

**National Curriculum
Statement
For
Papua New Guinea**

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Acknowledgement

The Curriculum Development Division of the Department of Education prepared the National Curriculum Statement for Papua New Guinea. Papua New Guinea's Counterpart Curriculum Adviser attached to the Curriculum Reform Implementation Project (CRIP) and the Curriculum Reform Coordinator, Curriculum Development Unit coordinated the writing of this important statement with the support of a team of officers from the Curriculum Development Unit.

Consultations occurred in April 2002 in all regions and representatives of teachers, principals, and inspectors from all levels of schooling and elementary teacher trainers, teacher educators, and many other key stakeholders contributed to this document.

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Message from the Secretary for Education

Since the Education Reform started in 1992, there have been many changes to the education system, mainly structural reforms. The purpose of the curriculum reform is to provide a relevant basic education for Papua New Guineans while at the same time providing specialist further education and training for those able to make use of it. The National Curriculum Statement for Papua New Guinea provides a national framework for curriculum development in Papua New Guinea from Elementary Prep to Grade 12, consistent with the Education Reform.

This statement written by Papua New Guineans for Papua New Guinea, is the first of its kind, and represents a major step forward for our country's education system. It demonstrates that we own the curriculum that will truly foster Papua New Guinea's cultures and our national identity. It will also guide the implementation of the reform curriculum in Papua New Guinea. It is a stepping-stone in developing syllabuses, teacher guides and other resource materials. This statement promotes our many languages, cultures, and traditions. It will enable all students to acquire basic knowledge, skills, attitudes and values. It also encourages students to excel in further studies, gain skills for employment in the work place, and in their communities. As a result, students should lead healthier, productive lives, and contribute more to our society and to nation building.

During the development of this statement, the Constitution of the Independent State of Papua New Guinea, Government Acts and many other important policies, reports and plans were analysed. In particular, this statement is based on *A Philosophy of Education for Papua New Guinea, Ministerial Committee Report*, (1986) often referred to as the Mantane Report, and the integration of current education reform ideas.

Many educators at all levels and from all regions in Papua New Guinea were consulted and contributed positively to this statement. This statement also received and gained widespread support during the consultation and will promote awareness of the whole curriculum reform. It has been written mainly for policy makers in education and other stakeholders at the national and provincial levels. The development of curriculum is a national responsibility. This statement provides the foundation for curriculum development throughout the nation. It is important that all policy makers at the national and provincial levels of education support the implementation of this statement.

I approve this statement and recommend that it be used to guide the development of the national curriculum at all levels of schooling in Papua New Guinea.

PETER BAKI
Secretary for Education

Contents

	Page
Section 1: Introduction	1
Section 2: Rationale	3
Section 3: Goals	6
Section 4: Aims	9
Section 5: Curriculum Principles	12
Section 6: Curriculum Overview	22
Section 7: Assessment and Reporting	30
Section 8: References	32

Section 1: Introduction

This introduction gives a brief background to the development of the reform curriculum and makes clear the purpose of this National Curriculum Statement and for whom it is written.

This statement is an important document for curriculum development in Papua New Guinea's education reforms. It asserts what is educationally valuable for all students from Elementary Prep to Grade 12 in the national education schools' system of Papua New Guinea. The curriculum derived from the statement will value and emphasise our rich cultural heritage, its many languages and traditions.

This curriculum statement will guide and help educators such as senior officers in the National Department of Education, in the provinces and in other institutions to understand and implement the national curriculum. It will also assist curriculum officers, advisers, principals, teachers and teacher trainers and others to develop teaching and learning materials.

Subject syllabuses for Elementary Prep to Grade 12 will provide detailed statements of the educational outcomes that all students should achieve. Teacher Guides and other support materials will accompany the syllabuses.

The curriculum statement contains the following sections as described briefly.

Rationale

This rationale justifies the curriculum for Papua New Guinea and establishes its importance to the country and its relationships to government policies, plans and our country's needs.

Goals

The goals are general statements describing what the curriculum is designed to achieve for all students for Papua New Guinea. These goals are derived from our society's values and beliefs, the guiding principles of the Constitution, as well as key Government policies and reports.

Aims

The aims identify the overall intentions and directions of the curriculum for the Elementary, primary and secondary levels of education.

Curriculum Principles

Curriculum principles identify, describe and focus attention on important concerns that must be addressed when developing the curriculum at all levels of schooling. These principles are based on significant cultural, social and educational values and beliefs such as the role of vernacular languages, core values, curriculum relevance and community participation. The curriculum principles are relevant to all subjects.

Curriculum Overview

The curriculum overview shows how the curriculum is organised at each level of schooling. A set of charts based on the curriculum overview for Elementary, primary and secondary will give an overview of the subject content to be covered in each learning area and for each subject.

Assessment and Reporting

This section gives an overview of the policy on assessment and reporting required to implement the national curriculum for Papua New Guinea.

Section 2: Rationale

This rationale justifies the curriculum, establishing its importance to Papua New Guinea and its relationship to government policies and the country's needs.

2.1 Background

The Education Reform and the National Education Plan have been developed to produce an education system that meets Papua New Guinea's needs, in today's challenging world and in the future. These plans provide for both the reform of the whole curriculum and the restructuring of the whole system. The foundation of the reform is the promotion of culture, values, attitudes, knowledge and a range of skills appropriate for Papua New Guinean society along with the need for international competitiveness. Before the reform, the Papua New Guinean curriculum was based on foreign Western beliefs and ideas mainly to produce Papua New Guineans to administer the country and achieve academic success. This system of education unfortunately failed to provide a useful education for all other citizens of Papua New Guinea.

The purpose of the Education Reform is to provide a relevant, basic education for all young Papua New Guineans, while at the same time providing specialist further education and training for those able to make use of it. The Education Reform will result in enrolling more girls and boys into school and retaining them, giving them a higher quality, more relevant education in context and making it more cost effective. After nine years of basic education, girls and boys will be equipped with the basic skills to help them adjust back to their communities or continue to further education.

The National Education Plan, 1995-2004 outlines a vision of the kind of preparation for life that schools must provide for the students of Papua New Guinea. The plan describes an education system that will prepare:

- the vast majority of school leavers who return to their communities where there is and always has been work and opportunities for community-based employment. The major source of employment for these citizens will be their own subsistence and small-scale, community-based commercial enterprises. Their education will have prepared them and/or their parents for this reality;
- those school leavers who will find paid employment in the slowly increasing government, private business and service industries. Their education will have provided them with the academic, technical and vocational skills that will allow them to participate in tertiary education;
- the small number of students, like those of any other nation, who will perform at top international standards; and
- the growing number of marginalised rural and urban youth for the realities of life in these situations.

2.2 Why a Papua New Guinean Curriculum?

Papua New Guinea needs a curriculum that:

- provides consistency and stability in education
- reflects our culture and values and respects other cultures
- is relevant to national and local needs and is community oriented

- builds on traditional knowledge, values and attitudes in order to support the development of relevant knowledge, skills and attitudes
- describes the learning outcomes for all subjects at all levels of schooling that are essential for girls and boys
- describes assessment and reporting requirements based on the learning outcomes
- reflects and builds our national identity
- ensures national unity, a healthy nation and nation building
- promotes and encourages the sustainable use of natural resources.

The direction in the development of a national curriculum comes from an overall philosophy of education that is embodied in the Philosophy of Education, Education Sector Study, National Task Force and National Education Plan. The aim of Integral Human Development in the National Constitution and the Philosophy of Education Report calls for an education system that gives value and status back to the community giving support to appropriate community attitudes, knowledge and skills relevant to community development. The Philosophy of Education Report requires Integral Human Development, which will ensure the development of citizens of Papua New Guinea who are able to:

- participate in community decision making at appropriate levels;
- live useful and productive lives and value both rural and urban community development activities in the context of national development;
- participate in further training for human resource needs and value education as a continuing lifelong process;
- relate responsibly to others and participate in the strengthening of social unity in the context of national development; and
- develop a system of beliefs and values appropriate to their individual rights and those of the community.

Skills development for life is an important part of education and training in providing Papua New Guineans with the knowledge and skills that are relevant to their needs and aspirations for life. There is also a very real need for relevant skills in the rural situation and a growing number of people in urban situations that need relevant survival skills for life in the urban communities. Therefore, quality training should be given to those who will be absorbed into the formal economy as well as to prepare adequately the vast majority for a meaningful life at home in their own communities/villages. They must have the skills to be able to make the most of the income-generating opportunities that are available in the informal sector.

2.3 What is an outcome-based curriculum?

An outcome-based curriculum identifies the knowledge, skills, attitudes and values that all students should achieve or demonstrate at a particular grade in a particular subject.

In the Papua New Guinea school education system, the outcome-based curriculum identifies what students will demonstrate as a consequence of following the national syllabuses developed for Elementary Prep to Grade 12. Each subject syllabus identifies a set of outcomes for each grade that students are expected to achieve. Each outcome is accompanied by a list of indicators that identify examples of the knowledge, skills, attitudes and values that students will need to demonstrate in order to achieve the learning outcome. Teachers will use the outcomes and indicators to write learning objectives when planning programmes and lessons. These objectives will identify the learning steps to be completed in order to achieve the learning outcomes.

2.4 Why an outcome-based curriculum?

It is important that the National Curriculum for Papua New Guinea makes explicit the knowledge, skills, attitudes and values that students should achieve for each grade of schooling from Elementary to Grade 12 in all subjects. The learning outcomes should be student centred and written in terms that enable them to be demonstrated, assessed or measured. Teachers are able to teach and students are able to learn more effectively when the outcomes of learning are made explicit and are shared.

An outcome-based curriculum will:

- give teachers individually or collaboratively the flexibility to devise programs and units of work that meet the differing needs of students at all levels of schooling in a broad range of settings in Papua New Guinea
- include all aspects of Integral Human Development
- help teachers assess and report students' achievements in relation to the learning outcome statements
- help teachers to focus their reporting to parents/guardians and the community on learning outcomes achieved by students
- allow student achievement of the outcomes to be described in consistent ways
- help teachers to monitor student learning
- help teachers plan their future teaching programs.

Section 3: Goals

These Goals describe what the curriculum is designed to achieve for Papua New Guinea. They are derived from our society's values and beliefs, which are found in our Constitution, Government policies, reports and circulars. They state in broad terms what the curriculum is designed to achieve for all students at all levels of schooling and the country.

3.1 Values of the Papua New Guinea National Curriculum

Our values, as enshrined in the Constitution of Papua New Guinea, shape the direction and orientation of the National Curriculum. These are identified in the table below. The Papua New Guinea curriculum will expose students to these values that are important today, as they were at independence, for the task of nation building.

Table 3.1 Papua New Guinea Curriculum Values

Integral Human Development	Equality and Participation	National Sovereignty and Self-Reliance	Natural Resources and Environment	Papua New Guinea Ways	Rights	Responsibilities
Development of the whole person by dynamically working in relationship with others, to be free.	An equal opportunity for all to participate in, and benefit from, the development of our country.	To be politically and economically independent, and self-reliant.	The environment used sustainably for the benefit of all	Develop through Papua New Guinea ways of organisation.	To know, respect and live by all basic rights.	To know, respect and live by all basic responsibilities.
<ul style="list-style-type: none"> • By contribution to the common good. • Mutual respect and dialogue. • Awareness of potential of all. • Self reliance • Creative use of sciences and cultures. • Improvement of nutrition and the standard of public health. • The family unit recognised as the fundamental basis of society. • Recognition that a complete relationship in marriage rests on equality of rights and duties. 	<ul style="list-style-type: none"> • Opportunity for every citizen to take part in nation building. • Meaningful participation by decentralisation of government. • Equitable distribution of benefits and equalisation of services. • Equal participation by women citizens in all areas of life. • Maximisation of the number of citizens participating in every aspects of development. • Access to representation. 	<ul style="list-style-type: none"> • Planning for development of National Goals and Principles. • Interdependence and solidarity among citizens, provinces to be actively promoted. • The state to participate in the national economy, and in particular to control major enterprises engaged in the exploitation of natural resources. • Recognition of our sovereignty, which must not be undermined by dependence on foreign assistance. 	<ul style="list-style-type: none"> • Wise use of natural resources. • Conservation, replenishment, of the natural environment and its sacred, scenic, and historical qualities. • Protection of our valued animals and plants. • All persons and government bodies to endeavour to achieve universal literacy in Tok Pisin, Hiri Motu or English, and in tokples or ita eda tano gado; and ... 	<ul style="list-style-type: none"> • A fundamental re-orientation to Papua New Guinea forms of participation, consultation, and consensus. • Emphasis in development to be placed on small-scale artisan, service and business activity. • Recognition of the positive strength of the cultural, commercial and ethnic diversity of Papua New Guinea. • To respect and improve traditional ways. 	<p><i>Rights</i></p> <ul style="list-style-type: none"> • Life, liberty, security of the person and the protection of the law. • The right to take part in political activities; and • Freedom from human mistreatment and forced labour. • Freedom of conscience, expression, information, assembly, association, employment and movement. • Protection of privacy. 	<p><i>Responsibilities</i></p> <ul style="list-style-type: none"> • Respect and act in the spirit of the constitution. • Recognise their capabilities. True interests are achieved only by participation in the development of the national community. • To protect Papua New Guinea and to safe guard the national wealth, resources. • Develop own talents. Respect the rights of others. • Contribute to national revenues.

3.2 Present and Future Conditions of Papua New Guinea

The present and future conditions of Papua New Guinea are unique as identified in the table below. The national curriculum should enable students to celebrate Papua New Guinea's richness while at the same time skilling them to change conditions that need to be changed. Papua New Guinea is rich in cultural diversity, clan and family ties and the beauty of its natural environment. The rich traditional life of Papua New Guinea is being put under strain with the introduction of new ways and technologies. Students will be guided by the national curriculum to further appreciate their environment and be taught the skills, knowledge and attitudes and to use them in sustainable ways. Our rich cultural diversity needs to be appreciated, strengthened and celebrated in our schools so that our students further develop a pride in their own and others' cultures.

The equal status of all citizens in Papua New Guinea is guaranteed by our constitution. Our schools must make sure this is included in their school policies especially for girls, students with special needs and minority ethnic groups.

Table 3.2 Present and Future Conditions of Papua New Guinea

	Culture	Equality of Status	Social & Spiritual Conditions	Environment	Health	Economy	Technology	Nation Building
Future	Greater recognition of Papua New Guinea's cultural diversity, ways and identity.	Equality of status for all women and men, students with special needs and minority ethnic groups	Coping with rapid changes in social, moral, ethical and spiritual values.	Sustainable use of the environment and natural resources	Improved health status	Majority of population have life skills for informal economy	High application of appropriate and new technologies	Democratic self reliant nation Improved law and order
Present	Little recognition of Papua New Guinea's cultural diversity, ways and identity.	Low status of some groups, particularly women, students with special needs and minority ethnic groups.	Difficulties in coping with rapid changes in social, moral, ethical and spiritual values.	Unsustainable use of environment and rich natural resources	Low health status	Majority of population lack appropriate skills for informal economy	Low application of appropriate technologies	Democratic but still dependent on other nations Problems with law and order

3.3 National Curriculum Goals for Papua New Guinea

The National Curriculum for Papua New Guinea will ensure students:

- continue their growth towards meeting the national goals and directives called for in the National Constitution, the Philosophy of Education and other key National Department of Education documents
- value education as a continuing lifelong process
- improve their standards of education at all levels and make it more meaningful to girls and boys
- develop an understanding of Papua New Guinea's many cultures and languages which form the foundation on which the curriculum is based
- understand how their societies work and their place in developing Papua New Guinea and Papua New Guinea's place in the world
- develop a sense of identity and pride in their cultures and learn the language of their own communities which should be reinforced throughout their school experience as well as English
- acquire knowledge, skills and attitudes important to their communities and participate and cooperate as part of a group in community activities
- learn and develop respect for their people, cultures and communities
- develop their intellectual, emotional, cultural, physical, creative, recreational and spiritual potential to help them to live a fulfilling and productive life in the communities in which they choose to live and serve
- develop a knowledge and appreciation and respect for the natural environment, physical and human resources and for the need to develop these in ways that are sustainable for the benefit of all
- develop healthy self concepts and be responsible for their actions, consider health and leisure to be an important part of life, in order to become healthy citizens of Papua New Guinea
- understand that parenthood is a lifelong responsibility and the foundation of family and community stability and solidarity
- learn about the importance of hard work and behave the way their society expects them to.
- identify and respond to the value systems of their culture while being appreciative of and respectful of those different from their own
- have effective communication skills, think creatively in a rational manner and develop better problem solving and decision making skills at appropriate levels
- develop a positive sense of social awareness and respond critically to social issues
- develop a spirit of enjoyment while appreciating, tolerating and valuing the changes taking place in the development of their own culture and that of others in their area
- develop their own moral and ethical values and standards of personal conduct based on personal integrity, respect and consideration for others
- appreciate their potential as well as their limitations and accept responsibility for themselves.

Section 4: Aims

These Aims identify the overall intentions and directions of the curriculum for the Elementary, primary and secondary levels of education.

4.1 The Aims of the National Curriculum for Papua New Guinea

The overall aim of the National Curriculum for Papua New Guinea acknowledges the National Goals and Directive Principles enshrined in the National Constitution based on Integral Human Development. This means that the curriculum must aim to promote socialisation, participation, liberation and equality.

Accordingly, the National Curriculum for Papua New Guinea will help all students to become happy, healthy and useful members of their society. The curriculum will help students to develop mentally, socially, emotionally and spiritually so they can live fulfilling lives. It will encourage them to think sensibly for themselves and to respect the thoughts of others. It will also encourage students to develop as individual members of a community. They will learn to communicate with other people through written and spoken language, through mathematics, and through other ways such as pictures, music and movement. They will learn how to help develop and sustain Papua New Guinea's natural environment and its physical and human resources, for the benefit of all.

The curriculum will prepare students who are more flexible for a changing world. It will prepare all students, not just a few. Papua New Guinea needs students who are effective communicators and numerate, and who are aware socially and spiritually. Our country also wants students to be wise guardians of its resources and needs decision-makers and critical thinkers with competent problem solving skills.

4.2 Aims of the Elementary Curriculum

The aims of the Elementary Curriculum are to:

- enable students to continue developing an understanding of, respect for and identification with local cultural values and traditions
- prepare students for entry into Grade 3 in Primary school
- teach an integrated community centred curriculum in a language that the students already speak with an introduction to oral English in the last part of Elementary Grade 2 (E2)
- equip students with knowledge, skills and attitudes for effective communication, resource development, social development and spiritual development to achieve integral human development
- value skills education, building upon the skills and knowledge the students already have in their own language and culture, eventually transferring these skills into English
- effectively engage communities in the life and activities of the school to ensure relevance, ownership of courses, and access by schools to community resources
- provide a foundation for students' schooling in their vernacular
- provide a firm foundation for lifelong education
- encourage teachers to be creative and use the community and improvise with materials that are around them

4.3 Aims of the Primary Curriculum

The aims of the Primary Curriculum are to:

- help students develop basic knowledge, skills and attitudes that they need for effective communication, resource development, social development and spiritual development
- provide students with the knowledge, skills and attitudes that will enable them to continue to learn after Grade 8
- encourage students to regard learning as a lifelong education process
- maintain communication in vernacular for students
- assist students transfer their study skills and knowledge learned in vernacular to English
- help students to communicate effectively in both written and oral English in all subjects and participate in a wider national and international community in English
- help students express greater appreciation of their own culture and language
- help students to acquire a set of basic life skills including humility and practical applications that they can use in their daily lives no matter where they live
- encourage students to develop confidence, self esteem and a respect for others in order to pursue those opportunities that will improve their standard of living and their families
- assist students to develop and demonstrate the ability to participate better in community affairs
- enable students to be responsible citizens who are able to gain the necessary qualities and skills, in order to live happily and productively in the communities in which they choose to live and serve
- help students to acquire greater skills and content in all subjects
- enable students to understand and explain basic concepts about the world in which they live
- ensure students become mathematically and scientifically literate in both the physical and social sciences in ways that are relevant to daily life
- encourage teachers to use local resources that deal with important local and national issues
- encourage teachers to be creative and improvise with materials that are around them.

4.4 Aims of the Secondary Curriculum

The aims of the secondary curriculum are to:

- develop in students healthy self concepts and accountable autonomy that will enable them to identify and respond to the value systems of their culture while being appreciative of and respectful of those different from their own
- help students be aware of major agricultural and food resource needs and be able to develop and apply appropriate technologies in support of local and national needs
- assist students to know how to adapt directly and appropriately new technologies and knowledge to their environment and their own social and economic needs
- encourage students to be creative, innovative and rational thinkers in their response to problems
- enable students to understand the basic concepts about the world in which they live
- help students achieve high levels of literacy in English and in other languages
- enable students to be scientifically and mathematically literate
- encourage students to have a good sense of social awareness and be able to respond to social issues
- help students to have effective communication skills and utilise the full potential of information and communications technologies

- encourage students to consider health and leisure as an important part of life
- assist students to understand the requirements of further academic education and also help students to discover their own interests and strengths
- encourage students to achieve excellence in all subjects without favouring one area over another
- help students to identify potential career paths and what to expect in working life as well as provide a foundation for tertiary studies
- assist students to learn how to learn and think for themselves and to view learning as a life-long endeavor
- enable students to be responsible citizens who are able to gain the necessary qualities and skills, in order to live happily and productively in the communities in which they choose to live and serve
- encourage students to apply what they are learning to life and work-related situations for the common good
- help students to develop a culture of enterprise and wealth creation for the benefit of themselves and society as a whole.

Section 5: Curriculum Principles

The following curriculum principles identify, describe, and focus on important concerns that must be addressed when developing the curriculum at all levels of schooling. These curriculum principles will influence what is written in the subject syllabuses and other support documents. They should also influence what teachers teach, how they teach, and how students learn and apply their learning throughout their lives.

5.1 National Curriculum Principles

Our National Curriculum Principles are based on significant cultural, social and educational values and beliefs such as:

- bilingual education - education in vernaculars and English;
- citizenship – roles, rights and responsibilities in society;
- law and order - good governance; and
- lifelong learning – applied learning.

These are shown in Table 5.1 below. These curriculum principles are relevant to all subjects and have been grouped into three broad categories.

Each of these broad categories is explained after Table 5.1 in brief statements that identify, describe, and focus on matters that must be addressed and supported in the curriculum.

Table 5.1 National Curriculum Principles

Our way of life	Integral human development	Teaching and learning ¹
<ul style="list-style-type: none"> • Cultural relevance - traditional life, our customs and traditions • Bilingual education – education in vernacular languages and English • Multiculturalism – cultural diversity and its conservation • Ethics/morals/values; e.g. work ethics, and spiritual and human values values 	<ul style="list-style-type: none"> • The right to healthy living • Nation building – nationhood and constitutional rights • Citizenship – roles, rights and responsibilities in society, law and order, good governance • Sustainability – sustainable educational, ecological, economic, technological and social practices • Catering for diversity, e.g. gender issues, and students with special needs 	<ul style="list-style-type: none"> • Lifelong learning – applied learning • Relevance • Multigrade teaching • Student centred learning • Thematic teaching and integration

5.2 Our Way of Life

5.2.1 Cultural relevance - traditional life, our customs, traditions, and values

Cultural relevance focuses on the richness and diversity of Papua New Guinean cultures and languages. These cultures and languages are examined within their own unique contexts, and within historical, contemporary, and future realities. Our traditional life is based on a holistic

¹ In a syllabus, the teaching and learning principles will be addressed in a separate section.

perspective that integrates the past, present and future. Papua New Guineans are the original inhabitants of Papua New Guinea and live in sophisticated, organised, and self-sufficient societies. Our customs and traditions constitute a cultural mosaic, rich and diverse, including different cultural groups. Our customs and traditions are unique and should be featured in the National Curriculum. The National Curriculum should enable students to:

- demonstrate an understanding and appreciation of the values, customs, and traditions of Papua New Guinea;
- demonstrate an understanding of and appreciation for unique Papua New Guinean communication systems;
- demonstrate a recognition of the importance of the relationship between Papua New Guineans and the natural world;
- recognise dimensions of Papua New Guinean art as a form of cultural expression;
- give examples of the diversity and functioning of the social, economic, and political systems of Papua New Guineans in traditional and contemporary societies; and
- describe the evolution of human rights and freedoms as they relate to the people of Papua New Guinea.

5.2.2 Bilingual Education

Papua New Guinea is one of the most culturally and ethnically diverse countries in the world with over 800 different spoken languages. Students learn best when they use their own language in ways that are meaningful, practical, and relevant to them. This means that students in Elementary will learn first in their own languages, languages they already speak. This language may be one of the 800 plus vernacular languages or a lingua franca (Motu, Tok Pisin, English). They will use the language they most commonly use to speak to communicate ideas to others, learn to read and listen to other people's ideas in all areas of the curriculum.

The community will decide, in consultation with the teachers, which language to be used in the Elementary school. It is important that students use the language they speak for real life purposes rather than just learn the rules of language or rote learn facts about topics. They need to use vernacular effectively in real life problem solving and thinking situations. This means that students will learn to speak and write first in their own languages as they communicate ideas to others, as they learn to read and listen to other people's ideas.

Subjects at Lower Primary are concerned with bridging students' literacy skills from vernacular to English, and with further development of their vernacular skills. When students develop fluent literacy skills in their first language, they will transfer these skills to the learning and development of a second language. If students do not develop their first language fully, it will reduce their general learning and competence in a second language. Improved language skills help problem solving and the development of critical thinking skills.

Upper primary and secondary students should be able to speak and write in many different situations, and for many different purposes, using English and their vernaculars.

This principle also provides for the continuing growth of our cultural identities through the expansion and enhancement of vernacular skills and activities at each level of schooling. It is through language that many important aspects of our country's diverse cultures are transferred from one generation to the next. The national curriculum must ensure that this is provided for.

Bilingual education will enable students to:

- develop effective communication skills in both vernaculars and English;
- acquire better comprehension of English;

- make use of their vernacular language as a tool for learning English; and
- establish better relationships between their schools and communities than if they had been in an English only program.

In Elementary Schools

Communities must use a language that the students already speak for their Elementary education. The school relies on and utilises local people for their knowledge, skills, values, attitudes, and other resources.

The students' vernaculars are the languages of instruction for the first three years of education at the Elementary level of schooling. In line with the language policy for Elementary, oral English is introduced towards the end of Elementary 2.

In Primary Schools

At Lower Primary, students continue to develop their first language skills while bridging to English in all subjects. In line with the language policy for Lower Primary, students in Grade 3 will begin to learn to speak, listen, read and write in English (referred to as bridging to English) as well as continue to develop their first languages. This is a bilingual program.

Lower primary students (Grades 3 to 5) do not yet know how to use their first languages in adult ways. It is important to continue to develop, expand and enhance their vernacular language to adult forms. Vernaculars are used for learning culturally oriented contents and all other new contents.

Students will transfer their vernacular thinking and problem solving skills in vernacular to English as they learn the English language. By Grade 6, English is the main language of instruction across the curriculum. Vernaculars, however must continue to be encouraged and developed.

In Secondary schools

English is the language of instruction at this level of schooling but vernaculars will continue and be reinforced in classroom activities based on students' cultural backgrounds. For example, this can be achieved by encouraging students to take pride in scientific achievements of their cultures and in writing shell books for Elementary and Primary schools.

5.2.3 Multiculturalism

Papua New Guinea is blessed and fortunate to have so many languages and cultures. The diversity of our cultures is the source of our knowledge, skills, attitudes, and Melanesian values. As a multicultural society, we must protect, promote and respect our many cultures and languages of Papua New Guinea. There are many people from our own ethnic groupings and other countries with their own cultures, living and working together in Papua New Guinea. This is the most multicultural country in the world. We must ensure that we promote and share our cultures with the rest of the world.

Teachers and students in Papua New Guinea come from diverse ethnic backgrounds. They must learn to respect and appreciate the cultures and languages of their fellow Papua New Guineans. The curriculum of Papua New Guinea will ensure that our nation is inclusive of all cultures.

5.2.4 Ethics, morals and values

Papua New Guinea is striving to create a society in line with democratic liberal traditions. The citizens of Papua New Guinea should recognise appropriate social relationships based on sound human and religious ethics, morals, and values. These are required for interaction with families, villages, wantoks, other economic groups, and people from other provinces and nations. The process of socialisation requires a belief in the ethics, morals and values of the Melanesian extended family, dialogue, respect for others, and a willingness to conserve and promote those aspects of our traditions, which are consistent with integral human development. Socialisation also requires an awareness of the inter-dependence of individuals, societies, and nations in the modern world. It requires involvement with family, school, church, community, and the world beyond.

Students will become more aware of the social bonds in the community if they are first taught in the languages of their communities, and through activities which socialise people, such as agriculture, fishing, and community development. This can be achieved through integrated teaching and learning situations that reflect our knowledge, skills, attitudes, spiritual and moral values needed for integral human development as defined in the Philosophy of Education for Papua New Guinea.

The national curriculum will place an emphasis on:

- teaching ethics, morals, and values;
- learning outcomes based on the environment, particularly agriculture, social skills, and character building to develop positive social contacts with the community; and
- integration across subjects.

5.3 Integral human development

5.3.1 Facilitating integral human development

The Philosophy of Education for Papua New Guinea as described in the *Matane Report* acknowledges the National Goals and Directive Principles in the National Constitution, and is based on integral human development:

- *integral* in the sense that all aspects of a person are important;
- *human* in the sense that social relationships are basic; and
- *development* in the sense that every individual has the potential to grow in knowledge, wisdom, understanding, skill, and goodness.

Integral human development is the ultimate goal for every person who receives an education and

- will result in every person being dynamically involved in the process of freeing himself or herself from every form of domination and oppression so that each individual will have the opportunity to develop as an integrated person in relationship with others. This means that the National Curriculum must integrate and maximise socialisation, participation, liberation and equality;
- is based on an awareness of human potential and the willingness to develop this potential so that each individual can solve his or her own problems, contribute to the common good of society and maintain, promote and improve earning and living; and

- presumes the goodness and dignity of every person. It calls for the promotion of self and mutual respect, a sense of self-worth and self-discipline, and a sense of responsibility for one self and others.

Papua New Guinea is a rapidly changing society and faces many challenges. To face these effectively, an individual must strive to become an integrated person and to work with others to create a better community.

The process of integral human development calls for a National Curriculum, which helps individuals to:

- identify their basic human needs;
- analyse situations in terms of these needs;
- see these needs in the context of spiritual and social values of the community, and
- take responsible action in co-operation with others.

The success of a National Curriculum requires the integrated involvement of all the agents of education such as the home, church, school, and community. Within the National Curriculum, the teachers must integrate knowledge, skills, and attitudes to allow students to achieve the desired outcomes of integral human development.

5.3.2 The right to healthy living

The health status of Papua New Guinea is very low. All citizens have a right to a healthy life such as clean water, a nutritious diet, improved sanitation, appropriate shelter and better local health services. Students need to learn attitudes, skills, and knowledge that will help them become productive, healthy and content citizens of Papua New Guinea. They need to be given a set of skills that will enable them to improve their own and their community's health in order to improve the health status of Papua New Guinea. The national curriculum will ensure that students have the opportunity to learn about healthy living.

5.3.3 Nation building and national unity

Our nation is young and there is still a great deal of nation building to be done. Students need to be given the skills to undertake this task and participate in nationally organised events. The national curriculum should enable them to understand how Papua New Guinean societies work, and how they can be a useful part of it. Students should learn that they have a place in Papua New Guinea and that Papua New Guinea has a place in the world as a whole. They will become more able to help Papua New Guinea develop a national identity as one nation if they learn to:

- work together with tolerance;
- respect one another, their traditional ways, and resolve problems peacefully;
- respect and act in the spirit of the National Constitution;
- **recognise their capabilities and develop their own talents;**
- **participate in the development of the national community; and**
- **protect and safe guard the national wealth and resources, and consider how they will contribute to national revenues.**

5.3.4 Citizenship

The National Curriculum should provide students with the opportunity to learn about:

- political activities, legal assemblies and associations;

- problems associated with inhumane treatment and forced labour, and the need for the freedom of employment;
- the importance of the freedom of conscience, of expression, and of information;
- freedom of movement and protection of privacy;
- meaningful participation in and access to representation in all levels of government, and how to take part in nation building;
- how benefits and services can be equitably distributed;
- the need and importance of equal participation by women citizens in all areas of life; and
- maximising their participation in every aspect of national development.

The students will use this knowledge in many different ways, as useful, active and law abiding citizens.

5.3.5 Sustainability

The natural environment of Papua New Guinea is as diverse as its cultures. It is often a violent natural and physical environment, which is under threat from rapid population expansion and misuse of resources such as over logging, abuses associated with mining, over fishing, dynamiting reefs, dumping toxic wastes. Our diverse cultures are also under threat from over exploitation, and commercialisation of sacred cultural practices. Our cultural traditions are not being handed down from generation to generation. The National Curriculum will guide students to further appreciate, respect, and value their natural environment, cultures, customs and traditions. It will give them the skills and knowledge to identify problems, issues, and to take action and sustain these aspects of life in Papua New Guinea.

5.3.6 Catering for diversity – Gender

Gender is what it means to be a woman or a man. Gender refers to those behaviours and attitudes that are culturally accepted as ways of being a woman (femininity) and of being a man (masculinity). Addressing gender issues goes well beyond ensuring that females have the same opportunities as males to receive an education. A person's experiences determine the way they understand and make sense of the world. Gender is also culturally determined. In Papua New Guinea, there is a need for sensitivity to local cultural practices and values, with respect to traditional roles for males and females. The National Curriculum will provide students with subjects, resources, and activities or experiences that value the needs of girls and boys.

Females are generally a disadvantaged group in Papua New Guinea. Papua New Guinea does not have in place a good record about gender equity for females. Violence against females is widely acknowledged as a serious problem. A number of health and other indicators of human development show that females have a lower quality of life than males. Females have lower literacy rates and income levels than males. Males hold nearly all positions of leadership, authority, and decision making. For example, in 2001 there are only two women in the National Parliament. Men hold most senior positions in government departments and the community. It is a similar situation in the Department of Education, provincial education divisions and schools. The National Curriculum will provide students with opportunities to consider these problems and ways of addressing gender issues.

The National Curriculum must include girls' and women's experiences, and be representative of a diversity of cultures. It should also include subjects that will meet the different needs, interests and learning styles of girls and boys. It should enable students to

- understand that a person's sex is genetically determined and gender is not, but rather changes over time, from place to place, and from individual to individual;
- play an active role in making meaning from their experiences, and in deciding to adopt or reject ways of behaving; and
- challenge stereotypes.

5.3.7 Catering for diversity – Students with special needs

Many students have special needs. These special needs may include students who are gifted, or disadvantaged -- physically, emotionally, intellectually. Students may display any combination of these needs. The National Curriculum will ensure that all are provided with the opportunity to excel and achieve their full potentials.

5.4 Teaching and learning

Students learn in different ways. The National Curriculum will encourage teachers to use different ways of teaching to give all students a chance to learn. Students should work as individuals and in groups. Some students learn best through activities such as reading on their own, working in small groups, talking, observing, drawing pictures, and finding out information for themselves. Most students use a mixture of these.

Students should be encouraged to think critically about what they are learning and to take responsibility for their learning. They should learn to teach each other and to learn from each other. They should know that learning has a serious purpose. They should enjoy using a wide range of resources and playing appropriate educational games. Students should also learn how to communicate well with others. They should also learn how to work things out for themselves, and on how to get the information they need. They need to learn to think in ways that make sense, using their experiences, their knowledge, their intelligence and their imagination.

As well as learning skills and knowledge, students should develop appropriate attitudes and an understanding of important issues. They should have pride in themselves, their own cultures and communities, as well as respect other people and their cultures and communities.

5.4.1 Inclusive Curriculum

The National Curriculum is inclusive and designed to meet the needs of all students irrespective of their abilities, gender, geographic locations, cultural and language backgrounds, or their socio-economic backgrounds. The National Curriculum must be implemented by teachers in ways that are inclusive of all students at all levels of schooling. Much more can be achieved if parents, community leaders, churches and schools co-operate and communicate with each other.

Students learn in different ways. It is best to use a variety of methods to teach them. No one method is best. It is true that students are very different, and even the same students learn best from different methods at different times. By using a range of teaching methods, it is more likely that the needs of all students will be met. In order to be inclusive of all students, teachers need to cater for a range of physical, social, cultural, emotional, and intellectual needs of their students. This can be achieved through using appropriately and carefully planned learning activities, a range of teaching methods and strategies, and thoughtful use of a teacher's language of communication.

To be inclusive teachers will need to ensure that all girls and boys have the opportunity to participate. Teaching practices, including classroom organisation and management, should ensure that girls and boys are able to participate fully in all learning activities. Participation requires that individuals are motivated to achieve the goal of socialisation fully where they are encouraged to develop a sense of obligation for the opportunity to contribute. Through participation, individual creativity can be recognised and encouraged as contributing to social and national development, without losing sight of the principle of communal sharing. Participation is the key to social interaction and can lead to social mobility. It can also help to conserve and generate knowledge and cultural values for future generations.

The diversity of opinion in Papua New Guinea will contribute towards the integral development of society as a whole provided the Melanesian principles of sharing and caring are applied. The ways in which an individual chooses to interact with others will determine the role that individual plays in society. Through effective participation, an individual can play a role in the development of society, in overcoming fear, and in identifying oppression. The National Curriculum provides many interesting contexts within which learning how to participate can occur.

Students need to feel that they have something useful to offer to the community. Many students are shy and afraid of authority. They must be motivated to develop their skills fully and given opportunities to think for themselves. The teacher is a key motivator. Effective participation is prevented when teachers regard their role solely as being dispensers of knowledge and figures of authority. Teachers need to place greater emphasis on problem solving skills and methods that encourage more group participation which are useful skills for society.

5.4.2 Relevance

The National Curriculum should be relevant to the social, spiritual, and resource development needs of a community. This can be achieved by integrating teaching and learning situations that reflect the knowledge, skills, attitudes and spiritual values needed for integral human development. A relevant national curriculum will prepare students for productive community living; integrate academic and practical education, and will provide ways to paid and unpaid employment.

Most people in Papua New Guinea work in the informal economy. Students who leave at the end of grades 8, 10 and 12 will need to find work in the informal economy. These students, however will not only need to be skilled to work in the informal economy, but they will also need to be prepared to work in the formal economy and undertake formal education if there are opportunities. All students will need applied and academic skills and knowledge. All students will need to know how to adapt new technologies and knowledge appropriately to their environment.

The National Curriculum will enable teachers to support students learning by encouraging teaching in real life contexts. This means relating the skills and knowledge of subjects to real life situations. For example, mathematics can be used to study how to run a business, or appropriate technology can be applied to improve water supplies. People from the community could also be brought into the classroom to help teach a topic and support students undertaking useful projects in the community.

5.4.3 Student-centred learning

Student centred learning recognises the fact that no two classes are alike and no two children are the same with respect to their needs. A teacher who uses a student centred approach will endeavour to create a classroom environment that will motivate students to discover new skills and knowledge. In such an environment, the teacher might focus on teaching students how to learn and help them discover relevant information. It is essential to teach students how to learn while at the same time teach students important contents. A student centred classroom will usually involve students working together in small groups using activity centres set up in the classroom while the teacher works more closely with one or two students.

The National Curriculum describes the learning outcomes for all subjects. A student centred approach allows teachers to be more flexible in determining the most effective ways to help all students achieve these learning outcomes.

5.4.4 Language Development Across the Curriculum

The National Curriculum will provide opportunities for language development across the curriculum. Language development across the curriculum should be encouraged because all subject areas provide meaningful contexts for real purpose learning. Specific subjects have different language requirements such as, the vocabulary and language features of science, and the written and oral genres to narrate, explain, persuade, report and discuss the particular content of various subjects. The conventions and differences must be explicitly taught in relevant contexts across the curriculum.

The way language is used in Papua New Guinea's schools is important. Language and culture are essential to each other. Students are encouraged to use their own languages both in and out of the classroom. This will result not only in stronger development of literacy in vernaculars and English languages, but also in stronger intellectual development. It will also help achieve relevance in the curriculum, higher achievement at school, and enable better preparation for life outside of school. It will contribute significantly to stronger cultural bonding, higher interest and motivation in students and parents, better community involvement, and fewer students leaving school early.

5.4.5 Lifelong learning

School is an important part of a student's education but learning continues throughout life. The initial experience that students have with the school curriculum is critical in encouraging them to continue learning throughout their lives. Going to school should be an enjoyable and satisfying experience for the students and should prepare them for life after school. Students know many things when they come to school. They will learn many things outside of school and continue to learn after they leave school. The National Curriculum should build on what students already know. Teachers should make use of this knowledge and skills. When students are learning new, unfamiliar things, teachers should relate the new to things to what students already understand. This important learning will continue throughout life as students increasingly take responsibility for their own learning. Increasingly, students who leave school will look for opportunities to continue their education, and to return to school or some other educational or training institutions in order to improve their qualifications.

5.4.6 Multi-grade teaching

Multi-grade teaching refers to classes where there are students from more than one grade with one teacher. The National Curriculum needs to be implemented in diverse ways to meet the range of individual learning needs in these situations. Multi-grade teaching is encouraged in

Elementary and Lower Primary. Teachers should be aware that in all classes, students are of mixed abilities. Teaching strategies for multi-grade classes are appropriate in these circumstances as well.

Multigrade teaching involves:

- using peer work, small or large cluster groups at different levels with the same class;
- careful planning and organisation to provide supervision and assistance during learning; and
- annual intakes in very small schools which previously only had intakes once every two or three years.

The National Curriculum makes explicit the learning outcomes for each subject at each Grade and will help teachers to plan their teaching programs for multi-grade classes. A thematic approach is appropriate to use with multi-grade classes and requires the curriculum to be rearranged. Students of different grades can work side-by-side on similar themes, such as water, a feast, animals, and leadership. They will be learning at different levels of skills and understanding.

5.4.7 Thematic teaching and integration

Thematic teaching integrates subjects and reflects more closely the way students think. Integration is maximised when students appreciate the relationship between the body of knowledge introduced by a teacher, the application of that knowledge in everyday life and its underlying values. Whole language teaching is an important aspect of thematic approaches to teaching.

The National Curriculum is organised into subjects at each level of schooling. It is, however, recognised, particularly at Elementary and Lower primary that generalist teachers will implement the curriculum using thematic and integrated approaches. These teachers will need to identify and organise the curriculum contents into themes that they have chosen for or with their classes. This means taking the syllabus documents for different subjects and reorganising them to suit their chosen themes. A learning outcomes approach as used in the National Curriculum should enable this to occur. It is essential that teachers ensure all learning outcomes are covered and the achievement of them is monitored.

Section 6: Curriculum Overview

The National Curriculum for Papua New Guinea is organised into five learning areas: Culture and Community, Language, Mathematics, Personal Development and Science. A learning area is a group of subjects with compatible knowledge, skills, and attitudes. All subjects from Elementary to Upper Secondary are assigned to one of these learning areas. Some subjects draw upon knowledge, skills and attitudes from more than one learning area (e.g. Environmental Studies), but they have been placed in the learning area whose content is judged most similar. The table below shows the overall organisation of learning areas and subjects for each level of schooling.

Table 6.1 Overall organisation of learning areas and subjects

Learning area	Elementary	Lower Primary	Upper Primary	Lower Secondary	Upper Secondary
Culture and Community	Culture and Community includes aspects of the following: Arts Community Living Environment Health Physical Education Design and Technology	Arts Community Living	Arts Social Science Making a Living	Arts Social Science Business Studies Applied Social Science Agriculture Design and Technology including modules such as home economics, practical skills, computing, rural technology, tourism, hospitality or each developed as full courses	Art Music Drama Applied Social Science Economics Politics/Civics Geography History Business studies Urban technology Applied technology Informational technology Rural technology Computing
Language	Vernacular Language	Vernacular Language English	English Vernacular Language	English including library Hiri Motu Tok Pisin Vernacular and other languages	Language and literature including library Japanese Bahasa Mandarin Chinese Hiri Motu Tok Pisin
Mathematics	Cultural Mathematics	Mathematics	Mathematics	Mathematics	Mathematics Extension (Maths A) Mathematics Core (Maths B) Life maths
Personal Development	Aspects of Personal Development are covered under Culture and Community	Health Physical education	Personal Development including health, PE, guidance and religious education.	Personal Development to include health, PE, guidance and religious education	Personal Development including civics
Science	Aspects of Science are covered under Culture and Community	Environmental Studies	Science	Science Environmental science Applied Science	Biology Chemistry Physics Applied Science

At Elementary, Lower Primary and Upper Primary levels of schooling, some learning areas may also be a subject such as Personal Development. However, most learning areas, however, expand into separate subjects at higher levels of schooling. For instance, at the Elementary level of schooling, Culture and Community is one subject with a number of strands. At Lower Primary, this learning area contains two subjects – Community Living and Arts. In Lower Secondary, this learning area contains six subjects: Arts, Social Science, Business Studies, Applied Social Science, Agriculture, and Design and Technology including modules such as home economics, practical skills, computing, rural technology, tourism, and hospitality.

At the Elementary level of schooling, the curriculum content of the learning areas is based on local community input and needs. Teachers, trainers and trainees in consultation with the community will develop the curriculum content. This will enable students to achieve the learning outcomes specified in the national Elementary syllabuses taking into consideration the unique context of each local community. At all levels of schooling the curriculum content should, as far as possible, reflect the particular needs and aspirations of a community.

The following is a description of the five learning areas. These learning areas are described and expanded in the subject syllabuses.

6.1 The Learning Areas

6.1.1 Culture and Community

This learning area includes subjects deeply associated with the many cultures, community life, traditions, and cultural practices of Papua New Guinea. This learning area makes a vital contribution to Integral Human Development, covering many aspects of cultural, social, physical, aesthetic, sensual, emotional and intellectual development. This learning area includes subjects with a technological bias such as Making a Living, Agriculture, Home Economics, Design and Technology and subjects with a sociological bias such as Social Science, Arts, Economics, and Business Studies. Some subjects at Elementary and Lower Primary have both technological and sociological aspects such as Community Living. In Upper Primary, these subjects become more distinct in preparation for more specialisation in Lower Secondary. In many ways, this learning area reflects and will support the development of Papua New Guinea's unique national identity, the important place its many cultures and communities have in daily life and in nation building. A study of the subjects in this learning area will enable students to appreciate and understand Papua New Guinea's values, cultures, traditions, and provide students with many practical skills.

The technological subjects in this learning area will assist students to appreciate Papua New Guinea's past as well as prepare them for a productive future. Subjects such as Community Living, Making a Living, Agriculture, and Design and Technology equip students with practical knowledge, skills, and attitudes that will enable them to contribute meaningfully to their local communities and societies. Beginning at the Elementary level of schooling, students will gradually develop technological knowledge, skills, and attitudes as they progress through primary and secondary schooling. Students will be encouraged to use their intellectual (head), emotional (heart) and physical (hands) attributes to become active and informed citizens capable of achieving a sustainable way of life.

The technological component of Culture and Community encourages self-reliance through teaching students to think critically and to become problem solvers. It will enable them to tackle real life problems by designing and developing solutions to these problems. Students will be encouraged to work creatively to produce their own products to meet human needs, by

generating and maintaining an income as well as participating in community development. Students will learn how to contribute to the social and economic well being of the school, community, and the nation.

Subjects associated with the sociological aspects of Culture and Community draw upon many branches of learning including history, geography, economics, politics, sociology, anthropology, law, and a wide range of studies, including environmental, consumer education and the arts.

The sociological and the technological subjects complement each other. They provide an opportunity for students to gain an informed sense of their national and regional identities. They enable students to develop skills and knowledge in active learning environments and in relevant contexts. For instance, experiences in the Arts assist the development of language and social skills, as well as knowledge and skills, in other areas such as technology, organisation and management.

The following table shows the subjects from Elementary to Upper Secondary associated with this learning area.

Table 6.2: Subjects included in the Culture and Community Learning Area

Learning area	Elementary	Lower Primary	Upper Primary	Lower Secondary	Upper Secondary
Culture and Community	Culture and Community includes aspects of the following: Arts Community Living Environment Health Physical Education Design and Technology	Arts Community Living	Arts Social Science Making a Living	Arts Social Science Business studies Applied Social Science Agriculture Design and Technology including modules such as home economics, practical skills, computing, rural technology, tourism, hospitality or each developed as full courses	Art Music Drama Applied Social Science Economics Politics/Civics Geography History Business Studies Urban Technology Applied Technology Informational Technology Rural Technology Computing

6.1.2 Language

Language plays a central role in human life. This learning area is fundamental to thinking, learning, and communication in all cultures. Our nation is rich in language. Its many cultures are sustained through the many languages that are used to communicate in our day-to-day lives. Our languages and cultures are so diverse that most people in our nation are multilingual. Most take it for granted that more than one language is essential to participate in our complex society. Our vernacular languages must be sustained from an early age so that our many cultures, traditions, and social practices will continue to enrich our lives and also ensure access to our past is not denied.

Language is the most universal means of communication, sharing, developing and maintaining our cultures. The skilled use of languages is associated with many opportunities in life, including further education, work, and living together. Language is dynamic and evolving. It is also systematic and governed by rules. The effective use of language enables students to access and create knowledge and play a more active part in society. As students understand and use languages more fully, they are able to enjoy the benefits and pleasures of language in all its forms from reading and writing, to literature, debate, and storytelling. Literacy is the

ability to use language to operate successfully within one's society. Today our country's citizens face diverse demands on their language skills. Changes in the nature of work, our social life and the development of new technologies have produced an increase of new and different forms of communication. Students need high levels of literacy to meet these challenges. Our country needs to ensure that all have the opportunity to be literate in our vernacular languages as well as in other languages such as Motu and Tok Pisin. This learning area has a special role in developing students' functional and critical literacy. It focuses on knowledge about language and how it works.

Functional literacy involves the ability to control and understand the conventions of language that are valued and rewarded by society. All students need to develop the ability to use these conventions and understand their importance. These conventions include rules of writing ranging from handwriting, spelling, punctuation and grammar through to the more complex conventions of form, genre and register. These conventions also include oral language rules associated with different purposes, contexts, and audiences. There are also conventions associated with the presentation of information, ideas, and entertainment in the mass media and new information technologies, and conventions associated with literary texts of all kinds.

To develop critical literacy, students will learn how language responds to and reflects changing social conditions, and how language usage is firmly connected with our values, beliefs, and ways of thinking about the world we inhabit and about ourselves. Critical literacy also involves an appreciation of and sensitivity to socio-cultural diversity and an understanding that the meaning of any form of communication depends on context, purpose, and audience.

Students arrive at school already equipped with a broad range of language knowledge, and skills. All will speak a language. Many will speak and understand more than one language. Many, however, will not yet read and write in their vernaculars or lingua francas. Recognising, accepting, valuing, and building on students' existing language competence, and extending the range of languages available to students is an important challenge for teachers. At school, students will learn how to use languages more effectively through studying a range of texts. Texts will range from brief conversations to lengthy and complex forms of writing. Students will learn how to create effective texts of their own and to engage with texts produced by other people. Students can be encouraged to develop library skills in this subject as well as in all other subjects.

Students need to develop functional and critical literacy skills. They will learn to control and understand the language conventions that are valued and rewarded by society. They will reflect on and critically analyse their own use of language and the language use of others. A person who is literate in one situation may not have the skills needed in another. Students need an understanding and a command of language, which enables them to adapt to new demands and new situations.

The following table shows the subjects from Elementary to Upper Secondary associated with this learning area.

Table 6.3: Subjects included in the Language Learning Area

Learning Area	Elementary	Lower Primary	Upper Primary	Lower Secondary	Upper Secondary
Language	Vernacular Language	Vernacular Language English	English Vernacular Language	English including library Vernacular and other languages	Language and literature including library Japanese Bahasa Mandarin Chinese Hiri Motu Tok Pisin

6.1.3 Mathematics

The Mathematics learning area has a major responsibility for the development of students' numeracy. Through a study of mathematics, students will learn to read, write, and speak mathematics in a variety of contexts and forms. They can interpret and convey mathematical ideas, interpret texts containing mathematical forms, and continue to use and learn mathematics. Every student needs to develop an awareness of the nature of mathematics, how it is created, used, and communicated, for what purposes, and how it influences and is influenced by what we believe and in the values we hold. New technologies have changed the level of complexity of mathematical problems encountered today as well as the methods that mathematicians use to investigate them. When students have opportunities to use technology, their growing curiosity can lead to richer mathematical invention. The availability of calculators, however, does not eliminate the need for students to learn basic number facts and algorithms.

Mathematics influences the way we live and what we value. Mathematics is developed by people of all cultures in response to practical, aesthetic, and spiritual needs. It is influenced by, and it influences our culture and the way we live such as the complex patterns that are used in making bilums and mats. Some of the counting systems used in parts of Papua New Guinea are unique and have been developed to meet our everyday needs. Mathematics regulates our lives:

- at home we turn on the radio when the clock says 6.00 o'clock because this is when the news broadcast is on;
- in many sports we are guided by lines formed into various shapes; and
- public statistics may be used to legitimise decisions made by our Government.

The knowledge, skills, and understanding associated with this learning area have always been important to society, particularly in everyday life and are increasingly important in the 21st Century. Students require the ability to use mathematics to reason and communicate, to solve everyday problems, and to conduct day-to-day dealings. Through a study of mathematics, students will explore ways of solving problems using mathematical skills and processes. They will use quantitative and spatial information in problem solving and decision making. As students learn to enjoy and value Mathematics, they grow more confident and motivated to think analytically, and to understand and appreciate the role of mathematics in everyday life.

Mathematics is a way of communicating ideas. It helps students to make important connections among physical, pictorial, graphic, symbolic, verbal, descriptive, and mental representations of mathematical ideas. The use of mathematics is very important in all other learning areas.

The following table shows the subjects from Elementary to Upper Secondary associated with this learning area

Table 6.4: Subjects included in the Mathematics Learning Area

Learning Area	Elementary	Lower Primary	Upper Primary	Lower Secondary	Upper Secondary
Mathematics	Cultural Mathematics	Mathematics	Mathematics	Mathematics	Mathematics Extension (Maths A) Mathematics Core (Maths B) Life Maths

6.1.4 Personal Development

This learning area contains the subjects: Health, Physical Education and Personal Development and aspects of Guidance, Religious Education and Civics. This learning area will enable students to make informed decisions about their lifestyles, including the values of the family, culture, and religion to which they belong. This learning area enables students to reinforce the values identified in our Constitution that are presented in Section 3, Table 3.1. This learning area promotes a common set of values widely shared by Papua New Guinean communities and upon which personal values are built. This learning area assists students to understand how and why it is important to be physically, socially, emotionally, mentally, spiritually, morally, and culturally healthy.

Personal Development acknowledges the traditional taboos in some societies concerning the discussion of spirituality, intimate relationships, sexuality, and other sensitive topics. Some societies have taboos prohibiting the exposure of young people to information about family planning, reproductive health, STI/AIDS, and related topics, especially those that are not normally discussed openly. This learning area will help students respect these taboos. Students, however, will be given information that is essential to safe living in modern Papua New Guinea.

Through studying Personal Development, students will learn to:

- appreciate and value other people’s cultures even though they present them differently. Customs and traditions affect both the expectations and reactions of people;
- understand that there are a variety of cultural presentations, but they all have a common meaning such as births, adulthood, and death;
- make informed decisions about behaviour founded on both knowledge and values they hold to be important. This knowledge and values form the basis of beliefs, attitudes, and other moral and ethical living;
- express pride in their cultural identity. The pride in identity of their culture and heritage needs to be recognised, maintained, and encouraged; and
- understand, value and participate in traditional and introduced physical activities that will help them to live fulfilling and healthy lives in their communities.

The Constitution grants us rights, freedoms, and responsibilities and it protects them. The laws we follow affect the way we live in our societies. Sometimes rules control the behaviour, social life, and the decisions that a person makes in life. Papua New Guinea is a diverse society with many different ways of life, languages, traditions, and relationships with other members of our society. Our Constitution also states that everyone should be treated equally and fairly regardless of race, place of origin, belief, religion, and sex. Personal Development will give all

students the opportunity to know how to interact with one another, develop physically, mentally, and socially to their fullest potential in order to live productively in our societies. All individuals have the right to receive information, which will enable them to make informed decisions about their future.

Schools should encourage the community members to be involved in teaching Personal Development and should incorporate Personal Development programs into community programs. To bring about change in the social and health status of our multicultural society, it is paramount that Personal Development programs take into account the needs and values of the community of which the school is a part. The role of the school is, and must continue to be complementary to the efforts made by families, communities and cultural groups. School organisational structures, relationships, and programs all reinforce values. Teachers communicate values through subject content, methods and the role modelling effect they have on students.

The following table shows the subjects from Elementary to Upper Secondary associated with this learning area.

Table 6.5: Subjects included in the Personal Development Learning Area

Learning Area	Elementary	Lower Primary	Upper Primary	Lower Secondary	Upper Secondary
Personal Development	Aspects of Personal Development are covered under Culture and Community	Health Physical education	Personal Development	Personal Development to include health, PE and guidance, religious education	Personal Development including civics

6.1.5 Science

The learning area of Science involves ways of exploring, knowing, and understanding the underlying principles that shape our world. Science education assists students to make informed and responsible decisions about their lifestyles, environment, and the kind of societies in which they choose to live. It does this by encouraging the use of evidence in decision making, a questioning attitude, and an ability to look at the relationships between the information needed to solve the problems that confront people daily. Science offers a system of thinking to solve problems.

The knowledge and intellectual resources of Papua New Guinea, developed here over thousands of years, are in danger of being lost as young people lose contact with their traditions and heritage. Science education has a role in encouraging students to learn about this rich source of knowledge. It has an instrumental role in helping learners to better understand their own cultures, and those of others.

Science is best understood when it is related to real-life situations. It is important to present science to students with an emphasis on Papua New Guinea settings as well as local contexts and issues. Teaching in a local context allows students to be aware of how science influences their everyday life, how it can inform personal, community, and government decisions. The skills developed through a study of science will prepare students for continuing studies or entry into the work force or the community. Papua New Guinea's economy, like other international economies, is becoming increasingly reliant on scientific, technological developments, and a skilled work force in these areas. A practical, student centred science education encourages

curiosity and a spirit of inquiry that is valuable in a country undergoing social and technological change.

Through learning science in schools, students will become aware of some of the natural laws that explain the world around us. They will learn to gather evidence according to methods developed in science such as hypothesising, experimenting, observing, recording, interpreting, analysing, and drawing conclusions. The nature of science provides students with many opportunities to solve problems using recognised scientific thinking skills.

The following table shows the subjects from Elementary to Upper Secondary associated with this learning area

Table 6.6: Subjects included in the Science Learning Area

Learning Area	Elementary	Lower Primary	Upper Primary	Lower Secondary	Upper Secondary
Science	Aspects of Science are covered under Culture and Community	Environmental Studies	Science	Science Environmental Science Applied Science	Biology Chemistry Physics Applied Science

Section 7: Assessment and Reporting

Assessment and reporting must be culturally appropriate for Papua New Guinea. The process of assessment and reporting in schools should be continuous and based on the learning outcomes defined in the national subject syllabuses. The national syllabuses for all subjects identify learning outcomes that are relevant to individuals in their communities as well as nationally and internationally. The learning outcomes describe the knowledge, skills, attitudes and values that students should achieve for each grade of schooling from Elementary Prep to Grade 12 in all subjects. These learning outcomes are written in terms that enable them to be demonstrated, assessed or measured. The learning outcomes will

- help teachers assess and report students' achievements in relation to the learning outcome statements;
- allow student achievement of the outcomes to be described in consistent ways;
- help teachers to monitor student learning; and
- help teachers plan their future teaching programs.

The National Policy for Assessment and Reporting defines assessment as

... .. the ongoing process of identifying, gathering and interpreting information about progress, from students' demonstration of the intended learning outcomes.

The National Policy for Assessment and Reporting defines reporting as

... .. communicating to students, parents/guardians, teachers and others, the knowledge gained from assessing students' learning.

Assessment and reporting procedures should provide systematic and continuous ways of collecting information about students' learning. Up to grade 7, assessment is school based and internal. From grades 8 to 12, teachers use a combination of internal and external assessment. Both internal and external assessments at Elementary, Primary and Secondary should reflect students' achievement of the learning outcomes described in the syllabuses.

Assessment and reporting processes should be carried out consistently at the various levels of schooling in all provinces. The National Policy for Assessment and Reporting will ensure that schools continuously assess student achievements throughout their schooling. Assessment and reporting should be:

- compatible with the curriculum approaches at each level of schooling;
- integral to teaching activities;
- aligned with learning outcomes; and
- appropriate for different subjects.

Assessment and reporting should be based on a balanced approach. This can be achieved through a variety of ways of gathering evidence about students' learning, using formal and informal assessment such as:

- observation of students' performance (practical assessment), processes and products;
- concept maps;
- self and peer assessment;
- portfolios; and
- written tests and examinations.

Assessment and reporting procedures must be manageable and supported by collaborative approaches involving students, parents and guardians and when and where appropriate, members of the community. Assessment and reporting must be fair and equitable, catering for differences in gender, culture, language, religion, socio-economic status, geographic location and other special needs. Assessment and reporting must also be reliable and valid. These are most likely to be achieved when evidence is collected using a range of suitable strategies that are fair and equitable. The criteria used to assess student achievements should be made known to the students.

Students, parents and guardians are entitled to receive feedback about students' progress towards achieving the intended outcomes. Information given to students must be clear, accurate and fair. Students will improve their standards of achievement by knowing what they need to concentrate on in the future. By monitoring the evidence gathered from a broad range of assessments, teachers will improve their teaching strategies and help students raise their standards of achievement. Records of student achievements must be comprehensive so that accurate reports can be made.

Evaluation involves making value judgements about the assessment information. The information received from assessment needs to be considered and decisions made about its significance. Once evaluated the assessment information should be reported to parents, guardians, teachers, and other stakeholders. The information should also be used:

- to inform students' choices of suitable careers and employment;
- for selection to the next level of schooling; and
- to improve teaching approaches and assessment programs.

Formal reporting to parents and guardians will vary depending on the level of schooling. Schools should present reports in ways that are suitable for their communities to read and understand.

Students, parents, guardians and members of a community, and various stakeholders have responsibilities to ensure that assessment and reporting is undertaken appropriately, and in ways that meet the needs of students, schools, communities, and the nation.

The National Policy for Assessment and Reporting must be applied at all levels of schooling.

Section 8: References

The Legal Framework

The National Education System, and the National Department of Education's functions and responsibilities are governed mainly by the following acts:

- The Organic Law on Provincial and Local-Level Government, 1995 (as amended since 1995);
- The Education Act, 1983, as amended 1995;
- The Teaching Service Act, 1988, as amended 1995;
- The Higher Education Act, 1983, as amended 1995 and 2000; and
- The National Libraries and Archive Act, 1993.

The Minister for Education is responsible for the administration of these Acts.

Policies on:

- Curriculum Development;
- Special Education;
- Literacy;
- Language;
- Elementary Education;
- Primary Education;
- Secondary Education; and
- Education for All.

Curriculum Development Division. *The Reform of Basic Education, Elementary and Primary Prep to Grade 8*, Department of Education, Port Moresby

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