



**THE LIGHTHOUSE SCHOOL**

**INSPECTION REPORT**

**JUNE 2006**

**LEAD INSPECTOR: STEVE CROWLEY**



**Cayman Islands Schools' Inspectorate**

*Working in partnership for high quality education for all students*

## Foreword

The aim of the Schools' Inspectorate is to contribute to continuous school improvement in the Cayman Islands, through rigorous external evaluations of schools and by providing high quality policy advice and training.

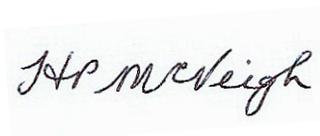
Each school receives an inspection every four to six years. The inspection identifies the school's strengths and the areas that need to be improved. Between inspections, schools are visited regularly by a link inspector to check on the progress that has been made in tackling the priority areas and to support the school in its own self-evaluation.

Inspectors are guided by the criteria in the Cayman Islands Handbook for the Self-Evaluation and Inspection of Schools.

Inspections provide schools, parents and the community, the Education Department and the Ministry of Education, Training, Employment, Youth, Sports and Culture with an external and impartial evaluation of the quality of a school's work and its impact on students' learning and the standards they achieve. Through the publication of inspection reports, inspection contributes to accountability, transparency and openness within the education system.

Self-evaluation by schools is considered to be an important part of the Cayman Islands school evaluation model. Together with inspections, self-evaluation provides a balanced system of internal and external accountability for schools.

The Inspectorate hopes that this inspection will contribute in a positive way to helping the Lighthouse become a more effective school.



**Helena McVeigh**  
**Chief Inspector of Schools**

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## **INFORMATION ABOUT THE SCHOOL AND THE INSPECTION TEAM**

### **THE SCHOOL**

Type of school: Government  
Age range of students: 4 – 18 years  
Gender of pupils: Mixed  
Number on roll: 61  
School address: P.O. BOX 1834 GT, GRAND CAYMAN  
Telephone number: 345-947-5454  
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Name of Principal: Shari Bovell

### **THE INSPECTION TEAM**

Lead inspector: Steve Crowley Overseas inspector (former member of the Cayman Islands Inspectorate)

Team inspectors: Pachent Smythe Cayman Islands Schools' Inspectorate  
Roger Holmes Cayman Islands Schools' Inspectorate  
Andrew Littlewood Overseas inspector

## **INTRODUCTION**

### **Information about the school**

The Lighthouse School is the only special school in the Cayman Islands. In September 2000, the school was relocated into newly built specialist accommodation in the Red Bay area on the outskirts of George Town. The school now caters for students between the ages of 4 to 18 years, from across Grand Cayman. The students have a very wide range of complex educational and physical needs. At the time of the inspection, there were 61 students on the school roll: 25 girls and 36 boys. Fifty five of the students are Caymanian and nine are eligible for free school meals.

All of the students have individual education plans (IEPs). They are grouped in eight classes that are largely determined by their age.

The Early Intervention Programme shares the premises, but they are not officially recognized as part of the Lighthouse School.

The school's motto is "Yes, We Can" and the stated mission of the Lighthouse School is:

“To help children with challenging needs develop their unique abilities to the fullest potential through individualised and innovative programmes, implemented by a caring and professional staff, in a dynamic partnership with parents and the community.”

The school's aims are to:

- Provide a high quality, well rounded education for all students in an environment which encourages them to enjoy learning
- Encourage everybody involved in the school to respect each other and to recognize that everybody has a valuable contribution to make
- Provide students with opportunities that will lead to them achieving as much independence as possible and help them develop as responsible citizens
- Work with parents and others in the local community to give the students opportunities to achieve success in as wide a range of activities as possible.

The school has not been inspected previously. However, a team from the Schools' Inspectorate, including overseas inspectors and assisted by members of the Education Department, worked together with the school from 3<sup>rd</sup> to 21<sup>st</sup> March 2003. This project was referred to as the “Lighthouse School Development Project” and its focus was to:

- Assess accurately the current strengths of the school
- Identify what the school needs to do next to improve
- Provide training for the school's staff
- Further develop important aspects of the school's work, including the curriculum, policies and practice guidelines.

## Information about the inspection

The inspection took place from 5<sup>th</sup> to 7<sup>th</sup> June 2006 and involved a team of four inspectors, plus a trainee local occasional inspector. Due to the nature of the students' special educational needs, it is not appropriate to make judgements about the educational standards they achieve in relation to expectations for their age. However, the inspection does make judgements on the progress the students make. The following aspects of the school's work were looked at:

- Students' achievements and progress in language arts, mathematics, science and, information and communication technology (ICT)
- The effectiveness of teaching and how well students learn
- The quality of students' personal development
- Students' attendance and punctuality
- The quality of the curriculum and how students are assessed
- How well the school is led and managed
- The quality of the support and guidance offered to students, and the level of care for their welfare
- The effectiveness of links with parents and the community.

The team also evaluated how well teachers were helping students to use their literacy, numeracy and ICT skills across all of their school work.

The team used the audit conducted during the Lighthouse School Development Project, in March 2003, as the starting point in judging how much progress the school has made overall.

The inspection team gathered evidence in the following ways:

- 51 lessons or parts of lessons were observed, mainly language arts and mathematics, but including all subjects offered.
- School documents, including teachers' planning, curriculum statements and guidelines, were looked at.
- Students' work was scrutinised.
- Inspectors spoke with students and took their views into account.
- Inspectors heard students read during lessons.
- Discussions took place with teachers and other members of staff, including specialist support staff, and comments from their questionnaires were considered.
- Comments from parents at the meeting before the inspection and from the questionnaires were taken into account.
- Information obtained through the regular link inspector visits was also taken into account.

## **INSPECTION FINDINGS**

### **How effective is the school overall?**

The Lighthouse School is a very good school, which has made outstanding progress over the last three years. This achievement is all the more remarkable given that the school was closed for nearly two months after suffering damage from Hurricane Ivan in September 2004. The inspection team judged that, given the commitment of the leadership and staff, the school has the capacity to maintain this high standard and to continue to improve even further.

### **What the school does well**

- The students enjoy their time at Lighthouse. They are keen to learn and make very good progress.
- Overall, the quality of teaching and learning is very good.
- There is a very positive ethos. Relationships in the school are excellent and the students behave very well.
- The students are treated with dignity and respect; their personal development is very good.
- The school is very well led and managed. The staff work together as an effective team.
- The school makes consistent and effective use of communication systems, such as signing.
- The provision for language arts, mathematics and ICT is good.

### **What needs to improve**

- The quality of teaching and learning for students who have the most difficulty learning and for those who are the most cognitively able
- The sharing of management responsibilities among the staff, as currently too much is undertaken by the principal and deputy

*The areas for improvement listed above will form the basis of the school's action plan, which should be sent to the Education Department and Schools' Inspectorate within 40 working days of receipt of the final report. The school is required to provide parents with an annual update on the progress that is being made in addressing these areas for improvement.*

## **How effective is the teaching and what impact does it have on students' learning and the progress that they make?**

Overall, the quality of teaching and learning is very good. Teaching and learning are now strengths of the school. Teaching was at least satisfactory in all 51 lessons seen during the inspection. In four out of five lessons, the teaching was good or better and, in a little more than one in four lessons, it was outstanding. The quality of learning and the progress students make is closely linked to the quality of teaching. This represents huge improvements over the last three years.

Relationships between students and adults within the classrooms are excellent. Lessons are conducted in safe and secure environments that enable the students to: take risks in front of their peers without fear of ridicule; learn from their mistakes; and adjust their thinking in the light of comments from their teacher or classmates. For example, in a language arts class, students looked at photographs of people carrying out various actions such as pushing, blowing or sighing and then tried to portray them; their classmates and teacher observed and gave them feedback and encouragement on how well they had done.

Daily routines have been well established in all classes. Specialised communication systems, such as signing and the use of visual prompts and cues, help the students to understand what is expected of them and what is being taught. Consequently, the students follow instructions well and sustain effort and concentration for surprisingly long periods of time. The students show initiative and take responsibility. For example, in home science, students who had been working in groups to make pizzas, cheesecake and sandwiches began cleaning and tidying up without any prompts from the staff.

The teachers and their teaching assistants plan together very effectively. Almost all lessons have clear learning outcomes, which are derived from the students' individual education plans. Lesson activities are designed so that students learn in a variety of ways, using their senses to explore and discover. What the activities demand of the students is mostly well-matched to their capabilities, which gives them the confidence to achieve the tasks and try hard to succeed. The teachers need now to make greater use of probing questions to find out just how much those students, whose potential is difficult to assess, are capable of. In addition, the teaching assistants could be asked to play a greater role in recording evidence of students' progress during lessons.

In almost all cases, the teachers know their students well. Their knowledge of students' strength and weakness brings focus to the teaching and facilitates accurate and meaningful feedback. As a result, the students apply their energy in ways that are most likely to result in effective learning. They are enthusiastic, take pride in their work and expect to be challenged intellectually.

The students are motivated by the frequent opportunities they have to be actively involved in relevant activities that relate to real-life situations. For example, in mathematics they use their understanding of number to calculate the total cost of items selected from a local supermarket's price list. They purchase items, using replica Caymanian currency, from a till manned by one of their classmates at a 'shop' set up within their classroom.

Many lessons begin with a useful recap of previous work, which helps the students to understand new information by linking it to what they already know. In the best lessons,

teachers begin by sharing learning outcomes with students, so that they know what they are expected to achieve. Another very effective strategy that some teachers use is to include a short plenary session at the end of the lesson, which provides excellent opportunities for the students and teacher to assess together the progress that has been made. This latter strategy could be use more widely.

The teachers frequently stop the lesson for brief periods to encourage the students to perform action songs or short games that stimulate different parts of the brain. The students enjoy these activities and return to the task revitalised and ready to re-engage in their assigned activities.

Some of the students have learning difficulties associated with poor short and/or long-term memory. Teachers should consider using a wider range of strategies, such as visualisation techniques, to help the students retain information more effectively.

While the teaching is almost always sensitive to the needs of all the students, the teachers and their assistants need to increase their knowledge and skills of how to teach students with autism.

### **What is the quality of the curriculum and how effective are the arrangements for assessing students' progress?**

Overall, the quality of the curriculum is satisfactory.

The school has a broad curriculum that is relevant to the needs and interests of all the students. Separate planning documents have been established for the primary and secondary aged students. In addition, teachers refer to the Cayman Islands' National Curriculum when planning lessons, particularly for students who spend part of each week in a mainstream school. There are also useful guidelines to help teachers plan for the small, but steady, advances in students' understanding and skills; this is particularly useful for students who have profound and multiple learning difficulties. Enough time is allocated to most subjects, but more needs to be given to creative activities such as art, craft, music and drama throughout the school and science in the secondary classes.

The teachers and teaching assistants promote literacy and numeracy skills well across the curriculum, particularly in life skills, food technology and physical education. In classes 7 and 8, a suitable pre-vocational and vocational course that includes opportunities for work-experience has been introduced, but the students do not yet have access to accredited courses.

The arrangements for assessing how well the students are performing and, how much progress they are making are satisfactory. Over the past year, the school has been developing an assessment strategy that is easy to administer, can be applied to all students and, draws on a range of assessment practices to provide a clear picture of what the student can do as well as what they need to do next. The school makes use of a commercially produced programme, Choosing Outcomes and Accommodations for Children (COACH), which provides a suitable framework to help teachers plan new work, create IEPs for the students. It also enables them to keep parents up-to-date on their child's progress. During lessons, the teachers and teaching assistants are continuously assessing the students' understanding. They ask the students probing questions, monitor their written work and progress when working at the computer and,

through observation, check on their level of attention. The teachers skilfully use this ongoing assessment to adjust the pace of the lesson, give the students a few moments of relaxation or a brief opportunity to change positions before continuing with their assigned tasks. Occasionally, the teacher decides to change activities altogether in order to refocus the students' interest. In a few classes this sensitive response to the students' needs leads to a short written assessment as part of their lesson evaluation. This very good practice could now be used by all teachers or incorporated into the overall formal assessment arrangements which the school is constructing.

## **How well is the school led and managed?**

The school has been very well led and successfully managed over the last three years. Outstanding progress has been made due to the commitment and determination of the leadership and staff, who have worked together as a team to achieve a shared vision. The school's vision is clearly expressed through its logo, the mission statement and an agreed set of aims.

Three years ago, the school embarked on a systematic approach to improving its performance. It was decided, quite appropriately, to start the process at the classroom level, with a view to improving the quality of teaching and learning. The staff worked together successfully to share best teaching and learning practices and even included staff from the Early Intervention Programme, which is not officially part of the Lighthouse School.

The school recognised that many of the problems with the quality of learning at that time, stemmed from a shortfall in teachers' knowledge of how to communicate effectively with some of the students, particularly those with autism or who are non-verbal. In striving to remedy this situation, the school made excellent use of their specialist support staff. The occupational therapist and the speech therapist worked with teachers to improve the use of specialised communication systems. Significant progress has been made in this important aspect of the teachers' work. For example, signing is now used as a regular feature in all classes; even the students who would not normally need it enjoy using it. The school also makes use of specialised computer software programs to help prepare pictures and cues for students.

The leaders of the school also recognised that classroom observation and feedback are powerful tools for improving teachers' performance. Consequently, they implemented formal and informal classroom observations with guidelines for their use. This process has been hugely influential in the quite remarkable turnaround in the quality of teaching throughout the school over the last three years.

The provision for students with profound and multiple learning difficulties was significantly improved by the introduction of a "critical skills programme". This programme provides very good opportunities for the students to learn and consolidate the fundamental skills they need to become more independent. The students taking part in the programme are making excellent progress.

A "sensory room" has been set up, which gives students greater access to learning through using all of their senses. It significantly enriches the lives and educational experiences of those that use it.

The school recognised that there were serious shortcomings in the school's curriculum three years ago. As a result, they introduced COACH and enlisted the help of a high quality trainer who worked with staff to build the curriculum around what is essentially a comprehensive assessment tool. IEPs, as understood within the context of COACH, were developed for all of the students and it is these that now essentially drive the curriculum. The trainer also helped staff to incorporate the Cayman Islands' National Curriculum into the scheme. The school leaders have suitable plans in place to improve the curriculum even further.

The school has an excellent ethos, which is characterised by high staff morale, effective teamwork and a commitment to continuous improvement. This has been established through the introduction of regular meetings for the primary and secondary sections, and planning days for the teachers and teaching assistants. These actions have resulted in improvements to the curriculum as well as an increased sense of common purpose. The teamwork between teachers and teaching assistants is now very effective and a major strength throughout the school.

The school has recently produced a useful improvement plan. It identifies a reasonable set of priorities for the school, including the quality of teaching and learning, assessment and reporting, leadership and management and, parent and community liaison. Each of these priorities has been sensibly divided to create more manageable targets. Success criteria, timescales and responsibilities have been identified. However, almost all the work is expected to start simultaneously and the principal and/or deputy principal are expected to take a lead in each initiative. The school is aware of these weaknesses and has suitable arrangements to reconsider the timescales and spread responsibilities more evenly.

A major concern is the lack of training opportunities for the specialist support staff that work in the school, but for whom the Education Department has responsibility for their professional development. These staff play a crucial role in meeting the needs of the students and are crucial to the school's capacity to continue improving. Failure to address this issue, threatens their status and therefore their entitlement to practice.

## **How effective are other aspects of the school's work?**

### **Students' personal development**

Overall, the personal development of students at the Lighthouse is very good.

There is a very strong commitment in the school to make sure that the students do as well as they can. The staff work together effectively to achieve this. Relationships between staff and students are very warm and caring. The students enjoy coming to the Lighthouse and want to do their best. They learn to know themselves better, to appreciate their individual qualities and how to interact effectively with others.

School assemblies are very effective in promoting and celebrating the school's ethos and aims. Students are treated with dignity and are encouraged to play an active part in the assemblies and their achievements are celebrated. They respond very well to this approach. They listen carefully to teachers and other students, taking turns to speak and suggesting ideas of their own such as, how they could sign "walking".

Students often show an awareness of others and follow the lead set by the staff in helping out whenever possible. Mobile students frequently help others to move around. Many students use signing to communicate with their speech-impaired peers, which helps them to be involved in the life of the school.

Students understand the need for rules and respond very well to the high expectations the school has of them. Many of the students have a strong feeling for fairness. They know how to conduct themselves appropriately and show disapproval when others fail to behave well. The school's skilful approach to discipline and consistent reinforcement of its expectations and values make students want to behave well. They do not feel coerced into conformity. As a result, the school is a happy, joyful and orderly community. Even when individuals show problematic behaviour because of their special needs, staff handle them skilfully and minimize the effect on others, so that calm is maintained.

Students are proud to be part of the school community. They enjoy seeing their achievements celebrated in the press and are particularly pleased that people see them in a good light when they are out shopping or on one of the many educational visits. Students support each other well around the school, mixing together at lunch times and often chatting pleasantly. Staff often guide the conversations in order to extend the students' speaking and listening skills. The students are confident with adults, even when strangers visit the school, greeting them appropriately and interacting well. Many are good company and are well prepared to move on into society.

Students enjoy cultural activities. They respond well to music and many teachers make very effective use of songs to catch their attention and to establish calmness during the day, particularly in the younger classes. Students' singing is tuneful and many clap rhythmically during assemblies, for example, when preparing for musical performances and, in the monthly karaoke events. Music is an important part of the work in some classes. For example, in a science lesson for Class 3 the children responded to the excitement of blowing bubbles by singing "Jesus' love is a' bubbling over". However, music has not been incorporated quite so well in all classes. Similarly, students do not experience art in all classes. These omissions mean that students' cultural development, whilst being satisfactory, is not as strong as other aspects of their personal development.

### **Links with parents and the community**

The school has good links with parents and the community.

The school involves parents well in the planning of education programmes for their children. Parents of new students are invited to an initial meeting at which the school collects information about what they expect for their children as well as about their children's specific needs and interests. This information is used by the school to set targets and to develop students' IEPs. Each student's progress is reviewed at strategic points throughout the year. Parents are asked to comment on the progress being made. All teachers use the "communications book" effectively to exchange information with parents. Some have established even closer working relationships with parents by visiting students at home. This helps parents and teachers to work effectively together

to support the students. Home visits are recognized by the school as a useful link with parents and they could be adopted more widely.

The overwhelming majority of parents say they are well informed about their children's progress and any problems that they are having. Parents are also encouraged to be involved in the work of the school. Some parents at the meeting with inspectors spoke about wanting to be more involved in helping their children, particularly those with autism, to have every opportunity to develop their abilities. There is an active Home-School Association, which supports the school well, but there may also be scope for parents to meet to discuss shared concerns such as these.

The school makes good use of the wider community to support the students' education. There are frequent visits to interesting places that stimulate the students and widen their experience. For example, students recently visited the fire service and learned about the dangers of fire as well as how the pumps work. A number of students spend part of their time in mainstream schools, particularly at the primary stage. This integration is very useful in helping them get to know other children of their own age and to develop socially. The mainstream schools support this integration well and it would be worth considering extending this further, to include academic work for some students.

Work experience is an important part of the programme for older students. The Lighthouse has been successful in finding suitable work placements over the last few years. This has been largely as a result of personal contacts with members of staff and through the support of the Cayman Islands' Tourist Association, which also helps the school with playground equipment. It would be worth establishing more formal links with commercial organisations to make sure there is a steady supply of suitable placements.

### **The support and guidance offered to students and level of care for their welfare**

Overall, the school makes very good provision for students' welfare and for their support and guidance.

The school keeps detailed records that provide an accurate picture of each student. This is a good system, which enables teachers to respond sensitively to students' needs and to keep track of the progress that they make. Sensitive information is kept confidential, but administrative staff have ready access to telephone numbers, so that they can call parents and carers when the need arises.

Teachers maintain detailed and accurate information about students' personal development and their academic progress, which they use well in order to plan lessons and set targets for individual students. At the moment, there are several different systems in use and so it is difficult to collate the information centrally and to give managers an overview. The school is aware of the need to adopt a single system and has well-developed plans to do so in the near future.

Students' attendance is monitored effectively. Those whose attendance is not very good are monitored appropriately. The school makes great efforts to engage the support of parents so that their children attend as regularly as possible.

The school is sensitive to students' wide range of special needs. The staff have a detailed understanding of each student's personal circumstances, attributes, likes and dislikes, which enables them to adopt a flexible approach and tailor arrangements to

match individual needs. For example, students are moved between classes for different subjects so that they can benefit from working at a level that is appropriate for their capability.

The school relies on the support of a number of specialist staff to meet the complex needs of many of the students. The quality of this professional support is good and the school makes effective use of it. These people make a very valuable contribution to the work of the school and contribute positively to its ethos of care and concern. However, more support is needed. For example, physiotherapy is not available, although many of the students desperately need it. The contribution made by speech and language therapists is considerable, but their skills are spread too thinly to have enough impact on the students who need more regular input. Similarly, professional counselling has been reduced to half a day each week, which is not enough for the students who need psychological support from a counsellor.

The school has established excellent practice and procedures to promote good behaviour. All of the staff, including those who work on the buses, apply the “caught being good” system to reward students when they are thoughtful, sensitive or kind to others. This consistent approach to celebrating good behaviour helps the students to understand what is expected of them. They enjoy behaving well and have very good relationships with the staff. Staff are very skilful at monitoring student’s behaviour, spotting problems early and dealing with them before they escalate. Consequently, the students watch this happening and learn to do it themselves. For example, a student in Class 4, on seeing two other students arguing over the ownership of a box, found another and gave it to them so that the issue was amicably resolved.

Despite their best efforts, the school is not adequately staffed to deal with the very small number of students whose behaviour is occasionally so extreme that they are a risk to others, particularly those who are unable to respond or defend themselves. The school records such incidents appropriately. However, the nature of these students’ problems requires one-to-one support and a specially constructed safe room to “cool off”, if the school is to minimise the chance of a sudden outburst leading to injury.

### **Students’ attendance and punctuality**

In the vast majority of cases, students’ attendance is very good. The school works very hard to support those few students who do not attend as regularly as they should. All of the students arrive punctually, except under circumstances that are out of their control. Students are highly motivated to get to class on time. Transition from one class or activity to another is carried out smoothly with unnecessary fuss or time wasted.

## **What is the quality of teaching and learning in language arts, mathematics, science and ICT?**

### **Language Arts**

The school makes good provision for the students to develop their language arts skills. Overall, students make good progress. However, the school needs additional specialist help to ensure that students with severe autism make enough progress.

The students take a keen interest in their language arts work, are proud of their achievements and enjoy celebrating their successes and those of their classmates. They concentrate well, listen carefully, follow instructions and use their developing skills effectively to improve their communication, reading, writing and comprehension skills.

The teachers make good use of the schemes of work and prepare their language arts lessons thoroughly, with good attention to each student's needs. Teachers provide suitable activities and age-appropriate work that help students make good progress in reading and writing. The teachers are quick to spot when the students are uncomfortable or losing concentration. They then introduce a brief period of relaxation or a new activity that helps students to refocus and apply themselves to their work once more.

In the primary classes, the students make good progress in the development of word recognition skills. As they get older, they are able to read and write simple sentences. By the time they reach the last few years of school, the students demonstrate an increasing confidence, independence, and fluency of expression, especially when working collaboratively at familiar practical tasks. Many read with reasonable accuracy, mainly for information, and can tackle assignments, such as completing a mail order form or recording data, well. The oldest students use their literacy and communication skills well during their work experience sessions.

Students in all classes demonstrate growing skills in the use of computer programs to record information. They use pictorial symbols, switches and signing with increasing regularity to support communication with their non-verbal classmates, who use signs and symbols frequently.

In language arts lessons, the relationships between adults and students are outstanding. The strong, caring ethos enables students to use their developing communication and literacy skills with growing confidence. Their independence increases markedly as they progress through the school.

Staff monitor and assess students' progress well during language arts lessons, but there is not yet a whole school assessment strategy that would help to ensure consistency.

The subject is effectively led by the principal and vice principal and is well taught throughout the school. As language arts is now well established throughout the school, the opportunity to delegate responsibility for curriculum leadership to another member of the staff should be considered.

## **Mathematics**

Overall, the provision for mathematics and the development of numeracy skills across the curriculum are good.

The quality of teaching in mathematics is at least good and there are examples of excellent practice. Teachers plan lessons very well and include a range of activities that systematically build on what the students already know, understand and can do. As a result, the students recognise advances in their own learning and are motivated to keep on trying. Learning outcomes are clear and students know what they are aiming to achieve and remain focused on the tasks in hand. There is excellent teamwork between the teachers and their teaching assistants; this has a powerful impact on the progress the students make because their difficulties in learning are dealt with rapidly. Teachers structure lessons so that they frequently include whole class teaching followed by small group activities and opportunities for individual work using the computer. This variety provides students with good opportunities to learn in different ways.

The students make good progress in mathematics. They understand the purpose of improving their numeracy skills. They are motivated and sustain concentration and effort, even when they feel challenged with difficult calculations or concepts. Many of the students can select and sort coins accurately. Some put together combinations of coins to make an amount equivalent to a given dollar note. They estimate numbers, distance and weight with increasing accuracy as they move through the year groups. They build on and consolidate their understanding of time, so that many of them have enough confidence to, for example, complete a simple time-sheet, such as would be required in the workplace.

The mathematics curriculum is suitably broad and relevant to the interest and needs of the students. There is an appropriate emphasis on functional mathematics. Much of the development of numeracy skills for older students is carried out through the Life Skills programme. There is a good range of everyday resources for students to learn from hands on experience and to apply what they learn to real-life situations. In general, the students' performance and progress is well monitored, but it could be further strengthened by the introduction of a whole-school approach to assessment to ensure that the very best practice becomes the norm.

## Science

Overall, provision for science is satisfactory. Science plays a significant part in the curriculum for students up to Class 4, but has less of a role in the older classes, where students meet some of the science concepts through subjects such as life skills and in cooking.

In the primary classes, students develop their observation skills and ability to handle equipment through such activities as seeing how many cups of water it takes to fill a larger container. Teachers make these activities stimulating by posing questions and asking the students to say what they think will happen. During investigations they sometimes take the opportunity to strengthen concepts relating to students' personal development. For example, when the students were required to place equal amounts of water into the cups being used during an investigation, the teachers drew the students' attention to the similarity between the notion of "equal amounts" and "fairness".

Students respond well to teachers' approaches and the activities presented. They are excited by feeling the pull of a magnet and enjoy the beauty of the colour patterns on a soap bubble. Such experiences helps them to build an understanding of the world around them.

The approach to science is different in Classes 5 to 8. Some science concepts are covered through the students' preparation for life programme. For example, during cooking they learn about the importance of hygienic practices and see, discuss and record the changes that take place when things are heated. Students help to care for the animals in some classes and they take turns to look after the plants in the grow boxes, with support from the gardener. While these experiences are useful, opportunities are missed to explain the science involved; for example, the effect of watering one plant but not another, or the difference between the temporary change that happens to chocolate when it is heated, compared with the permanent change that happens to an egg. As a result, students miss the excitement that the subject brings to the primary classes.

No one has overall responsibility for science in the school, which might explain the differences in approaches across the school. Classes do not have a good range of science equipment, so that it is not easy for teachers to set up investigations. Students do not have regular access to such things as magnets, mirrors, lenses and colour filters, which would encourage them test things out and observe closely. There are also missed opportunities to link science to the students work in ICT, by for example using web cams to get a close up view of a flower and using simulations to see how different nutrients affect a plant's growth.

## **Information and communication technology (ICT)**

Overall, the students make good progress in ICT. Students are confident and enjoy using the computers.

The subject has a high profile in the school, because teachers recognise the range of experiences that it opens up for students and the motivation that it provides. The computer room is used regularly by all classes. The students also make frequent use of computers in the classrooms.

Students in the youngest classes, who have good control of their movements, switch on their computers, log themselves on to the network and open up programs. Those who read are able to choose a program that they like from its title or follow instructions to open one that the teacher or teaching assistant suggests. Some who are unable to read can still choose a program by recognising its icon. Many of the programs require extensive use of the mouse and most pupils use it effectively to select items and sometimes to drag shapes and re-arrange them on the screen. Their dexterity and accuracy with the mouse is developed well through the use of adventure games that call for rapid and accurate responses. Students enjoy these games and learn a lot from them. Students who are not able to control a mouse are still able to interact with the programs and benefit from the experience by using special switches, sometimes with the aid of an adult. The facial expressions of children with profound and multiple learning difficulties show that they are responding to the programs and taking delight in causing something to happen.

Older students use the computers with even more confidence and independence. Those who write use the keyboard accurately, if slowly. Some students use the drop-down menus of conventional word-processing programs to select different features. One student in Class 3 responded very rapidly to being shown how to draw a table and then he immediately taught another student how it was done. Students use the Internet to find information and know how to use a search engine.

Unfortunately, the current network system is unreliable and often fails to make the connection properly. However, teachers and teaching assistants are very good role models in the way that they operate the equipment and deal calmly with any problems that arise.

ICT is thoroughly embedded in the curriculum for all students. One of the reasons that it is working so well for the students is that all staff have made themselves competent in its use. However, there is no overall coordinator for ICT.