols, K. (1981). Cornerstone. Slough: St. Paul Publications.

Pope Paul VI (1976). Evangelii nuntiandi. Homebush, N. S. W.: St. Paul Publications.

Price, B., & Wilson, G. (1986). Faithful to God: faithful to people: assessment and reporting in religious education. Leichardt NSW: Religious Education Support Document, Catholic Education office.

Reichert, R. (1971). Measuring the measurable. Face Settings - Teachers B. Winona, U.S.A.: St. Mary's Press.

Rossiter, G. (1981a). The gap between aims and practice in religious education. Word in Life, 29, 24-28.

Rossiter, G. (1981b, November). Stifling union or creative divorce. Word in Life. pp. 162-173.

Rossiter, G. (1981c). Religious education in Australian schools. Canberra: Curriculum Development Centre.

Rossiter, G. (1982). The need for a "creative divorce" between catechesis and religious education in catholic schools. Religious Education, 77(1), 21-40.

Rossiter, G. M. (1987, February). Knowledge and faith in religious education since the Second Vatican Council. Word in Life, pp. 13-18.

Rowntree, D. (1977). Assessing students: how shall we know them. London: Harper and Row.

Rummery, G. (1981, August). Religion and faith - partners or opponents? Word in Life, pp. 103-109.

Sacred Congregation for Catholic Education. (1977). The Catholic school. Homebush, N.S.W.: Society of St. Paul

Sacred Congregation of the Clergy. (1971). General catechetical directory. London: The Incorporated Catholic Truth Society.

Slattey, P. (1983, November). Religious education development or holistic religious education? Word in Life, pp. 108-112.

Steane, P. (1987, February). Education, indoctrination and commitment- A dilemma for religious educators. Word in Life, pp. 19-23.

Thornhill, J. (1987, May). Handing on the faith: Some catechetical challenges. Word in Life, pp. 5-9.

- Treston, K. (1988, February). Some current trends in religious education. Word in Life, pp. 4-8.
- Tuohy, M. (1991, May). Religious education in a multi-faith environment. Catholic School Studies, pp. 14-17.
- Tyler, R. W. (1949). Basic principles of curriculum and instruction. Chicago: University of Chicago Press.
- Wilson, G. (1986, July). Assessment and reporting in RE Catholic School Studies, 59,(1).

Appendix A

Value Survey

Practice Sheet

Think about the average Year 8 student in your school.

How much would the average year 8 student like hamburgers?

The line drawn from the circle (from left to right) represents how much the average Year 8 student likes hamburgers.

0 _____

If you think you like hamburgers more than the average Year 8 student you should draw your line longer-than-average;

eg. 0 _____

1.How much does the average Year 8 student like hamburgers?

0

2.How much do YOU like hamburgers?

0

If you think you like hamburgers much more than the average Year 8 student you should draw a line much-longer-than-average.

eg.0 _____

1. How much does the average Year 8 student like hamburgers?

0

2. How much do YOU like hamburgers?

0

On the other hand, if you think you like hamburgers less than the average Year 8 you will draw a line shorter than the average.

eg 0 _____

1. How much does the average Year 8 student like hamburgers?

0

2. How much do YOU like hamburgers?

0

You can fine tune your responses by making the length of lines fit your exact judgements. There are no right or wrong answers to these questions.

Your individual beliefs are of primary concern.
Please answer honestly.

Now try these two questions giving your response.

1. How much does the average Year 8 student like hamburgers?

0

2.How much do YOU like hamburgers?

0

3.How much help does the average Year 8 student believe God gives them to make a right choice?

0

How much do You believe God gives You to make a right choice?

0

The Values Survey Questions Begin Here

Student Code

1. A responsible choice requires knowledge of the alternatives, freedom to choose, and the desire to make a choice.

How hard does the average Year 8 student try to make responsible choices?

0

How much do you try to make responsible choices?

0

2.To make a free choice people should not be influenced by pressures from other people.

How much do you think the average Year 8 student tries to make a free choice?

0

How hard do you try to make a free choice?

0

3.A person can make their will stronger by increasing their knowledge about the choice, by becoming more free from influences from others and by increasing the desire to make a responsible choice.

How much does the average Year 8 student try to make their will stronger?

0

How much do you try to make your will stronger?

0

4.How much does the average Year 8 student believe God helps them to make their conscience stronger?

0

How much do you believe God helps you to make your conscience stronger?

0

5.How difficult does the average Year 8 student find it to follow their conscience?

0

How difficult do you find it to follow your conscience?

0

6.When faced with a difficult decision how hard does the average Year 8 student try to think of the alternatives before deciding?

0

When faced with a difficult decision how hard do you try to think of the alternatives before deciding?

0

7.When faced with a difficult decision how much thought does the average Year 8 student put in to considering the consequences?

0

When faced with a difficult decision how much thought do you put in to considering the consequences?

0

8. Imagine you overhear a group of Year 8 students talking at recess. They are talking about another student. They are laughing at the student. They say that no-one should be his/her friend. They say that if someone was to try and be his/her friend they would laugh at them too:

How much attention would the average Year 8 student pay to what the group said?

0

How much attention would you pay to what the group said?

0

9. Imagine you overhear a group of the most popular students at school talking about what they will wear to the next dance.

How much would the average Year 8 student try to dress like them?

0

How much would you try to dress like them?

0

10. Jesus said we should love others:

How much does the average Year 8 student love others?

0

How much do you love others?

0

11. How easily would the average Year 8 student forgive a good friend who had said something nasty about them behind their back?

0

How easily would you forgive a good friend who had said something nasty about you behind your back?

0

12. How easily would the average Year 8 student forgive someone they do not like when that person has said something nasty about them behind their back?

0

How easily would you forgive someone you do not like when they said something nasty about you behind your back?

0

13. How easily would the average Year 8 student forgive a good friend who had stolen money from them?

0

How easily would you forgive a good friend who had stolen money from you?

0

14. How easily would the average Year 8 student forgive someone they did not like who had stolen from them?

0

How easily would you forgive someone you do not like who had stolen money from you?

0

Appendix B

Knowledge Test

STUDENT CODE.....

This is a test to see how well you have understood the work in RE. Four answers are given for each question. You are to choose the ONE answer you think is BEST. Place an "X" in the box that corresponds to your choice.

Here is an example to show you how to do it.

QUESTION: The Catholic Church teaches that Jesus Christ is:

- A. A good man but not God
- B. God
- C. A prophet but not God
- D. None of the above statements are true.

The best answer is B. God.

Place an "X" in the "B box"

1	A	B	C	D
---	---	---	---	---

THIS IS YOUR ANSWER SHEET

If you wish to change an answer erase the incorrect answer carefully and place an "X" in the desired box.

1	A	B	C	D
2	A	B	C	D
3	A	B	C	D
4	A	B	C	D
5	A	B	C	D
6	A	B	C	D
7	A	B	C	D
8	A	B	C	D
9	A	B	C	D
10	A	B	C	D
11	A	B	C	D
12	A	B	C	D
13	A	B	C	D
14	A	B	C	D
15	A	B	C	D
16	A	B	C	D
17	A	B	C	D
18	A	B	C	D
19	A	B	C	D
20	A	B	C	D

THE KNOWLEDGE TEST QUESTIONS BEGIN HERE

1. When persons ignore their conscience they may experience feelings of inner restlessness. One way to overcome these feelings is to:
 - A. Forget that it ever happened
 - B. Escape from those feelings by being busy
 - C. Ignore and suppress the feelings
 - D. All of the above

2. People can limit their ability to choose by:
 - A. Using drugs such as alcohol
 - B. Reacting rather than choosing
 - C. Selecting information that suits what they desire
 - D. All of the above

3. Jesus told people that the second most important commandment is:
 - A. Love God totally
 - B. Honour your father and mother
 - C. Love your neighbour as yourself
 - D. I shall not have strange gods before me

4. A gift from God that enables people to make responsible choices is the:
 - A. Soul
 - B. Emotions
 - C. Conscience
 - D. All of the above

5. God offers people help to develop their conscience.

This help is in the form of:

- A. The words and example of Jesus
- B. The signs and symbols of each sacrament
- C. A person's emotions and intelligence
- D. All of the above

6. People find it difficult to follow their consciences because:

- A. They fail to develop the habit of thinking about what is right or wrong
- B. They have original sin and temptation is always present
- C. They continually reflect on their past mistakes
- D. They reflect on past decisions

7. Some people find it difficult to recognise their real inner goodness. When they do this they:

- A. Will identify their good qualities more easily than their faults
- B. focus upon their actions rather than themselves
- C. Will not be influenced very easily by others
- D. All of the above

8. Human Will is a capacity that all people possess. It can be made stronger by:
- A. Increasing knowledge of Jesus' message in the Bible
 - B. Increasing your knowledge of the consequences
 - C. Increasing knowledge, maturity and intention
 - D. Increasing knowledge, freedom and intention
9. People find it difficult to follow their conscience because:
- A. They fail to inform their conscience
 - B. They continually reflect on their past mistakes
 - C. All people commit sins
 - D. All of the above
10. The term 'personal responsibility' means:
- A. Being able to make right decisions
 - B. Doing what you feel is right
 - C. Being more aware of the consequences
 - D. All of the above
11. When a person decides to resist the tendency they feel to turn from God and give in to their weaknesses they:
- A. Do not have personal responsibility
 - B. Have a weak will
 - C. Do not sin
 - D. Must go to reconciliation

12. When people ignore their consciences they may experience:
- A. Inner feelings such as regret and unhappiness
 - B. Inner feelings which lead to mental and physical illness
 - C. Inner feelings such as guilt and sorrow
 - D. All of the above
13. To be able to make a free choice a person must:
- A. Always do what he/she has been told by the church
 - B. Not listen to what others tell him/her
 - C. Always do what he/she feels is right
 - D. Not be effected by pressure to reject one of the choices
14. To be responsible a person must be able to:
- A. Choose freely, do what they are told, be accountable
 - B. Choose freely, foresee consequences, be accountable
 - C. Choose freely, foresee consequences, be mature
 - D. Choose freely, be mature, be accountable
15. Jesus told people that the most important commandment is:
- A. Honour you father and mother
 - B. Love God totally
 - C. I shall not have strange gods before me
 - D. Love your neighbour as yourself

16. "Sinfulness" is a term used to describe the times when people:
- A. The feelings we have when we do not want to make responsible choices
 - B. Exactly the same as sin
 - C. The experience of drawing away from God by behaving in ways that violate His will
 - D. The feeling we have after we have given in to the temptation to hurt others
17. The Human Will is a quality people possess. It enables them to control:
- A. only their emotions and actions
 - B. only their intelligence and actions
 - C. all human skills and capacities
 - D. only their thoughts and actions
18. God offers people help to develop their conscience. This help is in the form of:
- A. Free will and emotions
 - B. Intelligence and emotions
 - C. The natural laws of right and wrong
 - D. All of the above

19. God wants us to be like Him. To be like Him we have to develop our will to make free choices. We know He wants us to be like Him because:
- A. He made us in His image and likeness
 - B. God is totally free and does not have to do anything
 - C. Being a spirit God has no limitations
 - D. all of the above
20. To be able to make a responsible choice three characteristics are necessary. They are:
- A. Knowledge, freedom, kindness
 - B. Knowledge, freedom, intention
 - C. Knowledge, kindness, intention
 - D. Maturity, freedom, intention

Appendix C

Magnitude Scaling Practice Sheets

Practice Sheet 1

This booklet contains a series of line lengths. Please leaf through the booklet and notice that some of the lines are longer than the first line and some of the lines are shorter than the first line. Your task is to tell how much longer or shorter they are compared to the first line. The first line is your reference. We have given it the number 50.

The number 50 is your reference. All you need do is write a number for each line. The longer a line appears to be compared to your reference, the bigger the number you will write compared to 50. For example, if one of the lines seems about two times the length of the reference line, you would write in the number 100. On the other hand, some of the lines are shorter than the reference line. If a line were about half as long you would write in a number about half of 50, about 25. Another line about one-tenth as long would be given the number one-tenth of 50, that is 5.

Give each line whatever number seems appropriate to express how the line compares to your reference line. The longer the line, the bigger your number compared to 50. The shorter the line, the smaller your number compared to 50.

Two examples are given below.

reference line _____

(100) _____

reference line _____

(25) _____

Try these examples

reference line _____

() _____

reference line _____

() _____

reference line _____

() _____

reference line _____

() _____

reference line _____

() _____

reference line _____

() _____

Practice Sheet 2

This booklet contains a series of numbers. Your task is to draw a line that represents the number given.

The larger the number the longer the line needs to be. For example, if the number is 100, the length of the line should be 100 mm. On the other hand, if the number is 50 the line you draw should be 50 mm long and so on.

Draw a line to best represent the number. The larger the number the longer the line. The smaller the number the shorter the line.

Two examples are given below.

100

50

Try these examples

Your Reference line is 50

Now draw a line that best represents the number given in each box.

50

100

25

10

80

5

40

30

125

Appendix D

Religious Background Survey

I would like you to please answer honestly. As you are using your student code no one will know who you are. Your answers will help me with some work I am doing at university.

P.Cox

Please circle the answer which is correct

1. Your religion is

- A. Catholic
- B. Christian (Church of England, Uniting Church etc)
- C. Non-Christian (Muslim, Jewish, Hindu etc)
- D. No religion
- E. Other

2. Your father's religion is

- A. Catholic
- B. Christian (Church of England, Uniting Church etc)
- C. Non-Christian (Muslim, Jewish, Hindu etc)
- D. No religion
- E. Other

Your mother's religion is

- A. Catholic
- B. Christian (Church of England, Uniting Church etc)
- C. Non-Christian (Muslim, Jewish, Hindu etc)
- D. No religion
- E. Other

Catholics **ONLY** please answer the next **TWO** questions

3. You attend mass

- A. Each week
- B. About each month
- D. Rarely
- E. Never

4. The last time you attended mass was

- A. Last Sunday
- B. Last month
- C. Easter
- D. Christmas
- E. Other.....

ALL students please answer the following questions

5. Do you feel RE classes

- A. Help you understand what being a catholic is all about
- B. Do not help you understand what being a catholic is all about

6. Do you feel RE classes are

- A. Interesting
- B. Not interesting

7. Do you feel RE classes are

A. Worthwhile

B. Not worthwhile

8. Using the last week of as an example

How much time would you have spent studying and or
doing homework for RE?

A. None

B. Less than 10 minutes each night

C. Between 10 and 20 minutes each night

D. Other.....

Students from K1, L1, L2, and S1 ONLY answer the following
question

9.What did you think about having the daily tests and the
final test for topic 4 last term?

circle the correct

response

Did you work harder?	YES	NO
----------------------	-----	----

Did you learn more?	YES	NO
---------------------	-----	----

Did you feel more motivated?	YES	NO
------------------------------	-----	----

Other(please feel free to say what you think)

.....

.....

.....

.....

Appendix E

Examples of teacher points and focus points.

Example 1. A teaching point.

5.05A2.3 Teach that personal responsibility means being able to make the right choices.

To be responsible a person must be able to choose freely what he or she is going to do, be able to foresee the consequences, and be capable of being accountable for them.

Example 2. A focus point.

The class could focus upon how people commonly make bad choices because they have failed to ensure they have sufficient knowledge, freedom, and the ability to form an intention.