

## Assessing the Intangible – Assessment of Values, Leadership and 21<sup>st</sup> Century Competencies

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### Abstract

Some educators believe that it is not possible to assess character, creativity and leadership. However, Haig Girls' School has developed a standards-based approach to assessing values, leadership attributes and 21<sup>st</sup> century competencies (21CC) such as self-directed learning, collaboration, critical thinking and problem solving as well as creativity and innovative thinking. The assessment criteria spell out the specific behaviors, attributes and competencies expected of pupils. The criteria are proficiency-based and progressive in their design, calibrated with different expectations for different levels (P1-2, P3-4, P5-6).

In addition to teacher assessment, the school involves students in self and peer assessment to encourage students to take responsibility for their learning. Evidence of pupils' demonstration of 21cc is collected via Web 2.0 tools which document pupils' setting of learning goals and tasks, generation and improvement of ideas, peer feedback and self and peer assessment.

Assessment criteria allow the school to communicate to pupils and parents the performance standards expected of every pupil. Assessing values, leadership and 21cc provides pupils with specific feedback on their strengths and areas for improvement in more than just academic areas. The assessment data allows the school to evaluate key pupil outcomes and improve programs to support pupils' holistic development.

**Key Words:** Assessment, Leadership, Values, 21<sup>st</sup> Century Competencies

### Introduction

Established in 1951, Haig Girls' School is an all-girls' government primary school. Our school has a heritage of excellent holistic education, affirmed in our school vision, 'Leaders of Character, Striving for Excellence in a Vibrant School', and mission 'to develop self-directed learners and critical and creative thinkers who lead and serve with integrity and compassion'. Educating the whole person is important to us because we believe in preparing our girls for life. We are committed to nurturing character, leadership and 21<sup>st</sup> century competencies (21CC) through a distinctive learning experience that is values-based, engaging, rigorous and innovative.

In 2010, Haig Girls' School was one of sixteen prototype schools to implement Holistic Assessment (HA) in collaboration with the Ministry of Education. HA is the ongoing gathering of information from various sources on different facets of the child, to provide feedback to support and guide the child's holistic development. HA in Haig Girls' School focuses on knowing and developing the whole child and supports our commitment to holistic education.

In our efforts to know and develop the whole child, the school develops and assesses pupils in the cognitive, aesthetic, physical and social-emotional domains. A holistic picture of the child's development is shared with parents through the school's holistic reporting system. This includes a holistic development report (issued twice a year) that provides information on the child's personal qualities and attainment of learning outcomes for English, Mathematics, Science, Mother Tongue, Art Music and Physical Education (Semester 1) and the child's development in values, leadership attributes and 21CC (Semester 2).

### **Rationale for Assessment of Values, Leadership and 21CC**

The assessment of values, leadership and 21CC takes place within this larger context of holistic assessment and reporting. As character, leadership and 21CC are aligned to our school vision and mission, the school defined key pupil outcomes in these domains and developed school-based assessment criteria and rubrics for school values (integrity, commitment, concern and cooperation), leadership attributes (leading by example, serving with humility, taking initiative and inspiring and working well with others) and 21CC (self-directed learning, collaboration, critical and creative thinking). The defined pupil outcomes and assessment criteria allow the school to communicate to pupils and parents the behavior and performance standards expected of every pupil. The assessment of values, leadership and 21CC enables us to provide pupils with specific feedback on their strengths and areas for development. It also enables the school to evaluate the effectiveness of our pupil development efforts and take steps to implement or improve pupil programmes to support our pupils' holistic development.

### **Design of Assessment Criteria**

In 2011, Haig Girls' School developed a standards-based approach to assessing values, leadership attributes and 21CC. The assessment criteria spell out the specific behaviors and competencies expected of pupils. In designing the assessment criteria for values, the school consulted pupils and teachers on the observable behaviours they would expect when pupils live out the values. The design of the assessment criteria for leadership attributes was guided by our school's philosophy that leadership is about character, service and influence and informed by inputs from teachers and a review of leadership literature (Kouzes and Posner, 2007, and Greenleaf, 1991).

Leadership Attribute	Leadership Practice (LP)
Lead by example	LP1: Model the way: set the example
Serve with humility	LP5: Encourage the heart; Greenleaf: servant leadership
Take initiative	LP3: Challenge the process
Work well with and inspire others	LP4: Enable others to act: foster collaboration and strengthen others LP2: Inspire a Shared Vision

Figure 1: Haig Girls' School Leadership Attributes mapped against Kouzes and Posner's 5 leadership Practices

In designing the 21CC assessment criteria, the school was guided by competency indicators spelled out in the Partnership for 21<sup>st</sup> Century Skills (P21) literature and the Ministry of Education's ICT Masterplan 3 and Framework for 21<sup>st</sup> Century Competencies and Student Outcomes documents. The implementation of 21CC assessment criteria was first piloted in Primary 3 and Primary 4 in 2011 and refined and implemented in Primary 3 to 6 in 2012 and across all levels in 2013.

The assessment criteria are proficiency-based and progressive in their design, calibrated with different expectations for different levels (Primary 1-2, Primary 3-4, Primary 5-6). For values and leadership attributes, pupils are assessed on a 5-point scale based on the pupils' extent of demonstration of these qualities. For 21CC, pupils are assessed on a 5-level competency scale based on proficiency descriptors. Samples of the progressive design of the assessment of a value and leadership attribute are provided in Figures 2 and 3. A sample of a Primary 5 and 6 assessment rubric for a 21<sup>st</sup> century competency is provided in Figure 4.

Level	Commitment - responsible, persevering and gives one's best	Level of rating (from Pri 1 to Pri 6)
P1 and P2	<ul style="list-style-type: none"> <li>We do our best in whatever we do.</li> <li>We take care of our belongings and the school environment.</li> </ul>	5 – Student demonstrates very strongly this quality 4 – Student demonstrates strongly this quality
P3 and P4	<ul style="list-style-type: none"> <li>We do our best in whatever we do.</li> <li>We take care of our belongings and the school environment.</li> <li>We are responsible for our own learning.</li> <li>We do not give up when faced with difficulties.</li> </ul>	3 - Student demonstrates adequately this quality 2 - Student demonstrates to some extent this quality 1 - Student demonstrates to a little extent this quality
P5 and P6	<ul style="list-style-type: none"> <li>We do our best in whatever we do.</li> <li>We take care of our belongings and the school environment.</li> <li>We are responsible for our own learning.</li> <li>We do not give up when faced with difficulties.</li> <li>We are good role models.</li> <li>We conduct ourselves in a manner that will bring honour to the school.</li> </ul>	

Figure 2: Sample of the progressive design of the Values Assessment (Commitment)

Level	Leads by example	Level of rating (from Pri 1 to Pri 6)
P1 and P2	<ul style="list-style-type: none"> <li>We carry out our duties responsibly and independently.</li> <li>We are exemplary in our behaviour.</li> </ul>	5 – Student demonstrates very strongly this quality 4 – Student demonstrates strongly this quality 3 - Student demonstrates adequately this quality 2 - Student demonstrates to some extent this quality 1 - Student demonstrates to a little extent this quality
P3 and P4	<ul style="list-style-type: none"> <li>We carry out our duties responsibly and independently.</li> <li>We are exemplary in our behaviour.</li> <li>We are fair and treat everyone equally when carrying out our duties.</li> <li>We are able to balance our studies with other commitments.</li> </ul>	
P5 and P6	<ul style="list-style-type: none"> <li>We carry out our duties responsibly and independently.</li> <li>We are exemplary in our behaviour.</li> <li>We are fair and treat everyone equally when carrying out our duties.</li> <li>We are able to balance our studies with other commitments.</li> <li>We motivate and mobilise our peers to do what is right.</li> </ul>	

Figure 3: Sample of the progressive design of the Leadership Assessment (Leads by Example)

CRITERIA	Level 1: Developing ☺	Level 2: Competent ☺☺	Level 3: Meritorious ☺☺☺	Level 4: Exemplary ☺☺☺☺	Level 5: Outstanding ☺☺☺☺☺
Collaboration	Dimension 1: Effective Group Process - Work with team members to set group goals and tasks according to instructions given by teacher  - Communicate own ideas clearly	Dimension 1: Effective Group Process - Work with team members to set group goals and tasks according to instructions given by teacher  - Communicate own ideas clearly and listen respectfully	Dimension 1: Effective Group Process - Work with team members to set group goals and tasks with some guidance from teacher  - Communicate own ideas clearly, listen respectfully and consider other points of view	Dimension 1: Effective Group Process - Work with team members to set group goals and tasks  - Establish group processes as well as monitor the group's progress with minimal guidance from teacher  - Communicate own ideas clearly, listen respectfully and consider other points of view  - Ask questions to clarify thinking	Dimension 1: Effective Group Process - Work with team members to set group goals and tasks  - Establish group processes as well as monitor the group's progress independently  - Communicate own ideas clearly, listen respectfully and consider other points of view objectively  - Ask questions to clarify thinking and offer constructive feedback
	Dimension 2: individual and Group Accountability of Learning - Closely guided and monitored by teacher and focused mainly on fulfilling individual responsibilities to complete given tasks	Dimension 2: individual and Group Accountability of Learning - Guided and monitored by teacher and focused mainly on fulfilling individual responsibilities to complete given tasks	Dimension 2: individual and Group Accountability of Learning - Account for completion of individual assigned tasks with minimal guidance from teacher as well as help group members achieve group goals	Dimension 2: individual and Group Accountability of Learning - Account for completion of individual assigned tasks independently as well as help group members achieve group goals while taking on different roles and tasks within the group	Dimension 2: individual and Group Accountability of Learning - Account for completion of individual assigned tasks independently as well as help group members achieve group goals while taking on different roles and tasks within the group  - Reflect on group and individual learning process

Figure 4: Sample of the Primary 5 and 6 21<sup>st</sup> CC Assessment (Collaboration)

## **Context of Assessment**

### Values and Leadership Attributes

Character and leadership education are infused throughout the curriculum and co-curriculum through our 2E-2R approach of Explicit Teaching, Reflection, Role-Modelling and Experience. Values and leadership attributes are explicitly taught in the curriculum and through teachable moments. They are also internalised and caught through role-modelling, reflection and shared experiences such as service to the school and community, leadership responsibilities, co-curricular activities and project work.

The assessment of pupils' demonstration of values and leadership attributes is conducted by form and co-form teachers, with inputs from subject and Co-Curricular Activity teachers. The assessment is based on the teachers' observations of and interactions with the pupils over the course of the entire year. To ensure consistency of assessment standards across different teachers, a standardisation exercise is carried out before teachers assess their pupils - teachers discuss specific examples of evidence for the assessment ratings of selected pupils who are given level 3, 4 and 5 ratings (very strongly, strongly and adequately) for the demonstration of values and leadership attributes. Professional dialogue about the assessment criteria leads to a shared understanding and contributes to a more uniformed interpretation of standards by the assessors (O'Conner, 2007).

### 21CC

The development of 21CC is infused across the curriculum and assessed in an authentic context through place-based, problem-based Integrated Project Work (IPW). Pupils engage in innovation and service learning through IPW and the learning experience is designed to provide opportunities for pupils to demonstrate self-directed learning, collaboration, critical and creative thinking skills. Pupils work in groups, applying their knowledge and skills to create new value – solutions, creative writing and artworks – to advocate for and/or address authentic community issues. For example, Primary 5 pupils conduct fieldwork at community organizations. They then create inventions that solve practical problems faced by these community organisations. Primary 4 pupils study issues connected to the themes of identity, heritage, nationhood and globalization in an inter-disciplinary museum-based programme designed by the school. After the museum visits, our pupils create contemporary artworks and stories that address one of the themes that resonates most with them. At the end of the IPW journey, pupils present their creative work and solutions to peers, teachers, parents and representatives from government and community agencies.

Evidence of pupils' demonstration of 21cc is collected through teachers' observations of pupils' interactions during group work and Web 2.0 tools (Google docs) which document pupils' setting of group and individual learning goals and tasks, generation and improvement of ideas, monitoring of progress and constructive feedback on their peers' work. The school involves pupils in self and peer assessment (captured via Google docs) and the writing of reflection logs to encourage them to be self-directed learners who take responsibility for their learning. Pupils complete the self and peer assessment checklists after each stage of IPW. Involving peers as critical mirrors in the assessment journey through the provision of constructive comments will enable pupils receiving the feedback to deepen their thought processes and be more self-directed in their learning (Brookfield, 1997).

In assessing 21CC, teachers take into account both the quality of the final product as well as the process pupils went through to create the final product. Assessment of 21CC demonstrated during the IPW process is conducted based on evidence collected from the teachers' observations of group work and the 21CC documented in the Google docs, including information from the self and peer assessment checklists. Samples Google Docs are provided at Annex A. At the beginning of the IPW process, teachers supervising IPW are briefed on the expectations and what to look out for during each activity. To ensure consistency of assessment standards, the teachers also conduct a standardization process similar to that for values and leadership attributes nearing the completion of the IPW process.

### **Impact of Assessing Values, Leadership and 21CC**

Data from the assessment of values, leadership and 21CC allows the school to evaluate key pupil outcomes and improve programmes to support pupils' holistic development. It enables the school to evaluate the extent to which pupils demonstrate the desired character and leadership qualities and 21CC and plan development opportunities to address areas for improvement.

The information gathered from the different modes of assessment of values, leadership and 21CC provides pupils with specific feedback on their strengths and areas for development. It also provides opportunities for them to engage in reflection and develop their social-emotional awareness as they progress from Primary 1 to Primary 6. Qualitative data from pupil reflections and teacher feedback indicate that pupils have internalized the qualities that the school seeks to develop in them.

*We have learnt that completing our project needs a lot of creativity, cooperation. The project is fun, exciting and we need to think how to do different things like editing and inserting photographs. The project encourages us to get along with one another especially when we discuss and share ideas. We like working with our different groups. ... We cannot wait to find out what we are doing to do in our IPW next year. Hopefully, it's going to be as exciting and fun as this year's!*

Alesha, Alexandra, Clarice, Faith, Sa'adiqah and Shariffah, P3  
Kindness (2013)

*In my opinion, the P5 Science Inno-Fair is one of the best projects our school has. We were not only able to help the society but also we learnt how to work together. Through the process, we learnt about commitment and cooperation.*

Irdina Maztura, Primary 5 Charity (2013)

*The IPW has been a very meaningful experience for us. We learnt to put ourselves in the shoes of others and consider their needs. We are glad to be able to design many solutions to the problems presented and hope one day these solutions will become real, practical inventions that could solve the problems individuals face in their day-to-day living.*

Class of 5 Grace (2013)

*The IPW allows pupils to develop 21<sup>st</sup> century competencies ... to be independent learners and creative and critical thinkers. Pupils showcased their innovative thinking and flair for presentation. The IPW also allowed them to think creatively in an authentic problem-based context and at the same time give back to the community.*

Mdm Evelyn Teo, Head of Department, Science (2013)

*The project gave many pupils opportunities to be leaders taking on different roles and they learned to work together accepting each other's differences.*

Ms Sharene Foo, Teacher (2013)

## **Conclusion**

Through the process of teacher, peer and self-assessment, pupil reflections and the evidence collected through Web 2.0 tools, Haig Girls' School has sought to make the intangible tangible. The assessment of values, leadership and 21CC in our school context has enabled us to know and develop our pupils in a wider range of developmental domains and provide feedback for them to grow as self-directed learners who take responsibility for their personal development.

## **References**

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Annex A:

	A	B	C	D	E	F	G	H	I
1	Timestamp	Group No	Leader	Assistant Leader	Timekeeper	Errand Monitor	Work Manager (for groups with 5 pupils)	Group Learning Goal 1	Group Learning Goal 2
4	1/19/2012 12:46:07	Group 4				I hope to learn how to appreciate art, and learn more about contemporary, global and nationhood.		we hope to appreciate art, and understand contemporary art.	we hope to identify art and learn more about different kinds of art.
5	1/19/2012 12:46:15	Group 4	I want to learn different types of art and understand contemporary art						
6	1/19/2012 12:46:17	Group 1		I hope to identify the different types of artworks there					
7	1/19/2012 12:46:27	Group 1			I want to learn more about Contemporary Art and the history of singapore.				
8				I hope to learn how				we hope to be able to create a huge	

Sample of Google Doc (Setting Individual and Group Goals)

4G Group Feedback 2013				
You are using a version of Internet Explorer which is unsupported. Some features may not work				
A	B	C	D	E
1	Timestamp	Group:	Magnetic	Relevant
5	5/28/2013 11:51:18	Group 1	3	3
6	5/28/2013 11:51:31	Group 4	4	3
7	5/28/2013 11:52:26	Group 3	4	4
8	5/28/2013 11:52:34	Group 9	3	4
9	5/28/2013 11:52:37	Group 6	3	3

Group Comment

Your introduction is quite short but it really attracts me to it and I really want to find out what is going to happen later after they look inside the shining bright. Well done!

It is better if you type ' woke up with a jolt', no need to write ' we-', ' my friends and I' will do. Modern spell wrongly. But the introduction is still great !

It is very clear. The introduction describes how they felt (by shreya). It is completely relevant to the story but i would like to know how they got there in the first place (by denise). line 1 'strolling whistling' ? but overall nice introduction

The introduction were very creative and attractive. It is also very interesting!!!

Sample of Google Doc (Group Feedback)