

One of the world's "most innovative science-education programmes"
- *NATURE* VOL 523, 16 JULY 2015



Singapore Quality Award with Special Commendation
Executive Summary Report 2016

SUSTAINED GLOBAL LEADERSHIP





48 WORLD CHAMPIONSHIP TITLES TO DATE

Between 2006 and 2010, HCI students won a total of 15 World Championships in innovation, creativity, science research, mathematics, future problem-solving, music, culture and the arts.

Over the last six years, 33 more World titles have been added.



TOPPING THE WORLD'S BEST UNIVERSITIES

In 2009, six HCI alumni topped their cohorts in some of the world's best universities.

Over the last five years (2011-2016), 20 more Hwa Chong alumni have achieved this honour, bringing the total to 26 alumni topping world-class institutions like Harvard, Princeton, Cornell, Brown, Stanford, Oxford, Cambridge, Imperial, Shanghai Fudan, WestPoint, and the US Naval Academy.



GLOBAL LEARNING ALLIANCE

In 2012, HCI partnered Columbia University Teachers College and Scarsdale Public Schools (a top-performing district in New York) to establish a Global Learning Alliance (GLA). The aim is to set new global benchmarks in innovative curricula, assessment and pedagogical practices that transcend TIMSS and PISA.

The GLA involves some of the world's most innovative schools from the highest performing nations, including Australia, Canada, China (Shanghai), Finland, New Zealand, Singapore, Sweden, and the United States.



GLOBALLY RECOGNISED HWA CHONG DIPLOMA

Launched in 2008, the Hwa Chong diploma assesses students' development holistically. To date, 19 leading universities locally and abroad have welcomed the diploma for admission purposes, including the NTU-Imperial College School of Medicine and China's top three universities – Peking, Tsinghua and Fudan.



GLOBAL STUDENT LEADERSHIP SUMMITS

Annually, Hwa Chong students organise several global leadership summits. These include the Student Leaders Convention, Asia Youth Chinese Forum, International Science Youth Forum involving close to 30 Nobel Scientists and Fields Medallists between 2009 and 2016, as well as the Hwa Chong Asia-Pacific Young Leaders Summit with cabinet ministers and industry captains.



WORLD-CLASS BICULTURAL EDUCATION

HCI is the first and only school in Singapore to set up the Hwa Chong-Beijing Satellite Campus. Currently, it hosts a sustained and durable immersion programme in eight other cities in China.

Between 2011 and 2015, HCI produced a record of 50 students admitted to the renowned Peking and Tsinghua universities.

1919

1st Chinese-Medium Secondary School

1974

1st Government-Aided Junior College

1979

1st Nine Special Assistance Plan (SAP) Schools

1980

1st Singapore School to implement the Humanities Programme

1988

1st Three Independent Secondary Schools

1990

1st Singapore School to implement the Language Elective Programme (Chinese)

1999

1st Singapore School to implement the Consortium System

2004

1st SAP School to implement the Integrated Programme (IP)

1st Independent Junior College

2005

1st IP School formed from a merger

1st Independent School to pioneer the Bicultural Studies (China) Programme

2007

1st Singapore School to set up a satellite campus in Beijing

1st Singapore School to set up the Ong Teng Cheong Leadership Centre

1st Singapore School to set up a Centre for Pedagogical Excellence

2008

1st and only Independent School to be accorded a Future School

1st Singapore School to set up a Science Research Centre

1st IP School to award the Hwa Chong Diploma

1st Singapore School to set up a Centre for Scholastic Excellence

2009

1st Five IP Schools to pioneer the Integrated Boarding Programme

1st and only Singapore School to co-organize the International Science Youth Forum involving Nobel Prize-winning scientists

1st and only Singapore School to be featured as among "some of the world's most innovative schools" by the *South China Morning Post*

1st and only Singapore School to produce Harvard University's "Most Promising Graduate"

2010

1st GCE A-Level IP School in the country to be conferred the Singapore Quality Award for achieving world-class standards of excellence in education

2011

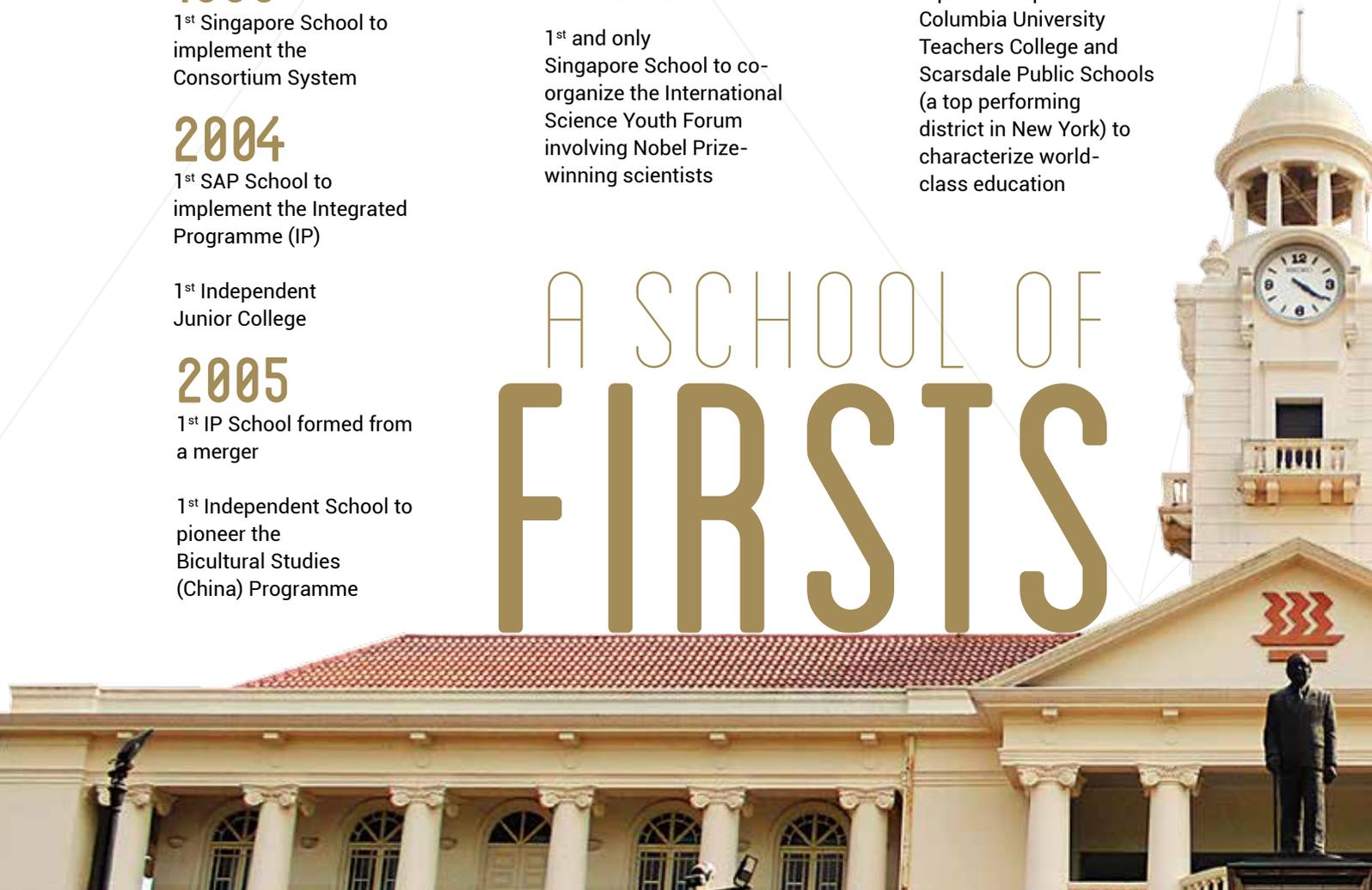
1st Singapore School to set up two winter campuses in Suzhou and Xi'an

2012

1st Singapore School to be a founding member of the Global Learning Alliance:

A partnership with Columbia University Teachers College and Scarsdale Public Schools (a top performing district in New York) to characterize world-class education

A SCHOOL OF FIRSTS



2013

1st and only Independent IP School to embark on Future School Phase II

Established Gifted and Talented Education (GATE) Programme

2014

1st Singapore School to produce half of the 28 Singapore winners for the coveted Angus Ross Prize

Celebrated 95 years of Educational Excellence

2015

1st and only Singapore School to produce 50 students admitted to Peking and Tsinghua universities, 2011-2015

1st and only Singapore School to co-develop international benchmarks for 21st-century teaching & learning, with Columbia University Teachers College and Scarsdale Public Schools, fully-funded by Economic Development Board and GlaxoSmithKline

1st and only Singapore School to produce 48 World Championship titles to date, in innovation, creativity, science research, mathematics, future problem-solving, music, culture and the arts

1st and only Singapore School showcased in *Nature* as one of the world's "most innovative science-education programmes"

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Foreword by

DR. HON CHIEW WENG

The Principal of
Hwa Chong Institution



Introduction

Hwa Chong Institution is honoured and humbled to be the first school and sole organization in 2016 to be conferred the Singapore Quality Award with Special Commendation (SQA SC). This award is an affirmation of our sustained global leadership in education and a recognition of our efforts to scale greater heights of excellence over the past five years since being awarded the Singapore Quality Award in 2010. We would not have been able to achieve global standards of excellence without the dedicated support of many stakeholders and partners. I would first like to express my gratitude to the Hwa Chong Board of Directors, Board of Governors, the Ministry of Education, partners, alumni, staff, parents, students and the Hwa Chong community for their unwavering support.

HCI's mission

It gives me great pleasure to share in this Report the ingredients that have powered Hwa Chong from strength to strength. For over 97 years, we are proud to have nurtured countless enterprising servant leaders with a sense of purpose, passion, and compassion. Representing the best of East and West, generations of Hwa Chong students have remained steadfast to the school's core values of giving back to society. As Singapore progresses and evolves, our plans for the future will also transform as we continue in our mission to groom leaders for the nation, and provide a talent pipeline for the country.

HCI's four factors of success

Four key factors have contributed to our success. Firstly, the concept of servant leadership focuses on **enabling and empowering** our staff to push the boundaries of educational innovation. Secondly, we have developed a strong **research and innovation culture** over the last 25 years that provides a conducive environment for teachers and students to conduct advanced scientific and social science research involving global and social issues. Thirdly, our **vast global network of partners and alumni** creates an international repository of knowledge and expertise from which our students can learn. With their invaluable real-world expertise, our industry and research partners bring with them well-honed experience in their varied fields. Our alumni's willingness to share and to inspire their juniors creates a virtuous cycle of learning and service that is ingrained in every Hwa Chongian. Fourthly, the presence of **bold and visionary leaders** ensures that key management systems and processes drive the school's culture of excellence.

HCI's distinguishing feature

Hwa Chong Institution distinguishes itself from other top educational institutes in Singapore through a rigorous and consistent investment in people. We pride ourselves on a **unique and personalized curriculum** for students that nurtures critical thinkers and problem-solvers. This is evident in how Hwa Chong students have brought home **48 world championship titles to date** that span across various disciplines, from community problem-solving to the sciences and the humanities. Among teachers, a culture of excellence and innovation drives teaching and learning. Hwa Chong teachers have carried out **over 100 doctoral-and-master level research projects**, and more than **80% of our teachers hold advanced degrees** from leading universities, including NUS, NTU, Harvard, Imperial College, Oxford, Cambridge, Fudan, and UWA.

HCI and the 21st-century

As Singapore moves into an era marked by greater volatility and dynamism, we are mindful of the need to nurture a **new generation of entrepreneurial talents** to be able to innovate and solve future challenges. To prepare students for life, work and citizenship in the global age, Hwa Chong developed the **Global Literacies Matrix (GLM)**. The GLM is an institutional policy framework that informs how we approach 21st-Century teaching and learning. Building upon our Hwa Chong holistic education model, the GLM maps out capacities and dispositions that define the contemporary global citizen while providing a reference point and meta-language by which the school designs all its curriculum goals and programme objectives. Hwa Chong Institution is also part of the **Global Learning Alliance** which brings together the world's most innovative schools in top-performing countries like Australia, China, Denmark, Finland, Hong Kong, Sweden and the United States. Cross-border collaborations with top schools continue to place us at the forefront of educational change and innovation.

Rooted in tradition

Underpinning our efforts is a strong and unwavering belief in a life of meaning and service. Hwa Chong continues to cultivate a **culture of giving** among our students and alumni, and emulate the spirit of our founders, Tan Kah Kee and Lee Kong Chian. It is our hope that our students and alumni contribute actively to society, to live with passion and lead with compassion.

Concluding remarks

The SQA with Special Commendation is as much a recognition of our efforts as it is an encouragement for us. I am deeply grateful to my teaching and administrative staff, for their dedication to their craft and relentless efforts towards educating our students. Their spirit reflects our ceaseless quest for excellence, and our determination to nurture generations of Hwa Chongians who will create value and wealth for the nation and the world.

“ I am glad that [HCI] holds high the spirit of excellence and service that has become the hallmark of the Hwa Chong schooling experience.”

Message from

MR. THARMAN SHANMUGARATNAM

Deputy Prime Minister &
Coordinating Minister for Economic
and Social Policies



Hwa Chong Institution (HCI) has an illustrious heritage of 95 years. I am glad that it holds high the spirit of excellence and service that has become the hallmark of the Hwa Chong schooling experience. A future of tremendous opportunity, and new challenges, awaits young Singaporeans. Our schools must help prepare them for this future by giving them a well-rounded education, nurturing their interests in both academic and broader areas of endeavor. We must also help them develop the desire to break new ground in different fields, take an interest in the lives of their fellow-citizens, and contribute to society.

These goals were what motivated the introduction of the Integrated Programme (IP) in 2004. HCI was one of the first to offer the IP, a new pathway of learning aimed at broadening student's educational experiences. The school's Science and Mathematics Talent Programme, Bicultural Studies Programme, robust and varied co-curricular activities, and the Grassroots Attachment Programme serve to develop diverse talents and interests, as well as the spirit of service. The school also pioneered its flagship Hwa Chong-Beijing Satellite Campus to provide students with a sustained immersion experience in China, and a boarding programme that enables them to experience living and studying independently in a foreign environment.

Many stakeholders act as bridges and ladders in the students' development. Leaders in research, industry, and government—many of whom with ties with Hwa Chong—inspire and help nurture a new generation of leaders and entrepreneurs: young people with the character to thrive in an innovation-driven century and make society better.

This special commemorative book pays tribute to the school's pioneering spirit, as well as Hwa Chongians' numerous acts of service that have benefitted the community. HCI students, past and present, exemplify the school's enduring philosophy of living with passion, and leading with compassion.

HCI has indeed played a significant role in our evolving education landscape in Singapore. On this happy occasion of its 95th Anniversary, I extend my best wishes and heartiest congratulations to the school, the Board of Directors and Board of Governors, staff, alumni, and students. I am sure you further the spirit and passion of Hwa Chong.



Hwa Chong student-leaders taking a selfie with Deputy Prime Minister Tharman Shanmugaratnam during a grassroots event in Taman Jurong GRC



ORGANISATIONAL PROFILE

Among The World's Most Innovative Schools

Hwa Chong Institution (HCI) has a rich history of over 95 years. Its illustrious heritage can be traced back to 1919 as the **first Chinese-medium secondary school** to be set up in Singapore. Today, Hwa Chong is one of the country's premier Independent Schools. For achieving world-class standards of excellence, HCI was the first GCE A-Level Integrated Programme (IP) School to win the Singapore Quality Award in 2010.

HCI is also at the forefront of educational change and innovation. On 16 Jul 2015, the world's most highly cited interdisciplinary science journal, *Nature* (vol. 523), showcased HCI as having one of the **"most innovative science-education programmes"** globally. The prestigious journal highlighted HCI as an innovative exemplar of what a High School curriculum might look like in nurturing scientists for the 21st-century.

Counted amongst the world's most innovative schools by Hong Kong's *South China Morning Post*, the Institution has grown from strength to strength. Over the last five years (2011-2015), HCI has pioneered many strategic innovations in education. These include being the first and only school to engage close to **30 Nobel Prize-winning scientists and Fields Medallists** to date at its annual International Science Youth Forum, as well as **partnering Columbia University Teachers College** and **Scarsdale** (a top-

performing school district in New York) to define world-class education.

A commitment to excellence is a hallmark of HCI. Its mission is to nurture leaders for the nation, and the Institution prides itself on having produced **56 President's Scholars** to date. Over the past five years, HCI has also produced one of the **highest number of Public Service Commission scholars**. The Hwa Chong IP has a distinctive bicultural and bilingual orientation. As a leading Special Assistance Plan (SAP) School, HCI's role is to help widen the local Chinese language talent pool as well as preserve and transmit the best of Chinese values and culture. And Hwa Chong is a **gateway** not only to **Oxbridge** and the **Ivy League**, but also to **China's most prestigious universities** – Peking, Tsinghua and Fudan.

In many ways, HCI is **'A School of Firsts'**. In 1988, The Chinese High School (TCHS) was the first secondary school to become independent. Being independent created the space for the school to spearhead many educational innovations. In 2004, Hwa Chong Junior College (HCJC) became Singapore's first Independent Junior College. The historic merger in 2005 of TCHS and HCJC created a union that saw the birth of Singapore's first mega school. The merger of two of Singapore's top institutions created a synergy that enabled HCI to break new grounds.

“One of the world's “most innovative science-education programmes.”

Nature, the world's most highly cited scientific journal, on HCI

Vision, Mission, and Values (VMV)

HCI's vision is to **define holistic education** and empower its students to **live with passion, lead with compassion**. Its mission is to **nurture leaders in research, industry and government** to serve the nation.

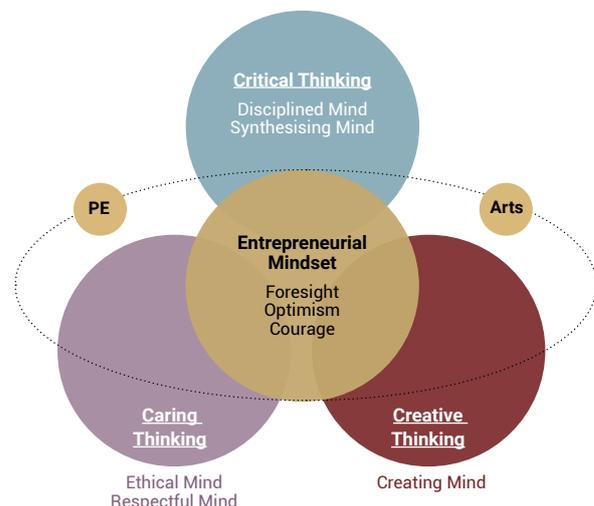
Underlining HCI's vision and mission are the **core values** of 自强不息 (tireless self-improvement with tenacity, innovation and passion), **Win-Win**, and 饮水思源 (remembering one's benefactors).

Hwa Chong Holistic Education Model

The Hwa Chong Holistic Education Model is informed by Harvard Professor Howard Gardner's **Five Minds for the Future**. The model places special emphasis on cognitive processes, namely **critical thinking, creative thinking, and caring thinking** (right).

The Critical Thinking component of the Hwa Chong Holistic Education Model aims to foster the development of **Disciplined** and **Synthesising Minds**.

Creative thinking, according to the model, is akin to being innovative and enterprising. It is aligned to Gardner's **Creating Mind** where novel ideas and fresh ways of thinking are applied to old problems to break new grounds. The Creative Thinking component nurtures the Creating Mind. A unique feature of the Hwa Chong model is the inclusion of the **Entrepreneurial Mindset**. Individuals with an Entrepreneurial Mindset have the courage



to take calculated risks and are open to learning from failures.

Caring Thinking entails thinking with one's heart. It is aligned to Gardner's **Ethical and Respectful Minds**. Caring thinkers are clear-headed people who rely on their personal values system to make sound and compassionate judgments. They are also clear

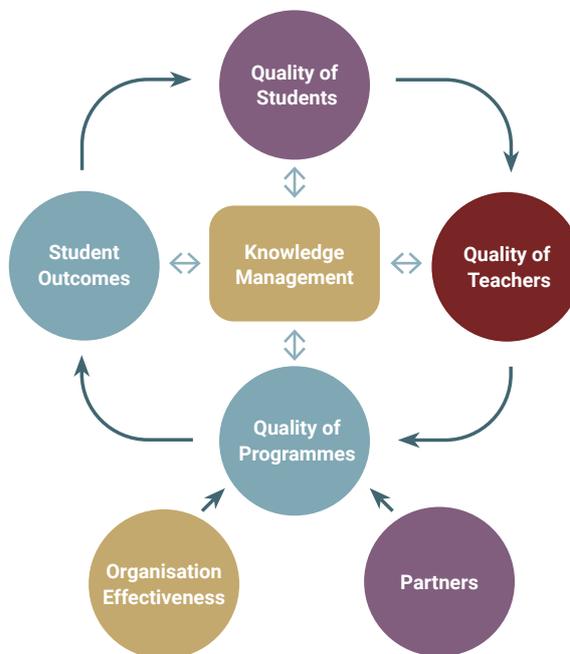
about their role in the wider community and society. A "Molecular Structure" is used to illustrate HCI's Holistic Education Model. The **Arts-Sports** "electrons" provide work-life harmony for students to pursue a healthy lifestyle and have an appreciation for music, culture and the arts.

Hwa Chong Success Model

Hwa Chong's essence is captured by its Success Model (right). It starts with the senior leaders believing that the most important success factor is the **quality of teachers**. Good teachers develop and drive **quality programmes**. Good programmes in turn produce good students who have the capacity and motivation to excel in life. These positive **student outcomes** further attract quality students to join HCI.

Teachers, however, will not be able to excel if they work alone. They need a good team of Executive and Administrative Staff to provide **quality organisational support**. They also need a strong network of **partners** from the industry, universities and governmental agencies to provide strategic support.

The Success Model is a self-perpetuating virtuous cycle of excellence. In 2011, to help teachers and students understand the new strategic direction of the school, the school leaders reviewed and revised the Success Model. The revised model incorporates **Quality of Students** and **Knowledge Management** as key components. It helps to identify the four Strategic Thrusts that are essential to drive the Institution towards achieving its vision and mission. (see Table 1.1.2A)



Products & Services

Flagship Programmes, Signature Events

Over the years, the Institution has established 'Flagship Programmes' and 'Signature Events' to enhance student experience. Flagship programmes are integral to the school curriculum and sustained throughout the year. They define HCI as a premier Independent School offering a distinctive IP.

Signature events are well-established school events that have significant impact on students. The aim here is to nurture leadership excellence and encourage students to live with passion and lead with compassion.

FLAGSHIP PROGRAMMES	
High School	College
<ul style="list-style-type: none"> • Humanities Programme • Science and Mathematics Talent Programme • Bicultural Studies Programme • Chinese Drama for Lower Sec Students • Art Elective Programme • Projects Competition 	<ul style="list-style-type: none"> • Humanities Programme • Science and Mathematics Talent Programme (including Centre for Talent Development programme (CenTAD) and the School Scientist Programme) • Bicultural Studies Programme • Language Elective Programme (Chinese) • Art Elective Programme
SIGNATURE EVENTS	
High School	College
<ul style="list-style-type: none"> • Asia-Pacific Mathematical Olympiad for Primary Schools • Student Leaders Convention • THIMUN@SG • Model ASEAN Summit • Hwa Chong Sabbaticals • Hwa Chong-Beijing Satellite Campus 	<ul style="list-style-type: none"> • Hwa Chong Asia-Pacific Young Leaders Summit • International Science Youth Forum@Singapore • Grassroots Attachment Programme • 黄城夜韵

Employee Profile

Hwa Chong teachers are **leaders in their fields** and **experts in their subject areas**, and fully committed to seeing our students succeed. **About 80% of the Institution's 368 teachers hold advanced degrees** (Honours or higher) from leading universities, including NUS, NTU, Harvard, Imperial College, Oxford, Cambridge, Fudan, and UWA. A sizable number are scholarship recipients from the Public Service Commission, local universities and Fulbright Singapore. Currently, 92% of our teachers are direct staff,



Fulbright Scholar and HCI English Literature teacher, Ms He Jiawen (top), earned a Master of Education degree from Harvard University in 2014

and about 25% are either ex-students from TCHS, HCJC and/or Nanyang Girls High School. In 2012, an alumnus won the HCI teaching scholarship to Shanghai Fudan University. This same individual **topped his cohort at Fudan** in 2015.

In 2013, another teacher won the **Fulbright fellowship to Harvard's Graduate School of Education**. In 2014, yet another teacher won a **teaching fellowship to Teachers College, Columbia University**.



The new Hwa Chong Holistic Education Centre – a powerful symbol of the school's commitment to realising its vision of defining holistic education

Major Facilities

Built on a 29-hectare (72 acres) landscaped site, the comprehensive HCI campus boasts a top-class sports complex, Olympic-sized swimming pool, gymnasium, shooting range, and outdoor courts.

In line with its vision and mission, the school is the first institution in Singapore to build a **Holistic Education Centre** (in 2015), a state-of-the-art **Science Research**

Centre, and the **Ong Teng Cheong Leadership Centre**.

In addition, the campus houses a modern boarding school that is designed by the world renowned Kenzo Tange. It can accommodate up to 1,000 students. As a socially responsible institution, HCI has begun greening its campus, not least with the installation of solar panels.

Relationship With Parent Organisation

As a publicly-funded Independent School, the Institution has autonomy over its own programmes in achieving the educational outcomes. These outcomes are aligned to the Ministry of Education's (MOE) policies. The Ministry tracks the Institution's

progress through several channels such as the School Excellence Model (SEM) Report, IP Report, School Climate Survey and Quality of School Experience surveys.

Relationship With Customers

HCI's **customers** are **students aged 13 to 18** (Years 1-6). The Institution has close to 4,000 students across six levels, and two main insertion points: Year 1 and Year 5. At Year 1, HCI admits 400 students who are within the top 5% of the national cohort based on the Primary School Leaving Examinations (PSLE). These High School students, together with about 400 students from NYGH, flow through to the College Section at Year 5. The Institution also receives about 300 Singapore-Cambridge GCE O-Level students from leading non-IP schools who join HCI at Year 5. All students graduate after completing the Singapore-Cambridge GCE A-Level Examinations.

Hwa Chong students have excelled on the world stage. **Between 2011 and 2015, a total of 1,803 offers to HCI students were made by some of the world's best universities**, including Harvard, Yale, Princeton, MIT, Stanford, Cornell, Brown, UC Berkeley, UCLA,

Chicago, Oxford, Cambridge, Imperial, and University College, London (UCL). In the same period, no fewer than **50 students were admitted to two of China's most prestigious universities, Peking and Tsinghua**.

Between 2009 and 2016, a total of 26 Hwa Chong alumni topped **Harvard, Princeton, Stanford, Cornell, Brown, Cambridge, Oxford, Imperial, UCL, KCL, LSE, Fudan, West Point and the US Naval Academy**.

Between 2006 and 2016, Hwa Chong students have attained a total of **48 World Championship Titles**. These include winning six **Angus Ross prizes** over the last eight years (2008-2015). Chosen from among 11,000 GCE A-Level scripts worldwide, the coveted H2 'Literature in English' prize is given to the top non-British student. To date, HCI has **produced half of Singapore's 28 Angus Ross prize winners**.

Relationship With Partners

The Institution has forged partnerships with **more than 100 schools and universities in over 20 countries across five continents**. The network of partners includes global companies, leading governmental agencies, top universities and research institutes.

The school's partners include **GlaxoSmithKline, 3M and Intel**, as well as local government agencies such as the **Economic Development Board, Defence Science Organization**, and the Singapore University of Technology and Design. The fields involve Mechatronics, Biochemistry, Energy and Conservation Science, Optics, Data Analytics, and Infocomms. These special tie-ups impact students positively and are an integral part of students' development.

Competitive Environment

Over the last five years (2011-2015), HCI has one of the lowest Singapore-Cambridge GCE O-Level L1R5 cut-off scores amongst all junior colleges and one of the most stringent PSLE cut-off scores amongst comparable IP schools. This attests to its strong market dominance. The Institution has to take advantage of its distinctive

HCI regularly draws insights on key global challenges and the future of education by engaging eminent thought leaders, such as **Pulitzer Prize-winning and New York Times author Thomas Friedman**, Harvard Professor **Howard Gardner**, Harvard Professor and **Finnish Director-General of Education Pasi Salhberg**, Nobel Prize-winning scientists, **MIT professor Daniel Hastings**, **Columbia University Professor Ruth Vinz**, Dean of the Lee Kuan Yew School of Public Policy, **Professor Kishore Mahbubani** (a top-50 world thinker in 2014), then Ministry of Trade and Industry Second Permanent Secretary Chee Hong Tat, and DBS Wealth Management and Consumer Banking Managing Director and Group Head, Ms Tan Su Shan.

strengths by drawing from the best of the East and West in providing a comprehensive and quality bicultural education. Providing the best educational experience for its students is a key factor in determining Hwa Chong's future success.

Strategic Challenges & Organisational Directions

Moving forward, with its distinguished history and pioneering spirit, HCI can make important contributions in three main areas: (a) global excellence; (b) values and inclusiveness; and (c) active learning.

(a) Global Excellence. HCI will continue to enhance its traditional strengths to foster a culture of global excellence. To remain one of the peaks of excellence in Singapore's education system, the Institution is strengthening and deepening its partnership with **Columbia University Teachers College** and one of the **top school districts in the US (Scarsdale Public Schools, New York)** to form a **Global Learning Alliance (GLA)**. Established in 2012, the GLA includes some of the world's most innovative schools from Australia, Canada, China, Finland, New Zealand, Singapore, and the United States. The aim is to set new global benchmarks – that complement TIMSS and PISA – for 21st-century assessment, curriculum, and pedagogy.

(b) Values and Inclusiveness. HCI must prepare students for life, work and citizenship in an increasingly volatile and competitive globalised world. Imbued with the school's values like win-win, Hwa Chong students can acquire complex competencies that prepare them to lead effectively in situations characterised by cultural diversity. Core 21st-century capacities, like critical thinking, creativity, communication, and cultural intelligence, thus become important for students to build relationships with others from diverse backgrounds in order to solve

complex global problems collaboratively. Alongside this, the school aims to nurture individuals with a strong sense of citizenship and commitment to serve Singapore.

The school also intends to play its part and take concrete measures to help ensure that all Singaporeans, especially the disadvantaged, have access to quality education. The school has redoubled its outreach efforts to Pri 5 and Pri 6 pupils from disadvantaged homes through working closely with self-help groups such as the Chinese Development Assistance Council (CDAC) and Pertapis Children's Home. The ultimate goal is to help the country create an inclusive meritocracy.

(c) Active Learning. Hwa Chong teachers have, for many years, started using ICT to venture into alternative pedagogies such as Socratic questioning, as well as inquiry-based and team-based learning. With ICT, teachers can move seamlessly from a physical classroom to a virtual learning space. 'Flipped' classrooms engage students in higher-order thinking skills such as problem-solving and creativity, as well as effective communication. Students are also encouraged to take part in independent and collaborative learning. The 'Future School' journey to better engage students in active learning will continue. The ultimate aim here is to nurture critical, creative and caring thinkers, as well as entrepreneurial problem-solvers for Singapore.

SCALING GREATER HEIGHTS OF EXCELLENCE & SUSTAINED GLOBAL LEADERSHIP

Showcased as one of the world's "most innovative Science-education programmes" | 16 Jul 2015

Nature (Vol.523), the world's most widely cited scientific journal

First GCEA-Level IP School to win Singapore Quality Award | 2010

Spring Singapore

Featured among "some of the world's most innovative schools" | 26 Jun 2009

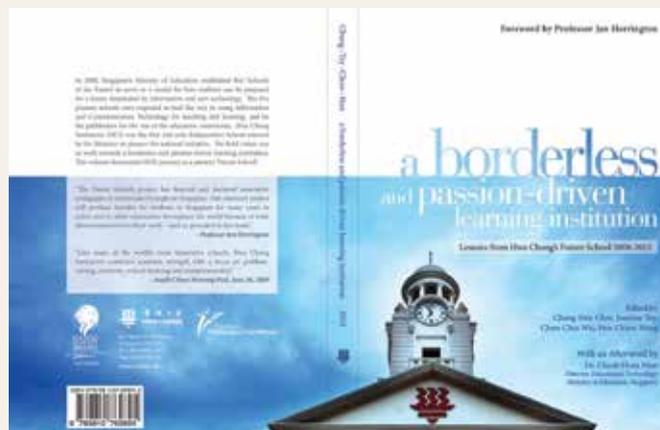
South China Morning Post, Hong Kong's English daily

'Future School' Phase 1 | 2008-2012

- First and only Independent School to be selected
- Visionary project fostering innovative pedagogies
- Official book launch by Minister Grace Fu on 22 Jul 2013: "A Borderless and Passion-driven Learning Institution: Lessons from Hwa Chong's Future School 2008-2012"

'Future School' Phase 2 | 2013 onwards

- First and only Independent IP School to be part of national initiative
- Focus is on (1) preparing students for 21st-century life, work and citizenship; and (2) evolving role of educators



"Among the best public and private schools in the US..."
Wall Street Journal
2004

HCI-NIE-Westport Cross-border Collaborative Research Project on Global Education | 2013-2015

- 3-year research project (2013-2015) by NIE-HCI-Staples High (Westport, Connecticut, US) titled "Education for 21st-Century Global Capacities"
- Involves consulting scholars from Studies in Educational Innovation at Teachers College, Columbia University
- Public seminar on "Educating for 21st-Century Global Capacities" held on 8 Oct 2014 showcasing 3-year comparative, international study on how schools are preparing students for the 21st-century
- Showcased research poster in Redesigning Pedagogy International Conference, June 2-4, 2015

Centre of Global Excellence for Bicultural Education | 2011-2015

- Conferred Singapore Quality Award in 2010 for providing world-class bicultural education
- Between 2011 and 2015, HCI produced a record of 50 students who were admitted to the renowned Peking and Tsinghua universities
- First and only school in Singapore to set up Hwa Chong-Beijing Satellite Campus
- Currently hosts extensive immersion programmes in eight other cities in China including Xi'an, Tianjin, Guangzhou, Xiamen, Guizhou, Wuxi, Shanghai and Hainan

EDB/GSK-funded Global Pilot Project on 21st-Century Teaching & Learning with Columbia University Teachers College and Scarsdale Public Schools | 2015-2017

- Ground-breaking international collaborative study led by global committee comprising leading professors, school leaders and research scholars from Columbia University, Scarsdale and HCI
- To set new global benchmarks in innovative curricula, assessment and pedagogical practices that transcend TIMSS and PISA
- Unique in its global breadth, extensive rigour, and authentic demonstration of what is possible in 21st-century teaching and learning

"bold, new approach to leadership and STEM development"



"...in the nation's top 100 for Math and Science."
US News & World Report

CAAS Aviation in Schools Initiative | 2015-2017

- Aviation Science Programme, e.g. aero-modelling workshops, kite-flying and balloon craft activities, job shadowing with industry, overseas exchange programmes

48 World Championship Titles to date | 2006-2016

- Between 2006 and 2010, HCI won a total of 15 world titles
- Between 2011 and 2015, HCI students won a total of 33 additional world titles. These include the:
 - Harvard-Massachusetts Institute of Technology Mathematics Tournament
 - Stanford Global Innovation
 - Angus Ross Prize
 - Intel International Science and Engineering Fair
 - Intelligent Ironman Creativity Contest
 - 5th World Choir Games
 - Future Problem-Solving Programme International
 - World Scholar's Cup
 - 16th Asean+ Age Group Chess Championships
 - Clean Tech International Competition
 - Purple Comet International Mathematics Competition
 - Eurasian Schools Debating Championship
 - 60th European Music Festival for Young People
 - Dance Grand Prix Italia
 - International Regions Mathematics League
 - World Junior Wushu Championships
 - Festival of Songs Olomouc
 - Barcelona Dance Award
 - International Biology Olympiad
 - Oracle ThinkQuest Competition
 - Global Talentpreneur Innovation & Collaboration Business Competition
 - Odyssey of The Mind World Finals
 - Taiwan International Science Fair

Co-Founder of the Global Learning Alliance | since 2012

- A worldwide platform to forge new international benchmarks in educational innovation for 21st-century teaching and learning
- Involving innovative top schools from the world's highest performing nations, including Australia, Canada, China, Finland, New Zealand, Sweden, Singapore, and the US

Co-Founders:

- Columbia University Teachers College
- Scarsdale Public Schools (a top-performing district in New York)
- HCI, Singapore

Staff Research and Publications in International Peer-reviewed Journals | since 2002

- Staff publications in top-tier international, peer-reviewed journals and book chapters (*Springer*), e.g. *Computers & Education* (2014), *Australian Educational Researcher* (2015)
- Over 288 original research papers published and/or presented by Hwa Chong teachers since 2002
- Over 100 doctoral- and master-level research projects with UWA Graduate School of Education

Distinguished Visitors/Delegates | 2009-2015

Nobel Scientist Sir Richard Roberts (right) engaging HCI student at the International Science Youth Forum (ISYF) 2015.

- Professor Howard Gardner, Harvard (Gifted Education)
- Professor Daniel Hastings, MIT (Scientific Innovation)
- Professor Ruth Vinz, Columbia (Global Education)
- Professor David Hansen, Columbia (Future Education)
- Professor Tony Wagner, Harvard (Educational Innovation)
- Professor Pasi Sahlberg, Harvard/Finnish Director-General (Global Excellence)
- Mr Thomas Friedman, Pulitzer Prize-winning New York Times columnist (Global Excellence)
- Lord Martin Rees, President, Royal Society and Cambridge Professor of Astrophysics
- Mrs Marion Lai, Permanent Secretary of Education, Hong Kong
- His Excellency Nursultan Nazarbayev, President of Kazakhstan
- His Excellency Ildar Khalikov, Prime Minister of Tatarstan
- His Excellency Dr Michael Pulch, European Union Ambassador
- Mrs Rebecca Mielniwocki, US National Teacher of the Year 2012
- Top Finnish school leaders
- Top UK school leaders
- Top Russian school leaders
- Two Award-winning teachers from Sweden (School St Iliansskolan in Enköping)
- MOE Thailand, and Chulalongkorn University
- National Defence University, Washington, US
- African States under the Commonwealth of Learning



HCI alumnus Chen Shuang (L) topped Stanford University in 2014, with Hwa Chong teacher Ms Jocelyn Yan as an invited guest at his commencement.

26 HCI alumni topping the world's best universities | 2009-2016

- **Harvard University (Most Promising Graduate)**
- **Stanford University**
- **Princeton University**
- **Cornell University**
- **Brown University**
- **University of Cambridge**
- **University of Oxford**
- **Imperial College, London**
- **University College, London**
- **London School of Economics**
- **King's College, London**
- **West Point Military Academy, USA**
- **US Naval Academy**
- **Fudan University, Shanghai, China**

Benchmarking of Best Practices

Between 2011 and 2015, HCI has worked with over 30 local primary and secondary schools, tertiary institutions and MOE divisions on educational innovation, new technologies, student leadership, teacher training and development, human resource practices, as well as global partnerships. The local institutions include Raffles Institution, Singapore Chinese Girls' School, River Valley High, Anglican High, Nanyang Girls High, Chung Cheng (Main), Yishun Town Sec, Zhonghua Sec, Xin Min Sec, Nan Hua Pri, Huamin Pri, Singapore Polytechnic, National Institute of Education, as well as MOE Planning, Human Resource Solutions and Capabilities, Educational Technology, and Curriculum Policy divisions.



chapter

1

Leadership

“

*HCI has **bold and visionary leaders** who drive and pilot strategic endeavours and establish structures to achieve intended outcomes.”*

—
MOE Integrated Programme
Study Report 2012

1.1 Senior Leadership



The Institution's school leadership comprises the Principal, five Deputy Principals (DPs) and two Deans overseeing Student Development and Studies across both Sections, as well as the Dean of Corporate Services.

The senior leadership of Hwa Chong Institution (HCI) has been visionary in initiating educational innovation in Singapore. The school leaders understand that as leaders of an Independent School, they have a duty to lead educational change in Singapore and to share their experiences with fellow educators.

1.1 (a) How the organisation's senior management develops the organisation's mission, vision & values, and communicates them to key stakeholders

DEVELOPING VMV

Following from the SQA accreditation process in 2010, the Institution revisited its VMV to align them to its trajectory for the future. The envisioning exercise in 2011 took almost six months to complete, beginning with a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis with key stakeholders, including students, teachers, alumni, key personnel and the Board of Governors (BOG).

A new vision statement was crystallised. The mission statement and core values were retained. The strategic values were tweaked so that teachers

and students are more focussed on the key guiding principles.

The VMV shown in Figure 1.1.1 does not only define Hwa Chong's strategic direction. The school's core values also serve as basic principles to guide all staff and students towards the school vision. They inform daily practices, such as personal behaviour, inter-personal relationships, and decision-making processes. The Strategic Values of **Passion, Integrity, Innovation, Empathy** and **Responsibility** (PIER) serve to reinforce the three core values of the school.

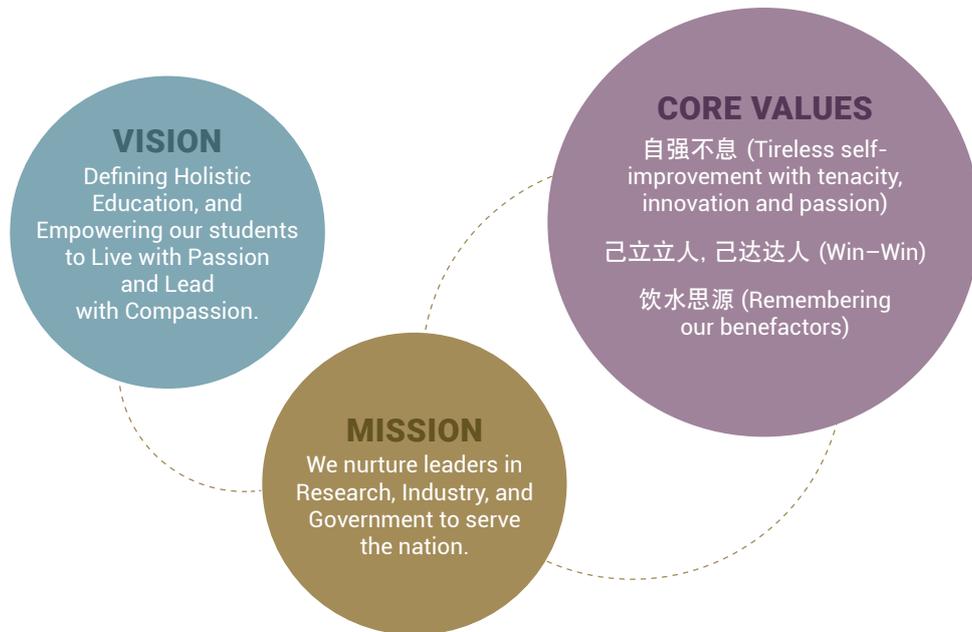


Figure 1.1.1: The Vision, Mission and Values (VMV) of Hwa Chong Institution (HCI)

COMMUNICATING VMV

The Institution consciously and strategically weaves elements of its VMV into school policies, the curriculum, programmes and recognition, e.g. Holistic Education Certificate and Hwa Chong Diploma. The school leaders also communicate, demonstrate and reinforce the VMV through direct interactions, illustrations via publications and webpages, as well as self-reflection on the part of students. The Principal personally presents the VMV to new students and staff during orientation and staff

induction respectively. He also reinforces the VMV in his speeches during important school events like Founders' Day, Awards Presentation Day and Graduation Day. Other school leaders use platforms like staff meetings, Mid-year Review and Year-end Seminars to reinforce the VMV. Students are encouraged to do self-reflection using the school's core values as guiding principles during student-led conferences, project competitions and e-portfolio reflections.

1.1 (b) How the organisation's senior management engages key stakeholders to drive the organisation's performance

a) Demonstrating Clear Leadership and Developing Key Management Systems

To set the pace for the Institution's progress, a committee is appointed to drive each of the four Strategic Thrusts. Each committee is headed by the Principal, a DP or Dean. The driver of each Strategic Thrust is responsible for setting up systems and structures to support operations. S/he appoints key personnel, especially in specific areas deemed important, to help achieve the mission of the

Institution. S/he empowers these key personnel to oversee the running of each of the strategic priorities.

Tables 1.1.1A & 1.1.1B show the management systems and priorities under each Strategic Thrust, which have been identified as key to achieving the desired student outcomes defined in the Strategic Plan 2012-2016.

Strategic Outcomes

- Hwa Chong will develop individuals to become independent thinkers with a sense of purpose and passion to serve, inspire and lead the next generation of Singaporeans.
- Our brand of holistic education, as a model for grooming bicultural and entrepreneurial servant leaders, will benefit the global community.

THRUST 1	THRUST 2	THRUST 3	THRUST 4
Quality of Teachers	Quality of Programmes	Organisation Effectiveness	Strategic Alliances
GOAL 1 To define core capacities in the 21st-century, and to continue to build teachers' capacity and trust.	GOAL 2 To empower students to Live with Passion and Lead with Compassion.	GOAL 3 To enhance support services and to build Knowledge Management to enable borderless learning.	GOAL 4 To consolidate a global network of partnerships that facilitates effective benchmarking.

Table 1.1.1A: HCI's Four Strategic Thrusts

Key Management System and Priorities

THRUST 1	THRUST 2	THRUST 3	THRUST 4
Quality of Teachers	Quality of Programmes	Organisation Effectiveness	Strategic Alliances
HR Committee & Centre for Pedagogical Excellence	College & High School Executive Committees	Organisation Support Committee	College & High School Executive Committees
Strategic Priorities:	Strategic Priorities:	Strategic Priorities:	Strategic Priorities:
<ul style="list-style-type: none"> • Building Capacity • Building Trust 	<ul style="list-style-type: none"> • Talent Development • Reading & Reasoning • Respect & Responsibility • Meaning & Purpose • Sports & Arts for All 	<ul style="list-style-type: none"> • Knowledge Management • Innovation • Organisational Resilience 	<ul style="list-style-type: none"> • Parent Support • Alumni Support • Industry Support • International Collaborations

Table 1.1.1B: HCI's Strategic Priorities

b) Creating a Sustainable School

ORGANISATION CONCEPT: BUREAU-ADHOCRACY

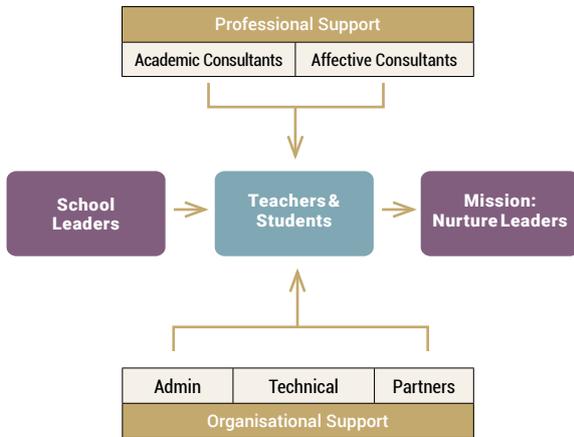


Figure 1.1.2: HCI's 'Bureau-Adhocracy' Organisation Concept

PEOPLE MANAGEMENT PRINCIPLE: EnEGEx

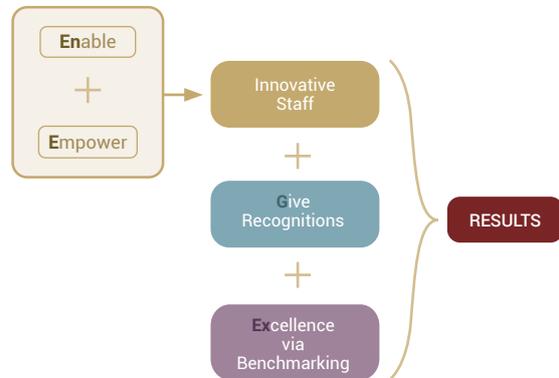


Figure 1.1.3: HCI's People Management Principle EnEGEx

In response to the twin desires for innovation and high-quality services, HCI has adopted a dynamic organisation concept – 'Bureau-Adhocracy' – a hybrid between 'machine bureaucracy' and 'adhocracy'. This organisation concept allows a high degree of autonomy amongst teachers. At the same time, it has clear rules and regulations to govern the organisational support staff in finance, Human Resource (HR), estate, science laboratories and media resources. The organisation concept is illustrated in Figure 1.1.2.

To foster a culture of global excellence, the school leaders strongly believe in enabling and empowering

all staff. By doing so, the school has a sustainable team of highly engaged staff to pursue innovation and excellence. The school leaders have also put in place good systems and processes to recognise deserving staff, as well as proper benchmarking processes to constantly seek improvement. The desired outcomes follow naturally.

This people management principle is named 'EnEGEx' (see Figure 1.1.3), and has been in place for the past 10 years (see Chapter 4, page 25). Bureau-adhocracy coupled with EnEGEx enable strong internal collaborations that create a culture of trust and excellence.

c) Building School Capacity

The school leaders build the capacity of the Institution by cultivating a network of strategic partners to enhance the uniqueness of its flagship programmes and signature events (see Chapter 3, page 19). The

school leaders also seek out strategic partnerships to support each of the Strategic Thrusts. (e.g. partnering Teachers College, Columbia University and the Western Australia Graduate School of Education)

d) Creating and Sustaining a Culture of Open Communication

The senior leaders actively nurture a culture of open communication with all stakeholders. Such a practice is one where staff can walk into the office of any senior leader to discuss ways to improve a situation. Besides an 'open door' policy, the senior leadership holds a

firm belief in empowering staff to make decisions, and hold broader responsibilities. There are various platforms for staff to give their inputs both formal (e.g. review and planning seminars, staff meetings) and informal (e.g. weekly breakfast).

1.1 (c) How the organisation's senior management acts as role models and grooms future leaders

The school leaders firmly believe in the concept of Servant Leadership. Servant Leadership is a predominantly people-centred leadership concept. The concept advocates that leaders put the well-being of their followers before other goals. In other words, the leader has a sense of responsibility and obligation towards his followers.

A good servant leader always asks, "What do people need?" and "How can I help them to achieve their goals?"

The Servant Leadership framework in HCI has three domains. The first domain on people-oriented leadership has three subscales. The other two domains, namely character-oriented leadership and task-oriented leadership, have two sub-scales each. This leadership model is illustrated in Figure 1.1.4.

Under this leadership model, HCI's school leaders reinforce the school values through leading by

example. For example, key members of the school leadership, including the Principal himself, have taken the lead to encourage lifelong learning by pursuing their masters and doctoral degrees.

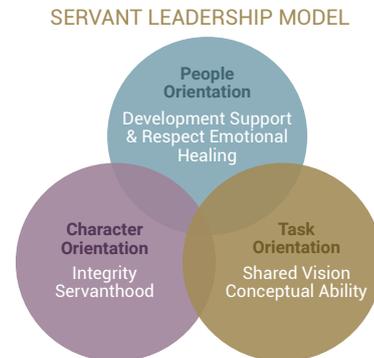


Figure 1.1.4: HCI's Servant Leadership Model

LEADERSHIP SUCCESSION

As part of the future leader-grooming process, the school leaders ensure that there is a leadership succession plan at each level of management. When one school leader retires or falls ill, there is at least one key personnel who can take over the roles and responsibilities of the school leader.

The Institution is constantly striving to stretch officers with high potential to produce well-rounded and values-focussed school leaders. Over the last few

years, the Institution has developed and implemented various HR strategies and policies to manage its talented teaching staff. It has adopted a three-step strategy as follows:

1. Plan for all critical roles, and define the requirements across all levels
2. Identify and develop high-potential staff members
3. Create grooming opportunities (e.g. strategic job rotation, 'stretch projects', mentoring)

1.2 Organisation Culture

1.2 (a) How the organisation aligns its mission, vision and values

The alignment of VMV is done through a quotient-centric model that helps students understand the key success factors in life. The model (see Figure 1.2.1) illustrates the importance of IQ (Intelligence Quotient), EQ (Emotional Quotient), AQ (Adversity Quotient) and MQ (Moral Quotient) in an effective leader who serves the nation. The school leaders have skilfully linked the various quotients to the school values as follows:

- AQ—自强不息
- EQ—Win-Win
- MQ—饮水思源

Even the school's infrastructure and new buildings are designed to support the school mission and vision.



First Science Research Centre in a Singapore school

For example the Science Research Centre (SRC) and Ong Teng Cheong Student Activities and Leadership Training (SALT) Centre were built to help students

develop a passion for science research and leadership respectively. A new Holistic Education Centre (HEC) was recently built to further promote a passion in sports, as well as to encourage innovations in 21st-century teaching and learning.

The performance appraisals as well as reward and recognition systems for both staff and students are designed to promote the school core's values. For example, the HCI Staff Performance Appraisal (SPA) model, as well as selection criteria for the Hwa Chong Outstanding Student Award (OSA) and Hwa Chong Diploma, are aligned closely to the school's VMV and Hwa Chong Holistic Education Model.

Where new staff members are concerned, the four-month Staff Induction Programme serves as a platform for the initial dissemination of VMV and key

information, undertaken directly by school leaders and senior management.



Figure 1.2.1: Quotient-centric Model

1.2 (b) How the organisation enables learning, innovation and the achievement of strategic goals

Empowerment with 'Bureau-Adhocracy' Organisation Structure

HCI has a long-standing culture of empowerment. The Institution has also earned a global reputation of being amongst the world's most innovative schools. To drive organisational change and improvement, the responsibility for innovation is owned by all key personnel. In fact, teachers are at the center of everything we want to achieve in Hwa Chong. This is reflected structurally, where teachers and students form the core of the organisation, and are supported by professional consultants in both the academic and affective domains (see Figure 1.1.2).

Staff research forms the bedrock for innovation. For over a decade now, the school leaders have initiated postgraduate research and structured reviews of programmes. Hitherto, HCI staff are involved in over **100 doctoral- and master-level research projects** with leading universities including the Western Australia Graduate School of Education, National Institute of Education, Harvard, Penn and Peking.

Together with Nanyang Girls' High School (NYGH), HCI also organises the HCI-NYGH Education Conference for over 500 teachers annually. To date, over **288 original research papers have been presented** by Hwa Chong teachers at the various platforms, nationally and internationally.



MIT Professor Daniel Hastings giving his keynote address on Innovation to over 550 teachers during the 2014 HCI-NYGH Education Conference

1.2 (c) How the organisation embraces organisational change for sustainability

In Hwa Chong, a sense of passion and spirit of innovation drives excellence. Passion and Innovation with Integrity, Empathy, and Responsibility drive sustainable and society-enhancing excellence. Over the years, Hwa Chong has broadened its definitions of success beyond the focus on mere academic achievements. Structurally, there is sustained

sharing of good practices and constant reflection at different platforms to ensure that staff members are prepared for future opportunities and challenges. For example, every year, a sizeable number of Hwa Chong teachers present original papers at conferences (both local and international), and professional sharing sessions.

1.3 Corporate Governance and Social Responsibility

1.3 (a) How the organisation establishes a governance system to ensure accountability and transparency

HCI is fully committed to maintaining excellence in corporate governance. As one of Singapore's premier public institutions, excellence, service, and integrity are hallmarks of HCI. The school leaders are directly accountable to both the MOE and its BOG. The BOG comprises 18 members who are representatives of the Board of Directors, MOE, parents, alumni and the Singapore Chinese Chamber of Industries and Commerce. The BOG plays a strategic role in the management of the school. Annually, new plans together with the funding requirements are presented to the relevant committees of the BOG (Personnel, Finance, Building, and Executive

Committees) for approval.

Where staff management is concerned, the Institution has set in place a robust system to oversee personnel matters. The school's HR Committee reviews the school's HR practices frequently to ensure that policies are in line with its people management principle (see Figure 1.1.3). The HR Committee also ensures that policies are not only in sync with national demographic changes, but also future-proof. As and when key policies require amendment, the HR Committee submits policy proposals for endorsement by the BOG Personnel Committee.

1.3 (b) How the organisation implements policies and involves stakeholders to contribute to the community and environment

The promotion of Corporate Social Responsibility (CSR) initiatives is a way of life in Hwa Chong. Responsibility to the wider community is crucial in realising the vision and mission of the Institution. The CSR initiative starts at the very top, spearheaded by the Principal, and is supported by the highest executive committee in the school, the Principal Committee (PCom). In 2011, the school conducted a school-wide survey to determine the focus of the school's CSR. After several rounds of discussions, the staff decided to focus on **enabling under-privileged children**. Subsequently, the school adopted three approaches, two of which involved working with

existing charitable organisations, and the third saw the school working directly with a neighbourhood primary school.

For its sustained and substantial contributions to the wider community, the Institution has received several national awards from various community bodies. In 2015, for its continuous and outstanding contributions, the school was awarded the **'Community Service Award' by Pertapis Children's Home** and the **'Outstanding Partner Award' by CDAC**. This is the highest award given to institutions that have contributed substantially to CDAC's community efforts.



Pertapis and CDAC children having fun at the "Inter-Cultural Creative Thinking Games" co-organised by HCI on 24 June 2015



HCI Principal Hon Chiew Weng receiving CDAC's 'Outstanding Partner Award' from Health Minister Gan Kim Yong on 14 Feb 2015



chapter 2

Customers

“

*Hwa Chong combines the intellectual and imaginative, liberating us from conventional modes of thinking. The **learning environment encourages us to look at our world with an inquiring, critical perspective and a renewed sense of possibility.** This new understanding of our community has inspired me to be an active change maker in society.”*

—
HO RUI AN

HCI Community Service
Award Winner
Education Merit Scholar
in Fine Art, University
College London



“HCI has indeed played a significant role in our evolving education landscape in Singapore. [Its] students, past and present, exemplify the school’s enduring philosophy of living with passion, and leading with compassion.”

Tharman Shanmugaratnam

Deputy Prime Minister & Finance Minister, 2014

HCI provides its students with a unique educational experience. Every Hwa Chong student enjoys a holistic education that emphasises leadership, character building, scholastic excellence and creativity. The school’s mission is to **nurture leaders for the nation**: leaders with a heart to serve the community.

To date, HCI has produced 56 President’s Scholars. Indeed, Hwa Chong is more than a school that produces top scholars. The Institution also wants its students to embrace the values of hard work, integrity, passion, and compassion.

Live with passion. HCI provides a caring environment that is intellectually stimulating, secure, and joyful. It offers a curiosity-driven 6-year Integrated Programme (IP) with a distinctive bicultural orientation. Drawing from the best of East and West, HCI has an extensive global network that links its students to leading universities and industry partners.

Students work closely with professors and researchers (including Nobel Scientists). They are exposed to deep skills and knowledge in their fields of passion and interest. In addition, they benefit from unrivalled local and overseas learning and research opportunities.

Lead with compassion. HCI prides itself on grooming students into entrepreneurial servant leaders who display civic responsibility and empathy. Every year, Hwa Chong students provide support to the needy, as well as companionship to the underprivileged. Many Hwa Chong students have in fact taken the initiative to partner external agencies to helm innovative community projects.



Arturo Neo, one of 56 President’s Scholars from Hwa Chong



HCI has a well-established Science and Mathematics Talent Programme to nurture students’ passion for scientific research, innovation and enterprise



National Service-Learning Champions: HCI students who have made significant contributions to the community

2.1 Customer Requirements

2.1 (a) How the school segments students and understand their current and future requirements

HCI’s students fall within the top 5% of the primary and secondary school-leaving cohort each year, with two main insertion points at Sec 1 and JC1. The Institution offers an array of programmes to cater to their diverse needs and talents. Student requirements are met through segmentation at four levels, as shown in Table 2.1.1.

The Institution’s aim is to inspire its students beyond academic excellence and nurture outstanding

all-round students sought after by top universities worldwide. The composition of skills required for students to thrive in the future is vastly different from the past. In a knowledge economy with easy access to information, students need to be life-long learners. The school has thus dedicated time and effort to equip its students to be future-ready based on its Holistic Education Model.

Segmentation	Focus	Student Requirements/Needs
By age group	<ul style="list-style-type: none"> • Exploration of Interests (Years 1-2) • Development of Passion (Years 3-4) • Consolidation and Peaks of Excellence (Years 5-6) 	<ul style="list-style-type: none"> • At Years 1-2, students are exposed to a general curriculum that allows them to explore various fields of studies. • At Years 3-4, students embark on a sustained and in-depth study of their chosen area of specialisation (see Special Programmes below). The curriculum for the Sciences and Humanities will be broad-based at this point. • At Years 5-6, students consolidate their knowledge and sit for the Cambridge GCE Advanced-Level Examinations. They are expected to be actively involved in community outreach programmes and can initiate major research projects (which could form the basis of their undergraduate studies).
By passion (Special Programmes for Years 3-4)	Science and Mathematics Talent Programme (SMTP) Gifted and Talented Education Programme (GATE) Humanities Programme (HP) Bicultural Studies Programme (BSP) Language Elective Programme (LEP) Art Elective Programme (AEP)	Students with specific interests and passions can choose special programmes that provide greater depth and scope to meet their learning needs.
By learning pace	Structured Integrated Programme (Year 3) O-Level Class (Year 4) Learning Support Programme (Years 5-6)	Teachers are empowered to make local decisions efficiently so as to better respond to the changing needs of students.
By Consortia and Faculties	Aphelion, iSpark, Ortus, ProEd (High School) Apollo, Ares, Artemis, Athena (College)	The unique set-up provides a more holistic, supportive and customised curriculum for students. The Consortia and Faculties are also platforms for peer bonding, and building team-spirit guided by the school's core value of Win-Win.

Table 2.1.1: Segmentation of students at four levels

“Hwa Chong showed me what it meant to be a **part of a community**: to care about the people around you; to want to be **the best you can be**; and to spur everyone to **excel** in their own unique way.”

Leonard Chen

Muriel Fain Sher Memorial Premium
for excellence in undergraduate studies
Brown University

2.1 (b) How the organisation incorporates student requirements into the strategic plans



The Institution is exploring and pioneering new ways to cultivate the core capacities important for the 21st-Century. In response to the changing global

educational landscape, HCI has redoubled its effort to achieving transformational change. It has reframed, repositioned and redesigned its curriculum to **define Holistic Education, and thus Empowering its Students to Live with Passion and Lead with Compassion.**

School programmes and processes are reviewed to equip students with the relevant capacities, bearing in mind their level of development, abilities and passions. Each of the five Deputy Principals leads and is responsible for one Strategic Priority. They set directions, inspire and support effective implementation. Table 2.1.2 shows the rationale for the five Strategic Priorities and their associated innovative outcomes, which are achieved through empowering students and staff.



HCI students with their Bicultural Studies Programme teacher, Dr Wang Dakun, at the Great Wall of China, as part of the overseas immersion at HCI's satellite campus in Beijing



Community involvement in China

Strategic Priority	Innovative Outcome(s)	Rationale
Talent Development	<ul style="list-style-type: none"> • GATE • The Hwa Chong Educator • STEM • SSMT 	<ul style="list-style-type: none"> • To nurture leaders in Research, Industry and Government who can solve future complex problems • To stretch students' potential in cognitive, social and entrepreneurial leadership skills • To prepare students for 21st-century life, career and citizenship
Reading and Reasoning ('Global Literacies')	<ul style="list-style-type: none"> • Reading Programme - Online Time, Online Zaobao • Current Affairs (Debates-High School) • Global Literacies Matrix • Library Programmes • Reading Sabbaticals 	<ul style="list-style-type: none"> • To operationalise the Hwa Chong Holistic Education Model (HEM)
Meaning and Purpose in Life	<ul style="list-style-type: none"> • Positive Education programmes • Student-Led Forum • CCE Digital Portfolios • Students' self-assessment of values • Enhanced Values-In-Action 	<ul style="list-style-type: none"> • To support holistic development of students through three balanced pathways: Joyful Life, Engaged Life and Meaningful Life
Responsibility and Respect (through the Green movement)	<ul style="list-style-type: none"> • Green Council • Green Award • New recycling bin system • Green air-conditioner policy • Clean and Green Week • Use of solar panels and contribution of solar power to national grid 	<ul style="list-style-type: none"> • To facilitate education outreach to students on environmental conservation • To inculcate values of responsibility and respect for the environment
Sports and Arts for All	<ul style="list-style-type: none"> • School-wide photography contests, table tennis (Years 1-2), badminton (Years 3-4) • School-wide appreciation of music, culture and the arts 	<ul style="list-style-type: none"> • To inspire students and staff towards life-long participation in sports and recreation • To provide opportunities for the acquisition of skills in different games • To encourage active participation in physical activities: aerobic-based exercise for at least 30 minutes thrice weekly • To promote Arts appreciation among students

Table 2.1.2: Incorporating student requirements in strategic planning

2.1 (c) How the school designs personalised experiences that delight students and exceed their expectations

The school designs unique educational experiences, through its unrivalled programmes and events, to meet students' diverse needs and capacities.

With its 6-year IP, the school has adopted for its curriculum an integrated cross-disciplinary approach driven by students' creativity, self-direction, and leadership. The school's approach to personalising students' experiences is to communicate salient information about the various Special Programmes. For example, students who are talented in Mathematics in Year 1 receive tutelage from a Mathematics Olympiad teacher during curriculum time.



HCI students host the Nobel Forum with three Nobel Prize-winning scientists at the International Science Youth Forum (ISYF) 2015



Every year, HCI students participate as country delegates at the Annual Session of The Hague International Model United Nations (THIMUN) in the Netherlands. HCI also hosts the annual THIMUN Singapore Conference on campus

The Hwa Chong IP is designed by teachers who have years of experience teaching high-ability students. Preliminary consultative work on its IP was carried out with help from a 34-member International Advisory Panel comprising two Nobel Laureates, distinguished professors from Harvard, Princeton and Cambridge, as well as eminent industry captains.

HCI teachers are equipped with innovative pedagogies. They are also given the autonomy to use suitable teaching strategies to engage students and cultivate skills for success in life.

Some of these pedagogies include Team-Based Learning and Socratic Questioning. To promote self-directed and lifelong learning, the school has designed an Independent Studies module, a compulsory subject for all Year 1-4 students.

A unique feature of the Hwa Chong IP is the Sabbaticals. The Sabbaticals creates opportunities for students to learn beyond their core curriculum. At the end of each school term, High School students can bid for a wide range of multidisciplinary modules (e.g. food and forensic science, design-thinking, debating, and leadership modules).



Budding scientists at work during ISYF 2015



Model ASEAN Summit delegates witnessing the closing ceremony of Model ASEAN Summit 2015



Then Education Minister Heng Swee Keat engaging HCI students during a H2 Biology class where he observed first-hand the Team-Based Learning approach on 14 Apr 2015



The Hwa Chong Choir sang their way to three World Championship titles



Hwa Chong's legendary Mid-Autumn Festival, where thousands of students and alumni congregate annually to celebrate and rekindle old friendships



For Sabbaticals each term, formal lessons are replaced by over 60 enrichment electives spanning a diverse range of interests, from Pharmaceutical Chemistry (top) to 3-D Printing (right) to scuba diving



2.2 Customer Experience

2.2 (a) How the school co-creates products, processes, services or experiences with students to meet their needs



High School student leaders organise an appreciation lunch-cum-special performances for the school's own service and support staff. This simple act of kindness lends credence to the old saying "Charity begins at home"

"Learner-centred pedagogy is commonly practiced." This was one of the key findings of the 2012 MOE IP Study Report on HCI. Indeed, the Institution's pedagogical model encourages shared responsibility in the learning process. The school creates a positive and caring environment which empowers students to take responsibility for their own learning.

Student leaders (High School councillors, Cyberwellness ambassadors) are empowered to create various experiences for peers, e.g. student leaders initiating an appreciation lunch/dinner for migrant MRT workers. Students also run sabbatical modules for their peers.

Every year, there are over 200 student-initiated Values-In-Action projects school-wide. In 2014, the school won the Community Chest Special Events Award (Youth).

College students also source for their own research mentors and real-world projects with industry partners. GATE and SMTP students run electives for peers based on their own areas of interest and passion.

2.2 (b) How the school ensures student feedback is resolved and analysed to drive improvements

HCI has established a time-honoured feedback structure that places students at the centre of school policies and practices.

Student Feedback Channels



School policies and practices are discussed and shaped at the weekly student-led Principal's Assembly dialogues

HCI takes student feedback seriously for improvement and change. Among others, the weekly student-led Principal's Assembly dialogues and Student-Led Forum are important sources of student feedback.

At such platforms, students discuss and shape school policies, programmes and initiatives that affect them directly. For example, during Principal's Assembly, refinements to major policies like school commencement time and assessment protocol have been effected in recent years from students' feedback.

The school also provides multiple online and face-to-face feedback channels for students and their parents.

Student Feedback Management Process and Analysis

HCI has a robust and transparent Customer Feedback Management Process. Feedback received is not only addressed systematically and in a timely fashion. The processes, rationale and outcomes are also articulated to all students. Staff members are kept informed of updates, policy changes and processes through meetings, briefings, in-house training and internal

memos. Figure 2.2.3 shows how feedback are collated by the relevant departments and analysed against each department's strategic thrusts, processes and key performance indicators. Importantly, the school has an open culture for change and innovation, based on students' feedback.

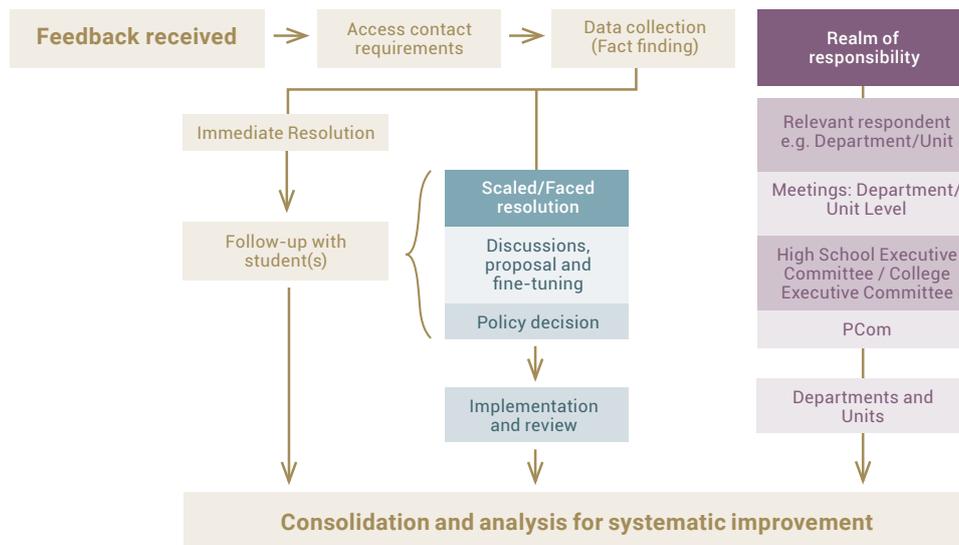


Figure 2.2.3: Student feedback management process and feedback analysis

2.2 (c) How the school provides access for students to seek assistance and information to enhance the student experience

HCI provides easy access for its students to seek assistance and information through various channels. HCI's unique Consortium-Faculty System—operating on a “school within a school” concept—provides a holistic, responsive and supportive learning environment. Each consortium or faculty comprises a team of about

30 teachers with a small cohort of students as their charges. With a smaller student population in each “mini-school”, the nimble system allows for greater autonomy. Staff members know their students better, and are empowered to make local decisions efficiently to better respond to the changing needs of students.

2.2 (d) How the school ensures overall ease of student contact and service standards are set at student touch points

Teachers are the first line of contact for students requiring assistance. And the Institution proactively engages students by ensuring that teachers are kept abreast with developments in the educational landscape and changing student profile. Using online resources (e.g. WhatsApp) and face-to-face contact, systems and processes are in place to ensure that teachers are constantly trained to address students' concerns and resolve issues effectively. The various training platforms in place include its in-house

teacher training and educational research, formal and informal lesson observations, as well as the sharing of best practices at the annual Hwa Chong-Nanyang Education Conference.

HCI has also adopted a structured approach to reviewing the various feedback channels and touch points through the yearly and termly reviews by the Studies and Student Development Committees as well as other Standing Committees, e.g. Principal Committee.

2.3 Customer Satisfaction

2.3 (a) How the school determines and improves student satisfaction for various student segments

HCI monitors and measures students' satisfaction in a systematic manner. It uses quantitative and qualitative feedback from various sources. Students' satisfaction, measured against the needs and requirements, are

determined using tools and platforms like MOE's Quality of School Experience (QSE) surveys and the school's Student-led Forum.

2.3 (b) How the school determines current and future drivers of student satisfaction

To ascertain future drivers of student satisfaction, HCI benchmarks itself against programmes offered by other top schools locally and abroad. It also conducts extensive cross-border research (e.g. 3-year HCI-NIE-Westport project on global education), and regular environmental scan. The Institution has worldwide collaborations with other innovative schools and

leading universities. The aim is to explore potential drivers to enhance students' active learning and holistic development. Such collaborations include HCI's participation in the Global Learning Alliance with Columbia University, SWIFT Forum and learning journeys to institutions such as the Geelong Grammar School in Australia, to name but a few.

2.3 (c) How the school incorporates student satisfaction and feedback into the strategic plans

Inputs on student satisfaction and feedback are evaluated at the highest management level – the Principal Committee. The feedback and research findings are also discussed at various Standing

Committees for strategic improvement and knowledge management purposes. Follow-up actions are communicated to the various levels of management for implementation.

48 WORLD CHAMPIONSHIP TITLES (2006 - 2016)

HUMANITIES

ANGUS ROSS PRIZE 
International Literature Prize 2014, 2013, 2012 (x2), 2007, and 2009

Selected from 12,000 scripts worldwide, this literature prize is awarded to the best performing non-British candidate in the GCE A-Level Examinations. Outstanding responses are judged on maturity of thought and brilliance of expression.

EURASIAN SCHOOLS DEBATING CHAMPIONSHIP 
Best Speaker Award 2014

Featuring 24 international debating teams from around the world, the Best Award Speaker Awas conferred on a HCI student who was part of Team Singapore. Team Singapore also emerged as champions against South Africa in the finals.

WORLDS SCHOLAR'S CUP 
World Champion 2014, Overall Team Championship (Senior and Junior Divisions) 2012, Best All-Round Individual Awards (Senior and Junior Divisions) 2012, World Champion (Individual and Team) 2011, Overall Individual Champion 2010

Bringing together thousands of students from across five continents, this annual academic tournament tests participants' multidisciplinary knowledge across the arts and the sciences.

CREATIVITY

FUTURE PROBLEM SOLVING PROGRAM INTERNATIONAL 
World Champion (Senior Division Champions – Community Problem Solving Category) 2015, and 2016, World Champion 2014 and 2010, Overall Champion 2008, World Champion 2007

About 250,000 students from Australia, Canada, Hong Kong, Japan, Korea, Malaysia, New Zealand, Russia, the US and Singapore compete in this annual competition. 2015's championship win was also accompanied by the prestigious E. Paul Torrance Beyonder Award, for projects that have far excelled beyond what is normally expected of students.

16TH ASEAN+ AGE GROUP CHESS CHAMPIONSHIPS (AAG) 
International Chess Master in 2015

452 youths from 16 countries participated in this prestigious chess competition. A HCI student was conferred Singapore's first individual gold in the Open Under-20 division, making him the nation's first junior to obtain the International Master (IM) title in a decade.

INTELLIGENT IRONMAN CREATIVITY CONTEST 
World Champion 2015 and 2007

Each year, more than 30 teams from countries like Germany, Taiwan, Korea and Singapore take part in this demanding multi-disciplinary competition. Competitors undergo 72 hours of continuous grueling competition in order to fabricate an innovative product requiring knowledge in the Natural Sciences and Social Sciences as well as Physical Fitness skills.

ODYSSEY OF THE MIND WORLD FINALS 
World Champion 2007

Attracting more than 3000 finalists from countries like Australia, China, Kazakhstan, Germany, Poland and the US, this creative problem-solving competition brings together the best minds in their respective states/countries.

DANCE

BARCELONA DANCE AWARD 
World Champion (Choreography) 2010 and World Champion (Ethnic Dance) 2010

Bringing together 22000 dancers worldwide, the Barcelona Dance Award comprises a commission of international experts, critics and representatives from renowned dance companies.

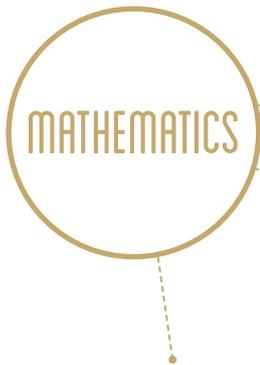
DANCE GRAND PRIX ITALIA 
World Champion 2012

Despite facing stiff competition from about 1100 international participants, our dancers won the championships and also took home additional awards for Best Ethnic Dance, Best Contemporary Piece, and Best Choreography.

WORLD JUNIOR WUSHU CHAMPIONSHIPS 
World Champions 2010 and 2008

The World Junior Wushu Championships is an international sporting event organised by the International Wushu Federation for male and female competitors below 18 years of age. In 2010, the tournament saw over 700 participants from more than 40 countries competing in both the Taolu and Sanda competitions.

SPORTS



HARVARD-MASSACHUSETTS INSTITUTE OF TECHNOLOGY MATHEMATICS TOURNAMENT (HMMT) ONLINE COMPETITION



World Champion 2010

The HMMT is a prestigious annual mathematics tournament for high school students organised by Harvard and MIT. Every year, the tournament sees close to 1000 participants from some of the best international schools, making it one of the largest mathematics competitions in the world.

PURPLE COMET INTERNATIONAL MATHEMATICS COMPETITION



World Champions 2014, 2010, 2009, 2007, and 2006

Competing against established teams from top schools and mathematics circles around the world such as the Thomas Jefferson High School for Science and Technology, San Jose's Sega Maths Academy and Colorado Maths Circle, our students have clinched the championships for 5 years, attaining perfect scores in some years.

INTERNATIONAL REGIONS MATHEMATICS LEAGUE (IRML)



World Champions 2011 and 2009

An extension of the American Regions Mathematical League (ARML) that began in 1976, the IRML invites some of the best and brightest students worldwide to compete in the international competition. It attracts exceptionally talented US students in Mathematics from top schools like Thomas Jefferson High School for Science and Technology to participate.

60TH EUROPEAN MUSIC FESTIVAL FOR YOUNG PEOPLE



World Champion 2012

The festival caters to choir and instrumental ensembles in alternate years. Each year, the festival draws 4000 to 6000 youths from all over the world to pit their musical talents.

3RD HI-TECH INTERNATIONAL PIANO COMPETITION



World Champion (Category C: 17 – 35 Years) 2015

Held every three years in Tianjin, this international piano competition sees more than 300 participants from over 35 countries. The judging panel consists of 16 adjudicators with professors hailing from music conservatories around the world such as Russia, Holland and Germany.

FESTIVAL OF SONGS OLOMOUC



Overall Champion 2010

A prestigious international choral competition held in Olomouc, the Czech Republic, the 38th Festival of Songs saw tough competition from 106 choirs from 11 countries.

5TH WORLD CHOIR GAMES



World Champion (Mixed Category) 2008

In that year, the Games was arguably the largest competition in the history of choir music, with 71 international jurors and about 441 ensembles from 93 nations taking part. There were more than 600 performances in 28 different categories. The Choir earned themselves 2 Gold Medals in the Folklore and Mixed Choir categories.

ORACLE THINKQUEST COMPETITION



World Champion 2009

This global competition challenges student teams to develop interactive educational portals on topics of their choosing and demonstrate critical 21st-century skills, including teamwork, technology, and communication skills. In 2009, the team emerged champion from among 955 teams from 83 countries.

MUSIC

GLOBAL TALENTREPRENEUR INNOVATION & COLLABORATION BUSINESS COMPETITION



World Champion 2007

Held in Taipei between 23 and 28 Jul 2007, the competition required students to write a comprehensive business plan and present their idea before an international panel of 15 judges comprising professors, government officials and venture capitalists.

STANFORD GLOBAL INNOVATION TOURNAMENT



World Champion 2008

5 HCI students and 3 high school students from the Loudoun County Academy of Science in Virginia worked across borders and twelve time zones to clinch the highly prestigious Extreme Collaboration Award in the Stanford University Global Innovation Tournament. More than 61 institutions from 14 countries participated in the International Competition.

INNOVATION

CLEAN TECH COMPETITION



World Champions 2014 and 2013

The Clean Tech Competition challenges participants' competency in STEM disciplines and technological application. Hwa Chong students won the global championship for two consecutive years in 2013 and 2014. At the Intel International Science and Engineering Fair, held from 10-15 May 2015 in Pennsylvania, the Hwa Chong team was ranked world second in the Environmental engineering category.

INTERNATIONAL BIOLOGY OLYMPIAD (IBO)



Ranked First in the World, 2013 and 2009

Held in Tsukuba, Japan from 12 to 19 July 2009, the 20th IBO saw 221 international participants (maximum 4 representatives from each country) from 59 countries, including traditional powerhouses like China, the US, Russia, Japan, South Korea, Vietnam, Germany and the UK. The Singapore team obtained four Gold Medals at the 24th IBO in Bern, Switzerland from 14 to 21 July 2013, ranking them joint-world first with the US team. 3 out of 4 in Team Singapore were Hwa Chong students.

SCIENCE

TAIWAN INTERNATIONAL SCIENCE FAIR



World Champion 2016

Held in Taiwan from 25-30 January 2016, three Hwa Chong students were awarded the top prize in the Medicine & Health category and the prestigious Young Scientist Award. They were the only team representing Singapore.



chapter

3

Strategy

“

*HCI's commitment to the mission is clearly seen in its efforts in **building up a new generation of leaders for the nation** – leaders with the courage to pursue their passion, and the determination to make a difference.”*

—
Gan Kim Yong
Minister for Health



3.1 Strategy Development

3.1 (a) How the organisation determines organisational challenges and anticipates external changes and risks

The Institution's school leaders possess a keen awareness of the dynamic developments within and beyond the education scene. The school also keeps a finger on the pulse of global technological advances, a key area in the 21st-century. At the conceptualisation stage, HCI's Strategic Planning Team, led by the Principal, draws its inputs from several sources, including market research, **Nobel Prize-winning scientists**, thought leaders (e.g. **New York Times writer Thomas Friedman, Harvard professors Howard Gardner and Tony Wagner, Columbia professor Ruth Vinz, MIT professor Daniel**

Hastings, LKY SPP Dean Kishore Mahbubani), and industry (e.g. Economic Development Board, SPRING Singapore, Singapore University of Technology and Design).

Additionally, the school leaders are guided by the strategic directions set by the Singapore government for the nation's long-term progress, half-yearly environmental scans with the BOG, and regular inputs from staff, alumni, and students. The scans—which identify opportunities and challenges—are guided by the Institution's Vision Mission and Values (VMV) (see Figure 1.1.1, Page 1).

Vision / Mission				
Our Core Values 自强不息 [Tireless self-improvement with tenacity, innovation, and passion] 己立立人, 己达人 [Win-Win] 饮水思源 [Remembering one's benefactors]				
Strategic Outcomes • Hwa Chong aims to develop individuals to become independent thinkers with a sense of purpose and passion to serve, inspire, and lead the next generation of Singaporeans. • Our brand of holistic education, as a model for grooming bicultural and entrepreneurial servant leaders, will benefit the local and global communities.				
THRUST	THRUST 1 QUALITY OF TEACHERS	THRUST 2 QUALITY OF PROGRAMMES	THRUST 3 ORGANISATION EFFECTIVENESS	THRUST 4 STRATEGIC ALLIANCES
Key Driver(s)	(Director/Hwa Chong Centre of Pedagogical Excellence)	(Deputy Principals & Deans/Studies & Student Development)	(Dean/Corporate Services)	(Dean/Corporate Services)
Goal	Define 21 st -century capacities that go beyond existing international benchmarks (e.g. PISA, TIMMS), and build teachers' capacity and trust	Empower students to <i>Live with Passion and Lead with Compassion</i>	Include Knowledge Management (KM) to enable borderless learning	Consolidate a global network of win-win partnerships for effective benchmarking
Strategic Priorities	Enhance skill sets—including effective pedagogies—of staff	Strengthening Basics Reading & Reasoning, Global Literacies, Respect & Responsibility, Sports & Arts for All, Meaning & Purpose	Build KM in HCI to advance innovation and foster organisational resilience	Benchmark and set global best practices in Teaching and Learning
		Breaking New Frontiers Research, STEM, Leadership		
Key Initiatives				
Key Performance Indicators				

Table 3.1.1: The HCI Blueprint 2012-2019

“With your distinguished history and spirit, Hwa Chong can make an important contribution in three main areas: excellence, values, and inclusiveness.”

Heng Swee Keat
Minister for Education, 2014

To surmount new challenges and create fresh opportunities, the school updated its Success Model in 2012, when it rolled out its Blueprint 2012-2019 (the year of HCI's 100th anniversary – see Table 3.1.1). To realise innovation, the revised Success Model incorporates “Quality of Students” and “Knowledge Management” under Thrust 3, Organisation Effectiveness. The plans underwent extensive consultations with various stakeholders and were

formally cascaded to all staff at various platforms to inspire ownership.

Where external risks are concerned, a Risk Management System (Figure 3.1.1) is in place to minimise unexpected losses and to manage expected losses including reputation losses (a fine tradition of over 95 years). The system is designed to identify, monitor, and control risks associated with the four Strategic Thrusts.

STRATEGIC THRUSTS					
RISK IDENTIFICATION	Quality of Teachers	Quality of Learning	Organisation Effectiveness	Strategic Alliances	RISK CONTROL
<ul style="list-style-type: none"> Integration with strategic planning Organisation-wide risk awareness culture 	<ul style="list-style-type: none"> Professional Code of Conduct Retention of Teachers (PCom) 	<ul style="list-style-type: none"> Exam Security (Examinations Working Committee) Safety of Expedition-related Activities (Risk Management Working Committee c/o SDC) 	<ul style="list-style-type: none"> Safety and Security (School Emergency Working Committee) Finance Security (Finance Working Committee) Information Security (Education Technology Department) 	<ul style="list-style-type: none"> Reputation Market Security (Corporate Services Working Committee) Institutionalise robust governance structure that goes beyond personalities and individuals based on win-win philosophy 	<ul style="list-style-type: none"> Established risk reporting processes Continuous review and self-assessment

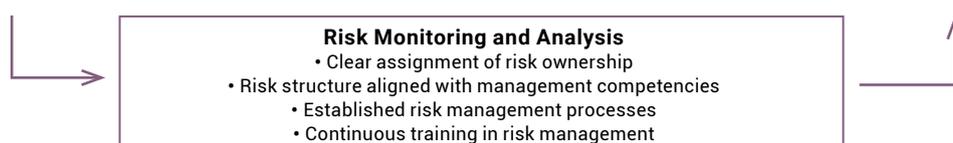


Figure 3.1.1: HCI's Risk Management System

3.1 (b) How the organisation develops strategic goals, and long- and short-term strategies to address the vision and mission

HCI's planning paradigm is VMV-directed. Its robustness is evidenced by the fact that HCI became the first GCE A-Level Integrated Programme School to be conferred the Singapore Quality Award in 2010. Since the 2010 SQA accreditation exercise, the following improvements were made to Strategic Planning:

- (a) developing a HCI Blueprint 2012-2019 – preparing HCI for its 100th anniversary in 2019;
- (b) outlining HCI's strategy to achieve the school's strategic goals in 2019;

- (c) defining goals for each of the four Strategic Thrusts which identify and prioritise the school resources required to execute the strategy; and
- (d) conceptualising and constantly reviewing the 3-Year Rolling Plans, taking into account industry trends and technological advances.

To realise its vision of **Defining Holistic Education**, the Institution has set up unrivalled programmes, top-class teaching facilities and services, as well as a formidable partnership network that not only

strengthened the basics, but also broke new frontiers. These were conceptualised and developed over three stages in HCI's Strategic Planning Cycle (Figure 3.1.2).

- (a) **Long-Term Strategic Planning** begins with both internal and external scans which highlight the Institution's strengths, weaknesses, opportunities, and threats. The intelligence gathered is categorised and prioritised based on its VMV. They inform the school's strategic priorities as presented in the HCI Strategic Plan 2012–2016. These in turn set the school's stretch goal in the HCI Blueprint for 2019 (the year of HCI's 100th anniversary).
- (b) **3-Year Rolling Plans** support the Long-Term Strategic Plan. The rolling plans not only map out the resources needed to achieve the school's

longer-term goals, they also set targets for the physical, financial and human resources critical to the running of the school. These rolling plans are reviewed twice-yearly at the Mid-Year Review Seminar (MRS) and Year-End (Planning) Seminar (YES).

- (c) **Short-Term Action Plans** involve the department and consortium action plans, as well as the Special Programmes. The action plans involve policy matters in the academic and affective domains, as well as customised and mainstream curricula. These plans are constantly being reviewed and actions taken to ensure that the strategic priorities, as well as the required resources, are implemented to realise the school's VMV.

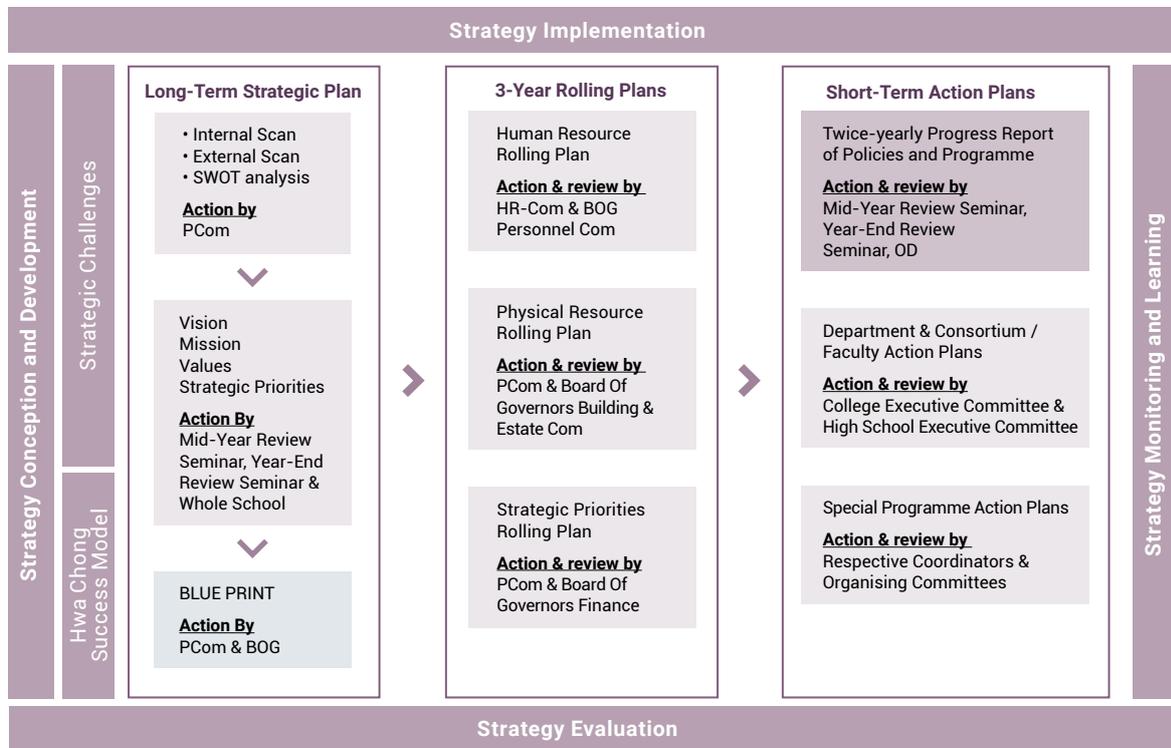


Figure 3.1.2: HCI's Strategic Planning Cycle

3.1 (c) How the organisation engages key stakeholders in the strategy development process

The Institution's stretch goal is to realise its 2019 vision (Table 3.1.1) before 2019 (using the Hwa Chong Diploma as a success indicator). To realise its vision, HCI has successfully forged strong partnerships with all its stakeholders. The school, for example, engages and actively seeks the advice and support of the Board of Governors (BOG) and its various committees, including Personnel, Building Development, and Finance.

As established members in their respective professions and fields of expertise, BOG members provide clear directions to the school in establishing policies, procedures and programmes.

The Organisation Development Committee has also made efforts to optimise the strategic planning process at key stages: (shown in Figure 3.1.2)

- **Strategy Conception and Development:** To understand global challenges and the future

of education, insights have been drawn from eminent thought leaders such as Thomas Friedman, Howard Gardner, Tony Wagner, Kishore Mahbubani, and Nobel scientists who have visited HCI. To understand the challenges and growth directions for Singapore, the Institution has referred to the recommendations of the Report of the Committee on University Education Pathways Beyond 2015, various keynote addresses by Singapore’s Prime Minister and other cabinet ministers, Parliamentary Committee of Supply reports, MOE Work Plan Seminar speeches as well as MTI’s Economic Strategies Committee reports. The Institution has also invited EDB’s Human Capital Division and representatives from key industry clusters to share with school leaders the changes taking place in Singapore’s industrial landscape and issues facing human

capital requirements. To understand the changing education landscape, reference was made to the recommendations of the 2015 Curriculum Committee by MOE.

- **Strategy Implementation:** The senior leaders have outlined five strategic priorities in its Blueprint 2012-2019, and 3-year Rolling Plans that set the parameters for the respective Action Plan owners. Under their leadership, several actions have been taken to achieve the milestones leading towards the stretch goal (See Figure 3.1.3).
- **Strategy Monitoring and Learning:** There is constant sharing of best practices between College and High School Sections, between HCI and its partner IP School, Nanyang Girls’ High School (NYGH), and between HCI and leading institutions—within and beyond education, locally and internationally.

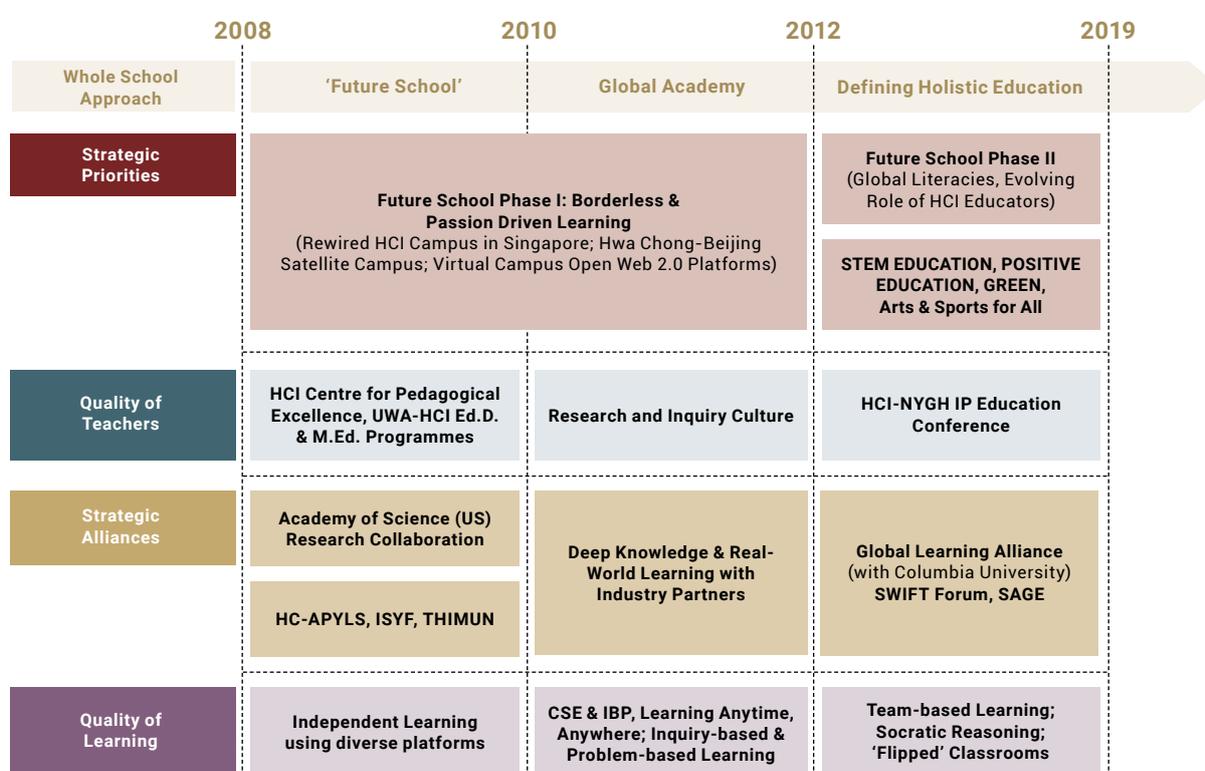


Figure 3.1.3 HCI's Key Milestones

3.2 Strategy Implementation

3.2 (a) How The Organisation Develops And Implements Long- And Short-Term Action Plans

Hwa Chong's tradition of excellence and innovation, as well as the school's core values, including "Zi Qiang Bu Xi" (which means tireless self-improvement with tenacity, innovation, and passion), form the bedrock of its Strategic Plan. These guide school leaders in the selection and design of key initiatives to achieve the desired student outcomes. They also provide the basis for developing systems and processes to manage, assess, and refine the quality of holistic education systematically and transparently.

To achieve the stretch goal, the school has identified **five strategic priorities** underpinning the **four Strategic Thrusts** in the HCI Blueprint (see Table 3.1.1). The overall

goal to bring about holistic education in Hwa Chong undergirds these five strategic priorities.

The annual Short-Term Action Plans take their directions from the progress reports of policies and programmes derived from regular College Executive Committee (CEC) and High School Executive Committee (HSEC) reviews, as well as from the respective coordinators and organising committees.

The reviews of these Short-Term Action Plans are undertaken collectively by key members of the Hwa Chong community during two important school-wide platforms: the Mid-Year Review Seminar (MRS) in June and Year-End (Planning) Seminar (YES) in December.

3.2 (b) How the organisation allocates resources in a timely manner to achieve strategic goals

Key initiatives are prioritised and resources channelled according to the school's vision and mission. To maximise the allocation of financial, physical and human resources in a timely fashion, regular monitoring and reviews are conducted. This allows

the Institution to make modifications in response to current changes and in anticipation of upcoming ones. Over the years, the Institution has set in place a rigorous, yet responsive and adaptive, financial governance structure.

3.2 (c) How the organisation engages key stakeholders in the strategy implementation process

The Institution has partnered industry and external organisations to understand the changes taking place in Singapore's industrial landscape and national issues facing human capital requirements. To prepare the students for the new economy, HCI introduced a series of courses to promote the learning of Science, Technology, Engineering and Mathematics (STEM) to break new frontiers in 2012. Support is given by the school's strategic partners.

In addition, HCI engages key stakeholders through benchmarking top-performing school districts in the US, as well as learning good practices from schools that are benchmarking HCI.

For example, between 2013 and 2015, HCI conducted collaborative research with Westport Connecticut (a top-performing school district in the US, according to the *Wall Street Journal*), Columbia University, and the National Institute of Education (NIE).

“ I find time too to visit one of Singapore's much vaunted state schools, an institute set on a breath-taking piece of real estate which, amongst a myriad of achievements, hosts annually a series of workshops led by Nobel Prize-winners.”

Roy Blatchford

Director of Britain's National Education Trust, Former Chief Inspector of Schools in England
Has inspected over 1,000 schools in the UK, Europe, USA, Middle East and India



chapter 4

People

“

Nothing can compare to the community of teachers that I found at Hwa Chong. I genuinely enjoyed learning.”

Etsuko Lim
2015 President's Scholar
Law, Cambridge



4.1 Human Resource Planning

4.1 (a) How the organisation anticipates human resource (HR) needs and develops HR plans and policies which are aligned to strategic goals and organisational values

The most important success factor for HCI is the quality of its teachers. The **HCI Success Model** (see Organisational Profile, Page vii) unequivocally reflects this long-standing belief. A reliable and highly effective team of Executive and Administrative Staff (EAS) provides quality organisational support to the teachers. The partnerships forged with tertiary institutions and industry also provide teachers with strategic support and expertise.

The **Servant Leadership principle** (see Section 1.1 (c), Page 4) undergirds HCI's **People Management Framework, or EnEGEx** (see Figure 4.1.1). Just as the school leaders model servant leadership, it is important that staff is enabled and empowered, and developed as individuals, so that they are more likely to become servant leaders themselves.

Table 4.1.1 highlights the Human Resource (HR) functions in accordance with the four dimensions

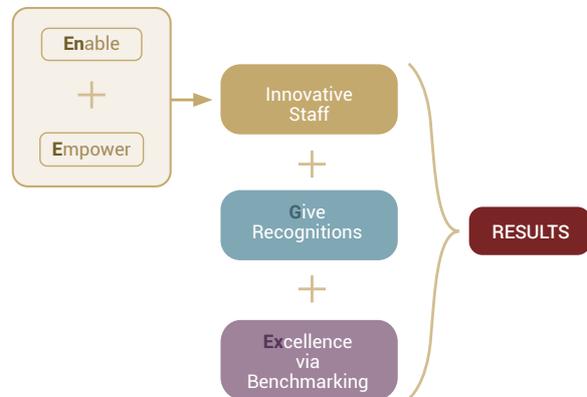


Figure 4.1.1: The HCI People Management Framework - EnEGEx

in EnEGEx. A **3-year HR Rolling Plan** outlines the projected HR investments to support the Institution's strategic initiatives.

HCI HR Guiding Principle: Servant Leadership				
Institution's Strategic Objectives	<ul style="list-style-type: none"> To nurture leaders in Research, Industry and Government To produce bicultural and entrepreneurial servant leaders 			
HR Mission	<ul style="list-style-type: none"> To recruit, retain and develop each staff member in his/her area of specialisation in an inspiring and nurturing environment 			
EnEGEx: Four Dimensions	Enable Staff through staff development and training	Empower staff through an open-door policy and an enabling environment	Give Recognition and rewards	Excellence via Benchmarking against world-class organisations
EnEGEX: HR Functions	Employee Learning and Development	Employee Engagement and Well-Being	Employee Performance and Recognition	Benchmarking against the Best Enabling and Empowering Practices
Owner(s)	Director, HCI Centre for Pedagogical Excellence	Deputy Principals	Deputy Principals, Studies	Dean, Corporate Services

Table 4.1.1: Human Resource (HR) functions

The **Human Resource Committee (HRC)**, led by the Principal and comprising the Deputy Principals, Deans and HR Assistant Director, meets monthly to oversee all matters pertaining to manpower, including strategic HR planning and management.

The HRC regularly reviews manpower policies. It also reviews plans to meet the Institution's strategic priorities of breaking new frontiers and strengthening basics, as stated in the HCI Strategic Plan 2012-2016.

The Board of Governors (BOG) Personnel Committee and Principal's Committee (PCom) constantly review and evaluate the Institution's HR plans and processes. Information and feedback on HR matters are gathered from various internal sources (e.g. unit reports, staff retreats, staff performance appraisals), as well as external feedback provided by the MOE School Climate Survey. The Institution also learns best HR practices from other effective organisations.

4.1 (b) How the organisation identifies and grooms employees for high performance

The HRC takes a proactive approach towards staff recruitment and talent management. Feedback from Reporting Officers (ROs) as well as staff's Current Estimated Potential (CEP) are analysed to identify high-potential officers who can be groomed for broader responsibilities. HCI also adopts a time-honoured and systematic approach to nurturing its employees. Figure 4.1.2 shows HCI's talent management strategy. Table

4.1.3 gives an overview of the strategies adopted in enhancing the capacities of high-performing officers. HCI has also adopted a careful and deliberate approach towards leadership succession planning (see Section 1.1 (c), Page 4). This is to ensure that the duties of all Key Personnel (KPs) are covered by competent officers whenever the need arises.



Figure 4.1.2: HCI's talent management strategy

Engagement	Courses/Conferences	On-the-Job Training via Coaching	Special Project Management
<ul style="list-style-type: none"> School leaders speak to talents concerned about career path on a one-to-one basis Staff Talent and Grooming Exercise (STaGE) 	<ul style="list-style-type: none"> External workshops to enhance capacities in academic, and affective leadership areas Targeted conferences (e.g. World Gifted Conference) 	<p>For talents who are already KPs:</p> <ul style="list-style-type: none"> ROs concerned will provide coaching, On-the-job-Training support and training are provided to KPs concerned Job rotation to increase skills & knowledge and to broaden KPs experience in various fields External attachments 	<p>For talents who are not KPs:</p> <ul style="list-style-type: none"> ROs to assign special events/ programmes for EOs concerned to manage and lead Coaching, On-the-job-Training support and training provided Internal shadowing

Table 4.1.3: HCI's talent capacity enhancement strategies

4.2 Employee Learning and Development

4.2 (a) How the organisation engages employees to identify current and new competencies required to meet strategic goals

For its many groundbreaking initiatives, HCI owes its progress and success to the passion and energy of its teachers and EAS. Thus, staff Learning and Development (L&D) is a top priority (see 'Enable Staff' under EnGEX Table 4.1.1). Figure 4.2.1 highlights the processes involved in engaging staff to identify current and new competencies required to meet the

school's strategic goals.

To date, there are **over 100 doctoral- and master-level research projects** carried out by Hwa Chong teachers with the Graduate School of Education, University of Western Australia, and other leading universities including NIE-NTU, NUS, Penn, Peking and Harvard.

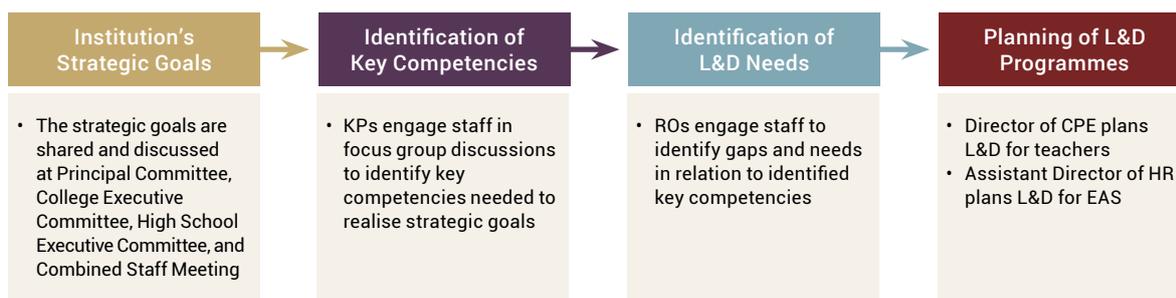


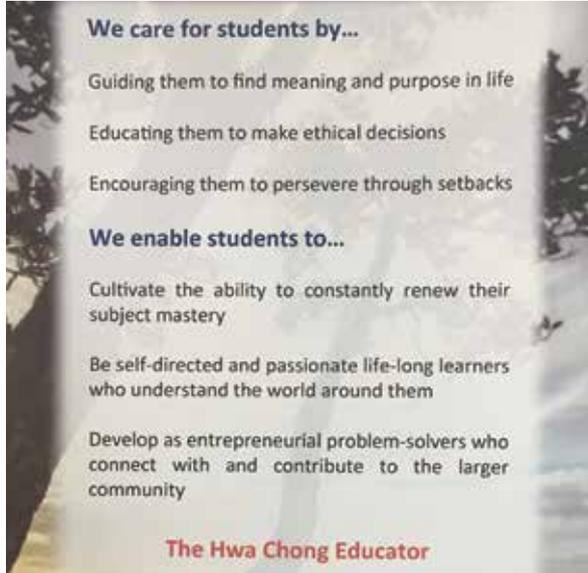
Figure 4.2.1: Engagement of staff in the identification of key competencies

L&D Objectives for Teachers	L&D Objectives for EAS
<ul style="list-style-type: none"> To facilitate professional development To promote pedagogical excellence To promote research and development 	<ul style="list-style-type: none"> To develop leadership competencies and innovation at all levels To foster greater collaboration and collegiality To promote service excellence

Table 4.2.1: HCI's staff Learning and Development (L&D) objectives



Dr Tommie Chen (right), Principal Consultant/English, at his doctoral commencement at NUS in July 2014. His PhD research was in corpus linguistics



The Hwa Chong Educator - belief statements



HCI Director of Well-being, Mrs Veronica Chua (front row, fourth from right), at her commencement in 2013, graduating with a Master of Applied Positive Psychology from the University of Pennsylvania

4.2 (b) How the organisation provides learning and development opportunities to employees to drive organisational productivity and personal growth

Figure 4.2.2 provides an overview of the L&D strategy, and the interconnection between the three main approaches: in-house training, research, and external training.

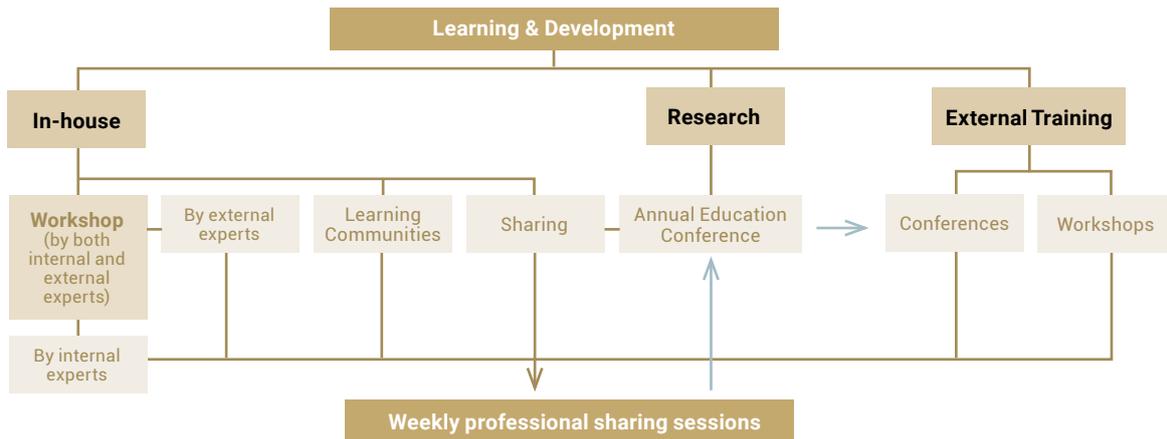


Figure 4.2.2: HCI's staff Learning & Development (L&D) strategy

The Institution's **research culture** is exceptionally strong, and shapes the development of the school. About **40 teachers have doctorates**, or are currently pursuing their doctoral study. Apart from postgraduate

education and research, Hwa Chong staff are actively involved in volunteer service, educational research, drama, writing and the fine arts, reflecting our teachers' commitment to leading by example.



Hwa Chong teacher and ultramarathoner, Mr Yong Yuen Cheng, was celebrated for his contribution to the SG50 series of activities, 'A Nation in Motion'. Epitomizing 自强不息, Mr Yong ran 2,500 km over 50 days in commemoration of the nation's 50th year of independence



34th UOB Painting of the Year 2015: HCI Biology teacher, Ms Nada Nurwani, receiving her Bronze award from Deputy Prime Minister Teo Chee Hean on Nov 5, 2015

Award-Winning Teachers from HCI (2011-2015)



HCI Senior Consultant/Research, Dr Lim Jit Ning, seen here in front of the Bosscha Observatory telescope. Dr Lim won the **Crescendas Medal and Prize for Outstanding Physics Teacher (Junior Colleges)** in 2014. This prestigious award, presented by the Institute of Physics Singapore (IPS), recognises outstanding efforts and innovative ways of teaching physics at institutions in Singapore.



For teaching excellence, Mrs Loh-Lam Yen Ling, Education Consultant/GATE, was invited by Education Minister Heng Swee Keat to be part of a high-level delegation to the US, from 12-19 Jan 2014. The focus of the study trip was on gifted education, research and innovation, and online learning.



Mr Tan Wah Jiam, Senior Consultant/Knowledge & Inquiry, is among only six teachers in Singapore to receive the **2014 Inspiring Teacher of English Award**. This national award is given out to teachers who have been crucial in motivating their students to think critically and creatively, and to speak and write in more engaging ways.



Mr Tan Chin Guan (extreme right) receiving his award from Education Minister Heng Swee Keat. Mr Tan won the **2015 MOE Outstanding Youth in Education Award** for his passion in teaching and inspiring his students.



Dr Yip Cheng Wai



Mrs Sow Yoke Keow (Principal Consultant/Research) and Dr Yip Cheng Wai (Senior Consultant/Biology & Research), received the **MOE Outstanding Science Educator (Research Mentor) Awards** at the Singapore Science and Engineering Fair 2015.

4.3 Employee Engagement and Well-Being

4.3 (a) How the organisation supports individual and team participation to achieve strategic goals

To achieve the Institution's strategic goal of holistic education, two key focus areas are identified: Strengthening Basics and Breaking New Frontiers, as shown in Figure 4.3.1. Each of the five strategic priorities is owned by a DP who works directly with the respective teachers to achieve the strategic goals. Table 4.3.1 gives an overview of the strategies adopted by the DPs to support teachers.

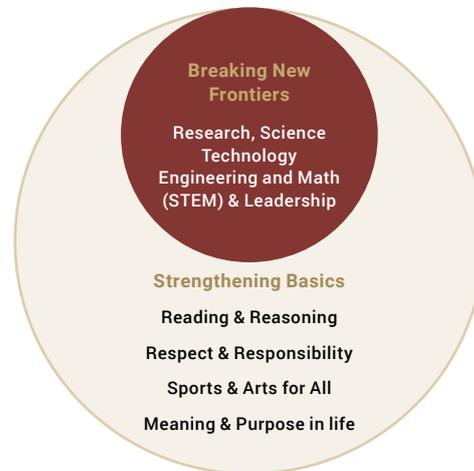


Figure 4.3.1: HCI's strategic priorities

Engagement via Empowerment	Consultative approach to help teachers understand their contributions
	Open communication and feedback platforms to promote two-way communication
	Consortium & Faculty Systems to promote bonding, and information exchange
	Promote and nurture staff well-being
	Create collaborative executive work teams/task forces

Table 4.3.1: HCI's engagement strategy

4.3 (b) How the organisation encourages collaboration and generation of innovative solutions among employees and across functions

In addition to the above strategies, HCI has set up an Innovation Committee to help foster an innovative culture that encourages staff to embrace change. The Committee is tasked with publicising I-Cube (Innovate-Improve-Impact), promoting the sharing of I-Cube winning entries across departments and Sections, as well as organising activities to promote the spirit of innovation and enterprise among staff.

The learning and sharing of research findings are also encouraged at the Integrated Programme Education Conference.

Moreover, there is deliberate cross-departmental sharing on the use of educational technology and the infusion of GLM elements in multidisciplinary studies. Such sharing is also conducted amongst Science laboratory staff to propagate best practices.

4.3 (c) How the organisation develops a conducive work environment that enhances employee health and well-being

HCI prioritises the well-being of its staff. The Institution views its investment in staff health and welfare as an investment in the efficiency and effectiveness of the organisation. Thus, the BOG Personnel Committee and school leaders have been highly supportive in ensuring that attractive staff

well-being packages are in place.

Importantly, the Institution has developed a conducive and supportive work environment that enhances employee well-being and satisfaction in four main areas: physical, social/family, intellectual and mental well-being, as shown in Figure 4.3.2.



Figure 4.3.2: Strategies for building a conducive and supportive work environment

4.3 (d) How the organisation measures employee engagement and well-being

In addition to ongoing feedback gathered from staff at various communication platforms (see Section 4.1(a), Page 25), HCI determines the key factors that affect health and work satisfaction through formal feedback obtained from the biennial MOE School Climate Survey.

The HRC and PCom analyse the survey reports to decide on the necessary follow-up. Strategies for follow-up actions are further discussed at CEC and HSEC meetings.

4.4 Employee Performance and Recognition

4.4 (a) How the organisation supports high performance, and productive and innovative behaviours to achieve strategic goals

The second dimension of EnEGEx (see Figure 4.1.1) focusses on empowering staff. Bold and visionary leadership, strong belief in staff empowerment, and robust institutional support are key factors that encourage and support high performance and innovative behaviours. This is necessary to achieve the Institution's strategic goals.

There are many school-wide initiatives that provide ample opportunities for staff to develop their capacities, collaborate and share. For example, HCI in 2011 initiated the inaugural SWIFT: Teachers' Roundtable, involving partner schools from Australia, Hong Kong, New Zealand and Tatarstan.

“With the emphasis on student-centred values-based education, the importance of developing 21st-Century competencies in our students cannot be overstated. To meet such a challenge, leadership and teacher capacity in the school are crucial. ...we see [in HCI] a strong cadre of teacher-researchers emerging – practitioners with a growing knowledge of classroom research methods and current affordances of technology in education.”

Dr Cheah Horn Mun
 Director, Educational Technology, MOE
 In the Afterword for *A Borderless and Passion-Driven Learning Institution* (2013)

4.4 (b) How the organisation reinforces desired behaviours and organisational values

HCI has a robust culture of trust and sharing. The Institution is also fortunate to have a highly motivated team that firmly believes in the pursuit of excellence. This mind-set is pervasive and influences everything that is carried out in the school. School leaders and teachers model this commitment to excellence in day-to-day activities and interactions. There is also a strong learning culture and every staff member is encouraged to seize opportunities, think possibilities, and excel.

To support this culture, the school has

created different platforms and opportunities (e.g. staff induction, mentoring, conferences, joint-research projects, task forces) to reinforce desired behaviours and organisational values. For instance, departments structure regular professional sharing of best practices, and organise workshops and training for staff. The Institution's core values are infused into its Staff Performance Appraisal (SPA) system that facilitates open communication between staff and ROs.

4.4 (c) How the organisation provides a variety of rewards and recognition to achieve organisational values and strategic goals (including innovation by individuals and teams)

All rewards and recognition schemes are aligned closely to organisational values and strategic goals. The HRC regularly establishes and reviews staff remuneration schemes and policies. In 2014, the entire 'Staff Performance Recognition and Rewards' package was aligned with the Institution's strategic goals.

One form of rewards and recognition is the opportunity to present research and best practices at international and local conferences. Such professional development opportunities are given to both experienced and beginning teachers to promote pedagogical leadership and teaching excellence.

Recognition is also given for staff suggestions. Staff members are encouraged to submit suggestions for improvement and collaborate with colleagues to innovate. The Electronic Message Board (EMB), Staff Suggestion Board (SSB) and I-Cube portal are easy-to-access platforms for staff



Beginning HCI teacher, Ms Josephine Phay, sharing to a captive audience on lesson innovation using social media platforms at the international SAGE iSummit in Beijing, China, 21–23 Nov 2014

to submit suggestions, and share their innovative practices.

Good suggestions are introduced at staff meetings, and the best suggestions are adopted and scaled up. Selected individuals and teams are also invited to share at professional sharing sessions, staff meetings, and the annual HCI-NYGH Integrated Programme Education Conference.



“As an alumna, I know that Hwa Chong is not just a school that produces top scholars. Hwa Chong is a place where **friendship is treasured** more than winning a competition; where nurturing a talent is more than getting a good ranking for the school; where winning for the school and bringing glory to the school is more than winning a medal for oneself. This is a school that is **not just a top school**. This is a top school that **has a soul, has values, has humility and has the belief that all of us together are stronger than the sum of the individual.**”

Grace Fu

Minister for Culture, Community and Youth & Leader of the House



chapter **5**
Processes

“

Like some of the world's most innovative schools, Hwa Chong Institution combines academic strength with a focus on problem-solving, creativity, critical thinking and entrepreneurship.”

—

South China Morning Post

5.1 Innovation Capabilities

5.1 (a) Describe how the organisation gathers, evaluates and implements innovative ideas for products, services and related processes to create value

“Pervasive School Culture Of Innovation” (MOE), 2012

Hwa Chong Institution (HCI) is internationally recognised as a model of high-level innovative teaching and learning. In 2015, the prestigious journal, *Nature*, showcased HCI as having **one of the world’s “most innovative science-education programmes”**.

On 23 Aug 2014, then Education Minister Heng Swee Keat (right), in a keynote address, said that “Hwa Chong must continue to be one of the “peaks of excellence” in our education system. It [has] pioneered a number of innovative programmes together with MOE to cater to the diverse talents of its students.”



The HCI Innovation Framework

At Hwa Chong, innovation is imperative. As a top Independent School (IS), the Institution is in a strong position to chart new directions and try out fresh approaches to broaden students' educational experience. In fact, prospective and current parents and students have come to expect the school to conduct programmes that are significantly enhanced from what are being offered in comparable Special Assistance Plan Schools.

The fact that HCI consistently faces high demand

for its quality education and unrivalled opportunities (evidenced by the most stringent cut-off points at both the Year 1 (Sec 1) and Year 5 (JC1) insertion points-shows its ability to provide exceptional student experiences. Thus, innovation is not only vital to HCI's success; innovation is also key to its survival. The Institution's drive for progress can be articulated via the HCI Innovation Framework (see Figure 5.1.1).

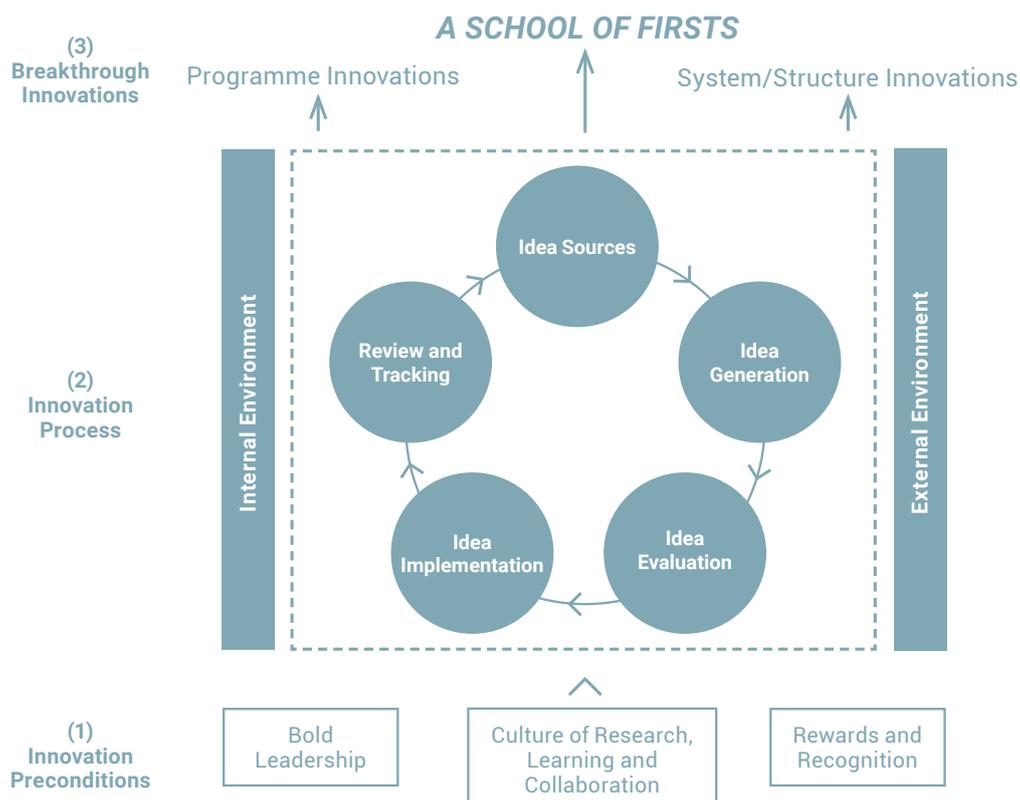


Figure 5.1.1 The HCI Innovation Framework

Features of the HCI Innovation Framework

(1) Innovation Preconditions

Bold Leadership

For innovation to flourish, bold leadership is key. The school leaders 'walk the talk', and take the lead in spearheading strategic innovations. The can-do attitude embraced by Hwa Chong school leaders has enabled the Institution to challenge frontiers and make transformational changes. Importantly, the

school leaders also provide vital support and direction in building a sustainable and safe environment that fuels continuous cycles of curricular innovations. Adopting a "bottom-up initiatives, top-down support" approach, the school leaders operate on the belief that staff should be empowered to make decisions.

Culture of Research, Learning and Collaboration

Research is a cornerstone of HCI, and often a catalyst for innovative practices. Since 1990, with the establishment of the Research and Development (R&D) Seminar, the school has fostered a culture of research, life-long learning and collaboration. Every year, teachers engage in high-quality action research on pedagogical innovations and student-centred learning. The no-blame working environment has also encouraged careful experimentation. Structurally, the leaders ensure that there are sufficient platforms to

facilitate the exchange of ideas, e.g. Consortium/Faculty system. The Innovation Committee also champions the sharing of ideas across the High School and College Sections. HCI also updates and stay current in all areas of innovation through close interactions with its partners. These include scientists in A*STAR, overseas and local universities, entrepreneurs of start-ups, as well as leading educationists.

Rewards and Recognition

In HCI, staff are given the autonomy to make decisions and implement innovative solutions. Over time, this has built trust and allowed the spirit of enterprise to take root and become part of the Hwa Chong culture. To strengthen the school's culture of research and innovation, individuals and teams that demonstrate innovation and results are recognised and rewarded. For example, staff's contributions are recorded in

the Staff Performance Appraisal (SPA) instrument. Innovative efforts are further recognised through I-Cube for greater scaling of high-impact curriculum innovations across levels and subjects.

I-Cube, representing Innovation, Improvement and Impact, is an initiative set up to provide the infrastructure to empower and engage staff in the innovation process within the Institution.

(2) Innovation Process

The innovation process outlines the value chain that creates innovation. There are five important steps involved in the innovation process:

1.	Idea Sources	The empirical research conducted by HCI's own teachers and school leaders often is the source of ideas that promote educational innovation. Stakeholders, especially MOE and Board of Governors, also provide important updates from the industry as well as rising challenges and opportunities. These, more often than not, provide the impetus for strategic innovations.
2.	Idea Generation	There is a wide range of platforms set in place to fuel idea generation from each of the sources identified. The platforms include the annual in-house Education Conference, research, meetings, surveys, learning platforms, professional sharing, as well as staff innovation systems and ideation activities and contests championed by the Innovation Committee.
3.	Idea Evaluation	Ideas are evaluated largely based on three criteria: Innovation, Impact and Improvement. For ideas with impact at the strategic level, the senior management at PCom evaluates the idea. If the idea is recommended for implementation, a special task force is formed. The special task force looks into the conceptualisation and review of the pilot project. As for incremental innovations, staff members are empowered to make decisions. They often collaborate to seek best practices, and provide innovative solutions to challenges.
4.	Idea Implementation	Strategic innovations refer to major school-wide projects that have an impact on the Institution's development, as well as Singapore's educational landscape. This often requires collaboration with external partners. They provide directions for incremental innovations, which are mainly archived in the I-Cube portal – an online system for innovations and improvements at work.
5.	Review and Tracking	Implemented ideas identified to be either scalable or transferable across functions are often shared at mid-year review or year-end planning seminars, Principal Committee, High School Executive Committee or College Executive Committee, as well as Department/Consortium and staff meetings. For example, the school-wide food drive, student-led forums, and learning support programmes started out as pilot projects within a particular Consortium.

Internal Environment	External Environment
The internal environment is characterised by various energising systems. These structures provide the platforms for cross-functional interactions and rapid responses to opportunities and challenges. There is a deliberate attempt to create space for experimentation. Consequently, innovative programmes and activities have flourished in the school.	This sees to the information derived from various sources such as ministerial speeches and national policies, journal articles, feedback from industry partners during visits/dialogues and news from other top Integrated Programme (IP) schools.

(3) Breakthrough Innovations

The outcomes of HCI's innovations are found mainly in its unique and unrivalled educational programmes as well as breakthrough systems. These are designed to enhance the quality of teachers, organisational

support, as well as strategic partners, to deliver high-quality programmes for holistic education (see Organisation Profile, Page vi).

5.1 (b) Describe how the organisation involves key stakeholders in generating and implementing innovative ideas and solutions

PROGRAMME INNOVATIONS

Innovation is pervasive in the school. School leaders first provide the strategic direction for staff to carry out their day-to-day work. They are also committed to creating a conducive environment that encourages ideas and innovation. Structurally, within each Consortium, Faculty and Department, the key personnel have full autonomy to make decisions and implement innovative solutions. The unique Consortium/Faculty System, for example, effectively empowers teachers to try out innovative practices and school initiatives. Usually, a task force

comprising teachers and key personnel would be set up to implement a pilot project once an idea is accepted for implementation. A systematic review of the pilot projects based on feedback by students, teachers, and industry partners could be presented at the Principal Committee before full-scale implementation. Where the classroom is concerned, there is an entrenched school culture of making suggestions and designing innovative learning packages through I-Cube submissions.

SYSTEM/STRUCTURE INNOVATIONS

The design of system/structure innovations is guided by the strategic objectives that underpin the three key drivers of Quality of Learning, namely, Quality of Teachers, Organisation Effectiveness and Partners (see Table 5.1.3).

Strategic Thrust	Examples of HCI System/Structure Innovations
Quality of Teachers	<ul style="list-style-type: none"> • Evolving Role of Teachers (e.g. HCI Educator's Belief Statements) • HCI Staff Performance Appraisal • HCI Teaching Scholarships & Professional Development Schemes (e.g. Fulbright fellowship to Harvard, Columbia University teaching fellowship, MIT strategic innovation programme, undergraduate scholarship to Shanghai Fudan) • HCI-UWA Masters and Doctoral Programme • HCI-NYGH Education Conference
Organisation Effectiveness	<ul style="list-style-type: none"> • Hwa Chong Holistic Education Centre • Seamless one-stop Intelligent School Portal (ISP) • Knowledge Hub
Partners	<ul style="list-style-type: none"> • Extensive immersion programmes in nine cities in China including Beijing, Xi'an, Tianjin, Guangzhou, Xiamen, Guizhou, Wuxi, Shanghai and Hainan • Global Learning Alliance (GLA) with Columbia University Teachers College and Scarsdale Public Schools (New York) • Loudoun County Academy of Science, USA • Duke-NUS Medical School

Table 5.1.3: Examples of HCI System/Structure Innovations

A snapshot of how benchmarking trips have led to enhancement of the HCI Innovation Framework is summarised in Table 5.1.4.

Year	Strategic Thrust	Examples of HCI System/Structure Innovations
2012	STEM Partners (e.g. EDB, DSO/ DSTA, Global Foundries, 3M, GlaxoSmithKline, and Rolls Royce) 	<ul style="list-style-type: none"> Hwa Chong has partnered numerous global companies and research agencies to enable students to work with engineers and scientists on real-world projects Every year, about 250 students are involved in some 90 research projects to solve practical and complex real-world problems
2014	Duke-NUS Medical School	<ul style="list-style-type: none"> HCI is working closely with Duke-NUS Medical School to pilot Team-Based Learning (TBL) approach as a distinctive pedagogy for developing 21st-century capacities in H2 Biology

Table 5.1.4: How benchmarking trips have enhanced HCI innovations

5.2 Process Management

5.2 (a) Describe how the organisation manages key and support production and service delivery processes to meet customer and operational requirements



Talk on Innovation by Mr Douglas Foo, Founder & Chairman, SAKAE Holdings Ltd, to Executive and Administrative Staff on May 12, 2015

The **HCI Business Model** (see Figure 5.2.1) highlights the key and support processes that are undertaken to value-add to the Institution's curriculum/ programmes.

These processes ensure that the Institution delivers student outcomes to meet the learning and development needs of each cohort.

The daily operations of the Institution centre around these key and support processes monitored by the various departments and consortiums/faculties. These processes are managed through tracking and measuring the progress performance of the key and support processes, as well as student outcomes and feedback, from the three key products/services (see Organisation Profile). Reviews are conducted by owners of the 3-Year Rolling Plans and Action Plans. These reviews are an important source of ideas for the innovation process, as described in Section 5.1(a). Another source of ideas is the numerous learning journeys and talks by industry leaders conducted for both teachers and Executive and Administrative Staff (EAS).

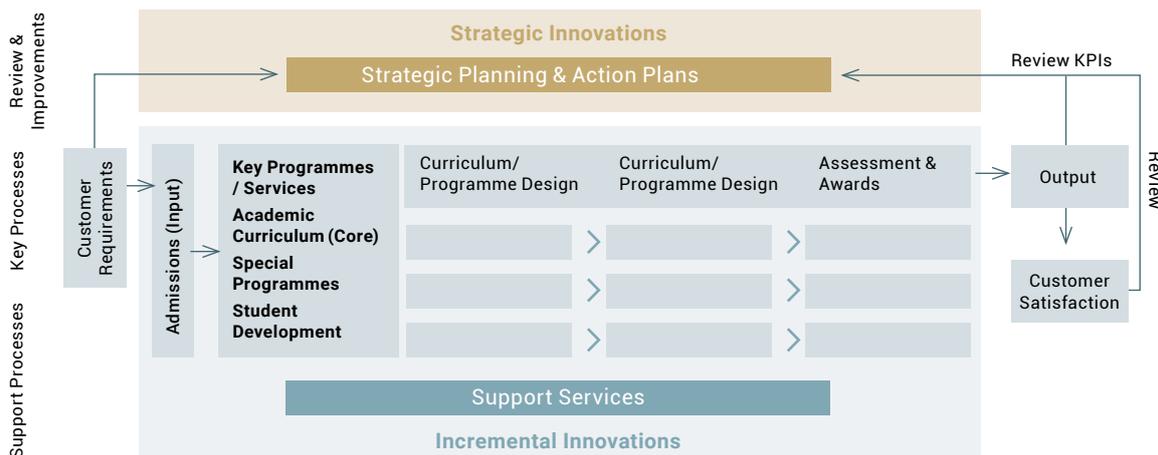


Figure 5.2.1 HCI Business Model

5.2 (b) Describe how the organisation drives process improvement to improve productivity and ensure timely delivery

To evaluate and improve the key processes, the Institution employs the following approaches.

(i) External Benchmarking

Table 5.2.3 shows some examples of the improvements that arose from external benchmarking exercises.

(ii) Internal Benchmarking

Good practices are shared across departments, consortiums and sections. There is systematic and regular analyses of results performance data to drive improvement and generate new ideas. School leaders and level coordinators also conduct post event meetings, appraisal reports and follow-up action plans.

(iii) I³ (I-Cube) Winners

All significant improvements implemented following reviews that fulfill the criteria –Innovation, Impact and Improvement – are submitted to the I³ portal in the Intelligent School Portal (ISP).

These submissions are evaluated termly by the Innovation Committee that shortlists potential winning submissions for evaluation by the I³ Panel.

The top three winners from both the High School and College Sections are further evaluated by another panel led by the Deputy Principal/Student Development for the HCI Innovation and MOE Innergy Awards.

Year	Organisations	Improvements
2012-2016	Global Learning Alliance (GLA) with Columbia University Teachers College and Scarsdale Public Schools (New York, US), involving innovative schools from some of the world's highest-performing nations, including Australia, Canada, China, Finland, Singapore, and US	To forge new international benchmarks for innovative curricula, assessment and pedagogical practices that transcend what is currently measured in international tests such as TIMSS and PISA
2013-2015	Westport Schools District (Connecticut, US), National Institute of Education, Singapore	To advance understanding of whole-school approach to 21 st -century global education, using a holistic framework emphasising critical, creative and ethical capacities

Table 5.2.3: Examples of improvements from external benchmarking

5.2 (c) Describe how the organisation sustains key processes in times of emergencies to ensure business continuity

Business Continuity Plan

To ensure the continuity of operations in case of emergency, HCI has taken into consideration all areas of the Institution's operations that are needed to deliver programmes and services to students and

stakeholders. To summarise, HCI's **crisis management** can be broadly represented in four phases, as shown in Table 5.2.5.

<p>Prevention</p>	<ul style="list-style-type: none"> • Standard Safety Provisions: Building Safety Standards, Laboratory and Equipment Safety Standards, MOE Standard Operating Procedures • CCTV and Security Officers, Auto-door Access Control • Safety Education Programmes for both students and staff • Timely maintenance work and repairs and upgrading projects for enhancing workplace safety & health • Management of critical information and knowledge • Control of access rights to IT systems and infrastructure for authorised personnel only
<p>Preparedness</p>	<ul style="list-style-type: none"> • Regular and mandatory testing of equipment and emergency (e.g. fire, terrorists) drills • Risk management assessment and first-aid training for staff and students conducting activities, e.g. expeditions and camps • Collaboration with external organisations for the enhancement of key aspects of campus safety and security • IT system updates and upgrades constantly carried out based on regular reviews of needs • Home-based Learning exercises
<p>Response (Activate Business Continuity Plan)</p>	<ul style="list-style-type: none"> • Aligned communication platforms (e.g. Electronic Message Board, SMS, Emergency Relay System) • Contact Tracing Operations Plan (e.g. during flu pandemic outbreaks) • Standard Operating Procedures (e.g. haze, flood management plan and Homeless Relief Centre) • Postponement and cancellation of trips to hazard-affected countries • Home-Based Learning in the event of school closure • Disaster Recovery Centre in HCI Boarding School and in different parts of the campus
<p>Recovery</p>	<ul style="list-style-type: none"> • Assessment of plans that require mass gathering (e.g. during recovery of flu pandemic reworked) • Holding areas for visitors/members of the school suspected of being infected • Assess damage to buildings on campus; with a huge campus with links to Hwa Chong International School and Hwa Chong Institution Boarding School, resources may be shifted temporarily in the best possible configuration • IT services reactivated and data retrieved from Disaster Recovery Centre within 24 hours

Table 5.2.5: HCI's crisis management framework

5.3 Supplier and Partner Management

5.3 (a) Describe how the organisation identifies and manages key suppliers and partners to achieve organisational goals

HCI'S PARTNERSHIP NETWORK

Over the years, the school has forged partnerships with **more than 100 schools and universities in over 20 countries across five continents** (see Figure 5.3.1). This has created unrivalled opportunities for student development, and greatly enhanced student experience.

The network of partners includes global companies, leading governmental agencies, top universities and research institutes. Many authentic learning programmes include:

- International Science Youth Forum, involving Nobel Prize-winning scientists;
- Cross-border research collaboration with the Loudoun County Academy of Science (Virginia, US) and Westport Schools District (Connecticut, US);

- Hwa Chong-Beijing Satellite Campus supported by Beijing Normal University 2nd Affiliated School and Hwa Chong alumni;
- The Hague International United Nations Conference @ Singapore, supported by THIMUN;
- Global Learning Alliance with Columbia University Teachers College and Scarsdale Public Schools (New York, US); and
- Positive Education with the University of Pennsylvania.

HCI staff are empowered to establish partnerships based on how these partners can help value-add to the academic and affective programmes. This is **guided by the Institution's mission to produce leaders in research, industry and government for the nation.**

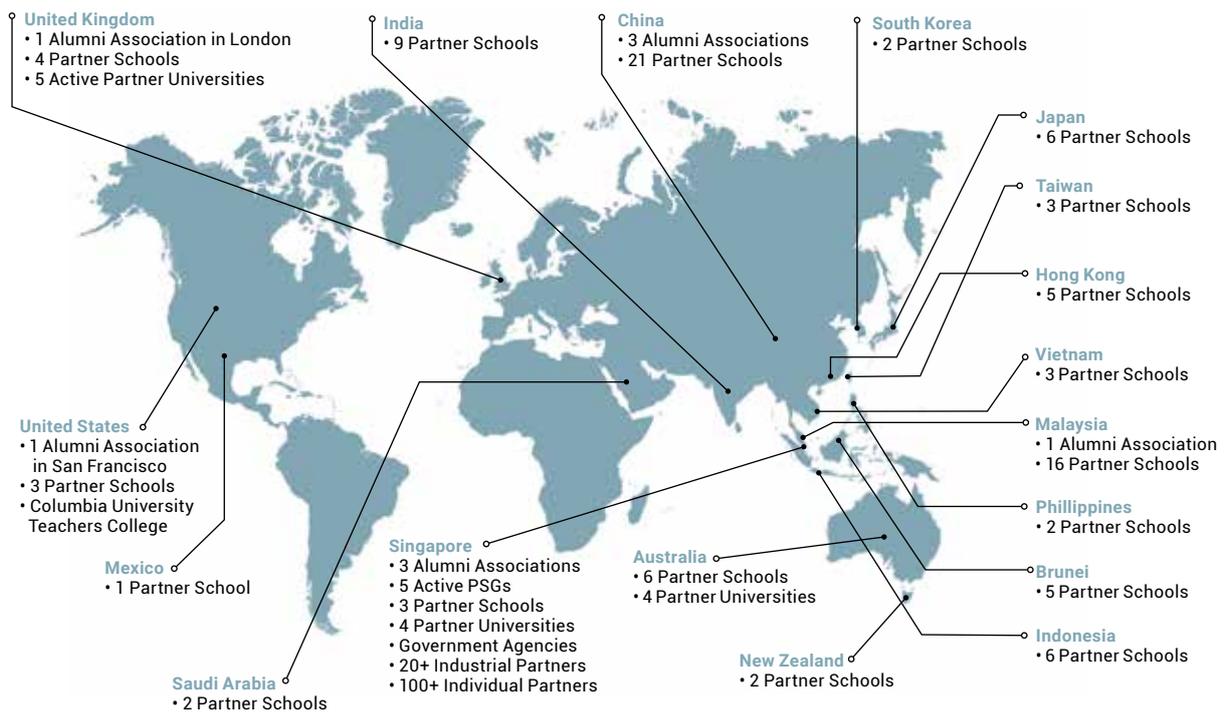


Figure 5.3.1: HCI's global partnership network

5.3 (b) Describe how the organisation engages key suppliers and partners to co-create products and services

HCI has created a two-fold path to the successful engagement of partners as illustrated in Figure 5.3.2. These partners are drawn from Stakeholders and Non-Stakeholders.



Figure 5.3.2: HCI's engagement of partners

Stakeholders

These include parents, alumni and members of the BOG. The school engages and actively seeks the advice and support of the BOG and its various committees. These committees include Personnel, Building Development, and Finance. Hwa Chong has always prided itself on its extensive and well-connected network of alumni. Alumni members extend the reach of the school through their vast networks and contacts. For example, students visit companies and various agencies and organisations locally and overseas, e.g. Singapore-Sino Tianjin Eco-city.

The Hwa Chong alumni provide generous financial support. The support takes various forms, including building funds, scholarships, bursaries and book prizes for students' excellent performance.

Non-Stakeholders

The school creates an open win-win culture to invite partners who are not directly associated with the school. Non-stakeholder partnerships include local and overseas schools and educational institutions, local and international industry partners, and various government agencies. For example, as part of the school's Science, Technology, Engineering and Mathematics (STEM) programme, Hwa Chong partners a host of industry partners and research agencies. They provide students with invaluable opportunities to work with engineers and scientists on real-world projects. The partners include EDB, SUTD, GSK, DSO, DSTA, and National Instruments.

The Hwa Chong Science Research Centre (SRC) further serves as a magnet in attracting industry and research partners. These partners set-up learning spaces in SRC and provide unrivalled opportunities for students in science research and engineering.



HCI student Samuel Leong works with DSO scientists on the F16 fighter jets – one of 250 students every year who are involved in some 90 research projects to solve practical and complex real-world problems



chapter **6**
Knowledge

“

*Rare is the school with a **vibrant and sustained research culture** to support excellence in teaching and learning, that recognises and nurtures the infinite capacities of the mind to achieve, invent, and share, that **educates students to be leaders who will forge a better future**. Hwa Chong Institution demonstrates all these qualities and is **one of the jewels of Singapore**, a treasure — exquisite and remarkable.”*

—
PROFESSOR RUTH VINZ

Enid and Lester Morse
Professor of English Education
Chair of Arts & Humanities
Columbia University, Teachers
College HCI Distinguished
Visiting Consultant



6.1 (a) How the organisation collects and manages information for strategy development, decision-making and organisational learning

Knowledge Management (KM) Framework And Platforms

As a learning organisation, knowledge is a key strategic asset for HCI. In fact, knowledge management (KM) is central to the HCI Success Model (see Organisation Profile, Page vii). As such the Institution has invested considerable resources in developing the best strategies to identify, capture, create, distribute and apply the knowledge assets it needs to succeed.

There are four main platforms that facilitate KM at HCI:

1. Intelligent School Portal (ISP) – using data analytics for planning and evaluation;
2. Electronic Message Board (EMB) and Wikispaces – facilitating school-wide communication;
3. Online Learning Management Portals - providing students anytime anywhere online access to high quality learning resources.
4. Shared Drives – archiving departmental and committee resources, including teaching resources.



The Hwa Chong Intelligent School Portal (ISP) homepage

Intelligent School Portal (ISP)

The Institution relies on an integrated one-stop platform, the Hwa Chong ISP, for analysing,

processing and archiving key school data. ISP is constantly upgraded with refinements to existing KM modules and development of new modules to serve the school's dynamic data management needs.

Electronic Message Board (EMB) and Wikispaces

For internal communication, HCI relies mainly on EMB and Wikispaces. EMB is a two-way communication channel for broadcasting information as well as a convenient platform for soliciting immediate feedback from staff and students. It enables tracking of staff and students who have not accessed the messages so that email reminders can be sent, especially for urgent messages.

The HCI homepage is a central platform for external communication. The comprehensive website informs the public about HCI's key programmes, achievements and admission procedures. The homepage is reviewed regularly to provide up-to-date information to stakeholders. It was revamped in 2011, and underwent a facelift in 2015 to enhance user experience.

Online Learning Management Portals and Shared Drives

HCI has an immense repository of intellectual assets. These are housed in Online Learning Management Portals such as Moodle and Integrated Virtual Learning Environment (iVLE). The intellectual assets include teaching resources, home-based learning resources, academic and affective programmes, administrative resources, as well as time-tested pedagogies and approaches for holistic student development. HCI also rides on MOE platforms such as iMTL and OPAL for teaching resources and professional development.

6.1 (b) How the organisation ensures the accuracy, reliability and accessibility of information

Reliability, Accessibility and Confidentiality

The various online and networked systems serve over 4,500 staff and students, as well as parents and alumni. These stakeholders can gain easy access to relevant information and resources using their unique ID and password. The systems are also protected from cyber-attacks using industrial grade firewall and

anti-virus software. All these measures help ensure business continuity in the event of emergencies. In fact, learning in HCI was not disrupted during the H1N1 alert in 2009 and haze crises in 2013 and 2015 when schools were closed.

Ensuring Business Continuity

With the increasing threat of cyber-attacks, a Cyberwatch Centre was set up to secure the school's extensive servers and networks. A new Data Recovery Centre, located away from the main campus, was

established at the Hwa Chong Boarding school. This is to ensure fast data recovery in the event of any data loss from the main and backup servers on campus.

6.2 (a) How the organisation leverages information and knowledge to create value

At Hwa Chong, insights from data analytics are used to customise teaching and learning. This leads to better student engagement and enhanced student experience. Specifically, analysed data and information are used for strategic planning and review, academic and affective curriculum design, programme planning and review, as well as operations and support planning.

The Institution relies on big data of students' and teachers' performance and development as well as support and operations to monitor its overall performance. Data tagged to the Key Performance Indicators (KPIs) of the school's Strategic Plan— from Blueprint to Rolling Plans, are collected and collated. Data of "lead" indicators (e.g. students' achievements,

quality of school experience) are recorded and tracked. Data of "lag" indicators are collected only once, usually in the second half of the academic year and consolidated into a summative set. Every set of indicators is managed by the respective Deputy Principals and Deans, while the collection of data is coordinated through mass feedback (e.g. annual School Excellence Model (SEM) survey) from staff and students.

Quantitative analyses include trend studies, projections, comparisons and other statistical methods. Qualitative analyses entail focus group discussions, formal and informal feedback as well as surveys. The ISP and EMB are the main platforms for data collation and analysis.

6.2 (b) How the organisation conducts competitive analysis and benchmarking to improve performance

Comparison And Benchmarking

HCI identifies and selects key Comparative and Benchmarking (C&B) information based on the following criteria:

- Close alignment with the school's Strategic Outcomes, Strategic Thrusts, KPIs and key processes;
- Best practices and/or world-class standards; and
- Potential to add value or lead to breakthrough improvements.

There are three main types of C&B:

(a) Internal

Best practices are shared between the College and High School Sections. Within each Section, they are shared at the department, faculty, consortium and section levels.

(b) External

Policy papers by MOE specify essential benchmarking parameters (e.g. PRISM, SEM Score and Descriptors, National Education Surveys). MOE also identifies possible benchmark organisations



Columbia University, Teachers College, co-founding member of the Global Learning Alliance (GLA), with HCI and Scarsdale Public Schools

for the Institution's consideration (e.g. 2012 MOE Integrated Programme Study). In addition, HCI has selected top educational organisations (e.g. Columbia University Teachers College, New York's Scarsdale Public Schools, Connecticut's Westport Schools District) and leading organisations from other industries (e.g. Singapore Prison Service, EDB) for benchmarking.

(c) Reverse Benchmarking

HCI shares best practices extensively with visiting organisations, locally and abroad. Such sharing is also conducted when HCI's staff and students present research findings at national and international conferences and symposia. For example, HCI's learning packages and research projects were presented at the inaugural Global Learning Alliance (GLA) Singapore Summit in 2012 hosted and co-organised by HCI, Columbia University Teachers College and Scarsdale Public Schools. They were used as exemplary practices related to 21st-century innovative curricula, assessment and pedagogical practices. The global summit was attended by top-performing schools from Australia, Canada, Finland, Shanghai, Singapore and the US.

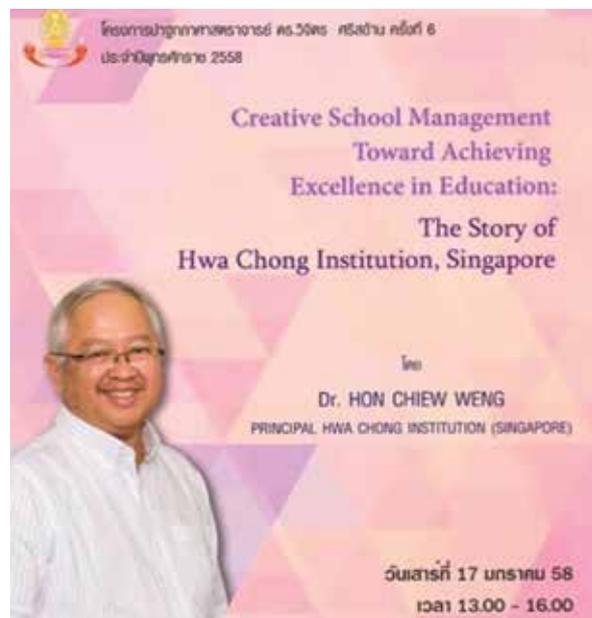
HCI has also been invited to share innovative best practices at international conferences on its 'Future School', global and STEM education initiatives, faculty-consortium system, student leadership framework, HCI-Academy of Science (US) collaboration, and Beijing satellite campus/overseas immersion in China, among others.

Over the last five years, several members of the teaching staff have been invited as keynote speakers at international conferences in countries such as Australia, China, Finland, Malaysia, Singapore, Tatarstan, Thailand and the US.

Notably, HCI Principal, Dr Hon Chiew Weng, was invited by the prestigious Chulalongkorn University as an honorary speaker for Thailand's Educational Leader Symposium 2014. The symposium was held from 26 to 27 Nov 2014, where Thailand's Education Minister Admiral Narong Pipattanasai was the guest-of-honour and keynote speaker. Subsequently, Dr Hon was invited back to Thailand in 2015 as a keynote speaker on the topic "Creative School Management toward Achieving Excellence in Education: The Story of HCI." The symposium was attended by senior ministry officials, academics and school leaders from all over Thailand.



HCI key personnel at the 2014 Global Learning Alliance Summit at Columbia University, New York. Deputy Principal Dr Chung Wen Chee (L) was an invited keynote speaker on 21st-Century Education in Singapore: S.T.E.M. Education – during a Singapore symposium at the summit



HCI Principal, Dr Hon Chiew Weng, was invited by the prestigious Chulalongkorn University as an honorary speaker for Thailand's Educational Leader Symposium 2014

6.2 (c) How the organisation uses knowledge to facilitate innovation

Using Knowledge To Facilitate Organisational Learning And Innovation

Research is not only integral to Hwa Chong teachers' professional growth; it is in fact a cornerstone of the Institution, and often a catalyst for innovative practices. With the establishment of the Research and Development (R&D) Seminar in 1990, the school has embarked on evidence-based research to track its developments and new initiatives. Since 2002, over 288 original research papers have been presented by teachers at this annual platform.

Strategically, HCI has a special tie-up with the Graduate School of Education, University of Western Australia (UWA). The first UWA Master of Education programme was started in 2001. To date, over a hundred doctoral- and master-level research projects



University of Western Australia (UWA)

have been conducted by teachers in the school in conjunction with UWA and the local universities.

Leveraging New Technologies



The Institution has continuously explored new technologies to manage data and knowledge for innovation.

Since 2012, many teachers have embarked on developing short video clips for teaching and learning. The Nearpod application has gained popularity among teachers in delivering engaging lesson packages (including video clips) and/or gathering student responses via different mobile platforms. The software application is currently being evaluated to ascertain its suitability as a centralised platform to house and deliver learning packages. Google Apps for Education was piloted in 2014 as a platform for more effective collaboration, first by the College Physics Unit, and subsequently in 2015 by the 'Global Literacies' Task Force.

“Hwa Chong Institution is renowned for having produced some of the brightest minds in Singapore, and also has an illustrious history of having unearthed some of the biggest names in Singapore athletics.”

Channel NewsAsia

In a feature on Athletics: The secrets to Hwa Chong Institution's success
Feb 7, 2016

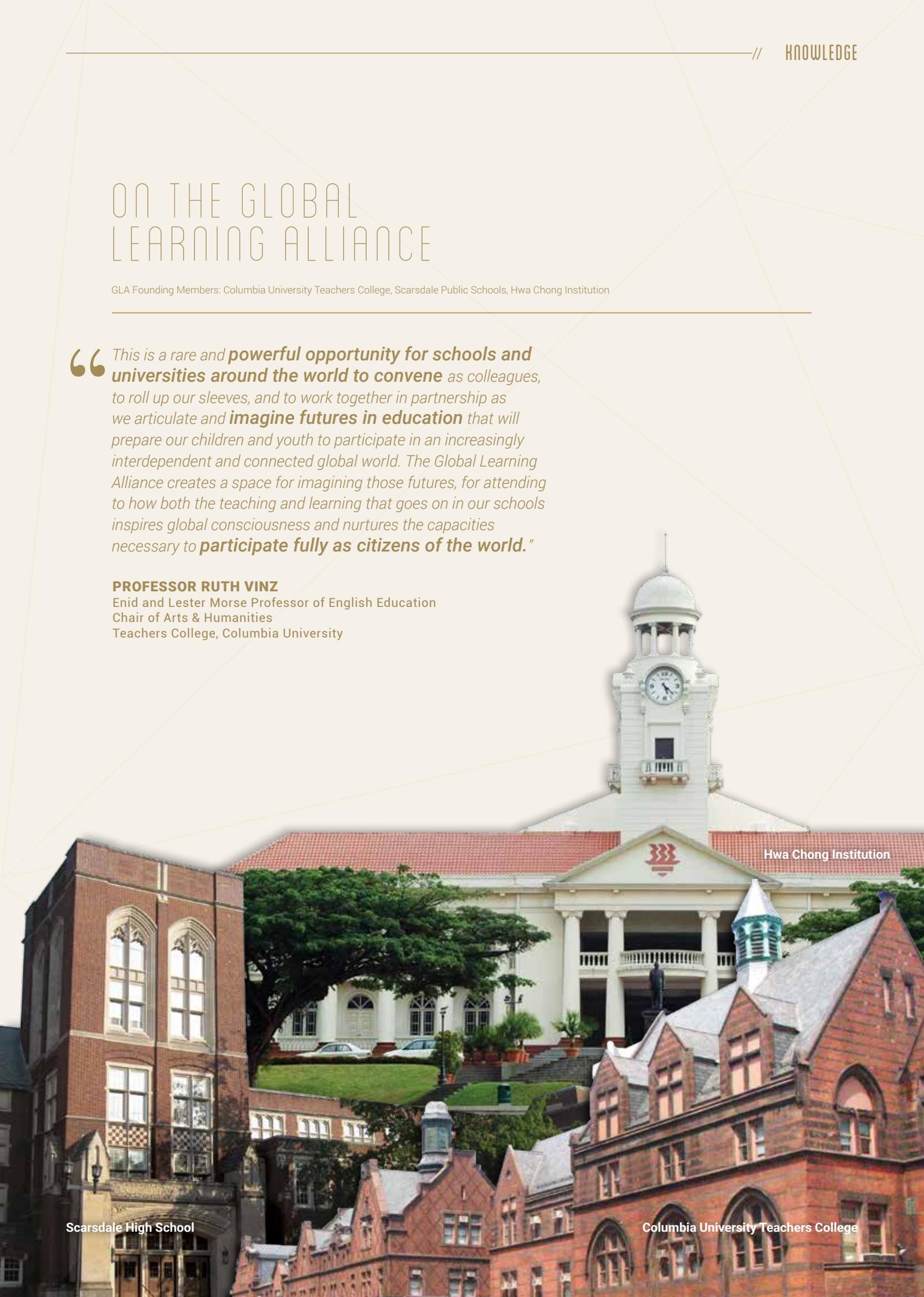
ON THE GLOBAL LEARNING ALLIANCE

GLA Founding Members: Columbia University Teachers College, Scarsdale Public Schools, Hwa Chong Institution

“ This is a rare and **powerful opportunity for schools and universities around the world to convene** as colleagues, to roll up our sleeves, and to work together in partnership as we articulate and **imagine futures in education** that will prepare our children and youth to participate in an increasingly interdependent and connected global world. The Global Learning Alliance creates a space for imagining those futures, for attending to how both the teaching and learning that goes on in our schools inspires global consciousness and nurtures the capacities necessary to **participate fully as citizens of the world.**”

PROFESSOR RUTH VINZ

Enid and Lester Morse Professor of English Education
Chair of Arts & Humanities
Teachers College, Columbia University



Hwa Chong Institution

Scarsdale High School

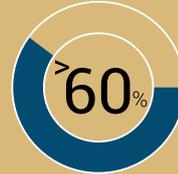
Columbia University Teachers College

HWA CHONG

Latest Achievements of Class of 2014 at the GCE A- Level Exams



14 Angus Ross Prize winners to date, given to the world's best GCE A-Level candidate in English Literature outside the U.K



>60% scored at least 3 H2 Distinctions and better, making them eligible for admission to top universities worldwide

>700

offers in AY 2014 from top universities, including Oxbridge and Ivy League, even before results release



hours of community service on average

Median University Admission Point (UAP) of

86.63

Second Highest in 4 years

Tertiary Education

25

Hwa Chong alumni topped their cohorts in the most prestigious overseas universities between 2009 and 2015

>50%

>50% gain admission to top overseas universities as well as Medicine, Law and scholars programmes in the local universities



Record Number of 50 undergraduate from HCI in Peking and Tsinghua universities (2011-2015)

>300

Hwa Chong Humanities Programme students have won places at Oxford and Cambridge (*The Telegraph U.K.*)

Scholarships

56

President's Scholars to date

HIGHEST

number of Economic Development Board scholars among all schools in Singapore in 2012 and 2013

HIGHEST

number of Public Service Commission scholars among all schools in Singapore in 2010 and 2013

HIGHEST

number of Most Outstanding National Science Scholars in the A*STAR Honours List for 5 consecutive years, from 2004 to 2008; in 2011; and one of two schools in 2013

ONLY

recipient of the Singapore Police Force Overseas Scholarship among all schools in Singapore in 2014

FAST FACTS

Accolades



ranked Speaker Awards and 5 National Debate Championships in 2011 alone

1st & 3rd

IN THE WORLD at the 2009 International Biology Olympiad; HCI also contributed 3 out of 4 Gold Medals in 2013 ; joint-world first in 2013



HIGHEST

number of awards for the **Lee Kuan Yew Award for All-Round Excellence** in 2013 and 2014

One of the **HIGHEST**

number of **Lee Kuan Yew Award for Mathematics & Science** recipients in 2012 and 2014

1st

winner of the Lee Hsien Loong Outstanding **All-Round Achievement Award** in 2014

HIGHEST

number of recipients for the **Lee Hsien Loong Award for Outstanding Bicultural Students** in 2014

48  **WORLD CHAMPIONSHIP**

titles between 2006 and 2016

TOP 

Performing School in 2008-2010 at the **Singapore Biology, Chemistry, Mathematics, and Informatics Olympiads**; and again for Singapore Biology Olympiad in 2013

BEST PERFORMANCE

by a **Singaporean at the South-East Asian Fencing Federation Championships** with 6 Gold Medals



TOP RANKED

Singapore debater and Individual 4th in the world at the **World Schools Debating Championship**

At the Forefront of Educational Innovation



Independent Integrated Programme School to pioneer the FutureSchools@Singapore

First and only

INDEPENDENT

School to set up a Beijing satellite campus



FIRST



Singapore school to partner **Columbia University and Scarsdale Public Schools** (a top performing district in New York) to form the Global Learning Alliance



GCE A-Level Integrated Programme School in the country to be awarded the Singapore Quality Award in 2010, **for achieving world-class standards of excellence in education**



7

chapter

Results

“

Hwa Chong must continue to be one of the [global] peaks of excellence in our education system.”

HENG SWEE KEAT
Minister for Education, 2014



7.1 Customer Results

SCALING GREATER HEIGHTS OF GLOBAL EXCELLENCE

HCI is scaling greater heights of global excellence. Over the last five years, the Institution has received worldwide recognition for its students' phenomenal achievements. With the Hwa Chong Integrated Programme (IP) creating unrivalled opportunities and a truly unique educational experience, HCI students have continued to surpass expectations on the world stage.

48 WORLD CHAMPIONSHIP TITLES

To date, Hwa Chong students have won 48 world championship titles in various fields. Between 2006 and 2010, HCI students won a total of 15 world titles. Over the last six years (2010-2016), 33 more world championship titles have been added. The world championship titles include the coveted Angus Ross Prize, Future Problem-Solving Program International, Intelligent Ironman Creativity Contest, International Biology Olympiad, World Scholar's Cup, Harvard-MIT Mathematics Tournament and Stanford Global Innovation Tournament.



HCI students are World Champions at the 2015 Future Problem Solving Program International Conference, Iowa, US – one of 48 world titles to date

TOPPING THE WORLD'S BEST UNIVERSITIES

HCI alumni continue to excel on the world stage even after graduation. In 2009, six HCI alumni topped their cohorts in some of the best universities globally. Over the **last five years, 20 more Hwa Chong alumni** have achieved this honour, bringing the total to 25 alumni **topping the world's best universities.**

These world-class universities include:

- Harvard
- Princeton
- Stanford
- Cornell

- Brown
- Oxford
- Cambridge
- Imperial College London
- London School of Economics
- University College London
- King's College London
- Shanghai Fudan
- WestPoint
- US Naval Academy

BEST OF EAST AND WEST

HCI is a gateway to the best of the East and West. It is one of the **world's leading Peking and Tsinghua entry centres** outside of China. Between 2011 and 2015, HCI produced no fewer than 50 students admitted to these two prestigious universities. In 2015, **five out of 10 coveted China Government Scholarships** were awarded to Hwa Chong students. As a top Special Assistance Plan (SAP) School in Singapore, HCI will continue to deepen and strengthen its bicultural education.

Hwa Chong's Institution is also one of the **world's leading Oxford and Cambridge entry centres** for the Humanities outside the UK, with over 300 students to date (*The Telegraph*, UK). In six out of the last eight years (2008-2015), the **Angus Ross Prize winners** (given to the **best A-Level H2 Literature in English student globally outside the UK**) were from HCI. The winners were selected from a pool of 11,000 entries worldwide.

DEFINING HOLISTIC EDUCATION

The school's vision is "to define holistic education and empower its students to live with passion, lead with compassion." To measure success, the Institution has set various key performance indicators in two broad areas as follows:

- Holistic Education and
- Quality of School Experience

7.1 (a) Product and service performance

HOLISTIC EDUCATION

Holistic development is central to the Hwa Chong student experience, and HCI students excel in diverse fields beyond studies. In fact, the Institution has been able to optimise the broader learning experiences created by its IP to provide holistic education. And the Hwa Chong Holistic Education Model (see Organisation Profile, Page vi) informs the design of the school curriculum, programmes, assessments, awards and other key processes.

There are five Key Performance Indicators (KPIs) which track Hwa Chong students' holistic experience

a) Hwa Chong Diploma

The Hwa Chong Diploma reflects a more holistic assessment of student development, and is tied closely to the school's vision of defining holistic education. The HCI Diploma also sends a powerful signal to all stakeholders, including students and parents, on the importance of cultivating skills and interests beyond the academic curriculum.

Complementing the GCE A-Level accreditation, the criterion-based HCI Diploma recognises not only students' **academic achievements** (at the JC2 Preliminary Examinations), but also their **scholastic achievements** (e.g. research, Higher 3 (H3) modules, international and national competitions), as well as **leadership and service** to the community. To date, 19 local and overseas universities have welcomed the Hwa Chong Diploma for admission purposes, including Harvard, Yale, Columbia, Peking, Tsinghua, and the local universities (see Table 7.1.1, on page 42). Since 2009, China's top three universities – Peking, Tsinghua

and performance. These KPIs are linked closely to the organisation's vision, mission and strategic goals. The qualitative and quantitative results include:

- Hwa Chong Diploma
- Top Undergraduate Scholarships
- Admissions to World-Class Universities and Local Medicine and Law
- MOE Special Awards, Hwa Chong All-Round Excellence and Outstanding Student Awards
- Academic Achievements – GCE A-Level Examinations, PISA Performances

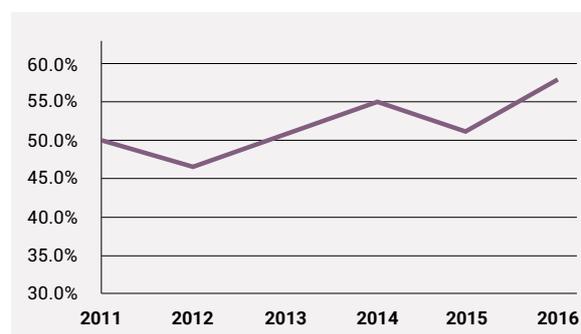


Figure 7.1.1: Percentage of students awarded the Hwa Chong Diploma

and Fudan – have also awarded Hwa Chong students with full scholarships based on the strength of the Hwa Chong Diploma.

Between 2012 and 2015, an increasing percentage of each JC2 cohort (Year 6) has been awarded the Hwa Chong Diploma, as shown in Figure 7.1.1.

Name of Local/Overseas Institution	Recognition of Hwa Chong Diploma
NUS, NTU (including the Lee Kong Chian School of Medicine), SMU, SUTD	Green harvest offer of early decision admission for holders of Hwa Chong Diploma with Distinction and Merit
Peking, Tsinghua, and Fudan Universities, China	Offers 9 scholarships based on Hwa Chong Diploma
Warwick University, UK	Offers admission based on Hwa Chong Diploma
Ivy League US Universities and top UK Universities	Welcomes Hwa Chong Diploma as additional document for admission purpose
Local scholarship boards, e.g. PSC, A*STAR, EDB, MFA	Welcomes Hwa Chong Diploma as additional document for consideration

Table 7.1.1: Local and overseas institutions which recognise the Hwa Chong Diploma

b) Top Undergraduate Scholarships

Top undergraduate scholarships are given only to students who demonstrated all-round excellent performance. Thus HCI has used this measure as one of the key indicators of success in realising its vision (of defining holistic education) and mission (of nurturing leaders in research, industry and government). By this measure, HCI has done exceedingly well. Where nurturing leaders in government is concerned, the Institution has produced one of the **highest number of Public Service Commission (PSC) scholars** among all Singapore schools in the last five years. To date,

Hwa Chong has produced **56 President's Scholars**, and was the only school to produce two out of the four President's Scholars in 2015.

The number of HCI students awarded top scholarships from research organisations and industry has remained consistently high from 2011 to 2014. Increasingly, even as NUS and NTU are ranked consistently among the world's top universities, more and more HCI students are applying to and have won coveted undergraduate scholarships in these local institutions.

c) Admissions to World-Class Universities and Local Medicine and Law Faculties

The number of outstanding HCI graduates admitted into the world's top 30 universities is taken as a proxy measure for the quality of Hwa Chong students' holistic achievements.

At least one-third of each cohort is admitted into some of the world's leading universities. Between 2011 and 2015, there are close to **2000 offers to some of the**

world's best universities, including Harvard, Princeton, Stanford, MIT, Cornell, Brown, Penn, Chicago, UC Berkeley, UCLA, Duke, Cambridge, Oxford, Imperial, LSE, King's College London, and University College London. At the same time, there is an increase in the number of students offered admission to Medicine and Law, as well as undergraduate scholarships, in the local universities.

d) MOE Special Awards, Hwa Chong All-Round Excellence and Outstanding Student Awards



HCI winners, with their teachers, at the 2015 MOE Special Awards ceremony

Besides using undergraduate scholarships as success indicators, the Institution tracks the number of **MOE Special Awards** given to its students. These coveted awards are given only to students who demonstrated all-round excellence, as well as students with special (bicultural and Math & Science) talents.

In 2013 and 2014, HCI produced the **highest**

number of Lee Kuan Yew All-Round Excellence Award winners. In 2014, the Institution produced the **only JC student** who earned the **Lee Hsien Loong Award for Outstanding All-Round Achievement.** In the same year, the school also produced the **highest number of recipients for the Lee Hsien Loong Award for Outstanding Bicultural Students,** and was one of two schools to produce the **highest number of recipients for the Lee Kuan Yew Award for Mathematics and Science (Pre-University category).**

Additionally, the **Hwa Chong All-Round Excellence (ARE) Award and the Hwa Chong Outstanding Student Award (OSA)** are aligned to the Hwa Chong Holistic Education Model. These holistic awards are given to students at Year 4 (Sec 4) and Year 6 (JC2). The Hwa Chong ARE Award and OSA recognise students for their excellent all-round achievements in studies, leadership and community involvement. A substantial number of HCI students has been awarded the ARE Award and OSA.

e) Academic Achievements – GCE A-Level Examinations, PISA Performances

HCI has a distinguished track record of academic excellence. Based on the University Admission Points (UAP), the Class of 2013 achieved the best results since the first batch of IP students took the GCE A-Level Examinations in 2007.

Close to 20 percent of this cohort achieved a perfect score of 90 UAP – the highest in the last seven years. And HCI has consistently maintained a high median GCE A-Level UAP of 86-88 (out of a maximum 90).

In Math, Reading and Science, HCI students outperformed their peers from the Top 5-ranked countries/economies in the 2012 Programme for International Student Assessment (PISA). PISA is an authoritative worldwide study by OECD. It assesses the competencies of 15-year-old students in the three subject disciplines. Around 510,000 students from some 65 countries and economies participated in the 2012 study.



HCI Diploma Distinction holders with three H2 Distinctions and better on stage with the principal and deputy principals, on day of release of the A-Level results



2015 President's Scholars from HCI, Russell Ewe and Etsuko Lim (L-R), with Mrs Tan and President Tony Tan Keng Yam at the award ceremony

NURTURING LEADERS FOR THE NATION

On top of the above KPIs, HCI tracks five other activities closely in line with its mission. Indeed, HCI is more than a school that produces top scholars and world champions. Its mission is to **nurture leaders for the nation**: leaders with a heart to serve the community. Over the years, HCI has consistently nurtured leaders who are found at the highest levels of research, industry and government. This section showcases some of the unique and world-class learning opportunities at HCI.

a) Bicultural Excellence

HCI is committed to nurturing bicultural leaders for Singapore. In 2005, HCI was one of the first schools to pioneer the Bicultural Studies Programme (BSP). It is the first and only school in Singapore to set up the Hwa Chong-Beijing Satellite Campus in 2007. The reason for setting up a satellite campus is to facilitate a sustained immersion for students. Today, the school hosts **extensive immersion programmes in eight other cities in China** including Xi'an, Tianjin, Guangzhou, Xiamen, Guizhou, Wuxi, Shanghai and Hainan.

In 2015, the Hwa Chong BSP received its greatest affirmation yet, with a record of 10 students admitted to the renowned Peking University. To date, more than 600 students have graduated from the programme.

The BSP celebrated its 10th Anniversary on 9 May 2015. The event received wide coverage in both the local and overseas media, including China's *Xinhua News*, the *Fortune Times*, *Lianhe Zaobao* and *Business China* official website, demonstrating the significance of the programme to Singapore.

In 2015, all three Lee Hsien Loong Award for Outstanding Bicultural Students were awarded to HCI students. HCI also made up more than half of the Prime Minister's (PM) Book Prize winners.

Also in 2015, HCI alumnus Jonathan Ong topped his cohort in the Chinese Language Department of Shanghai's Fudan University.

Over the years, a growing number of BSP students has been winning top scholarships and coveted awards related to Bicultural Studies. These include the PSC Overseas Scholarship (China), the Lee Hsien Loong Award for Outstanding Bicultural Students, PM Book Prize and the Singapore Federation of Chinese Clan Associations Scholarship, as well as scholarships and unconditional offers from top universities in China and the US.

Between 2011 and 2015, a total of **50 HCI students** were admitted to the **Peking and Tsinghua universities**. This constitutes 44% of the current 112 Singaporean undergraduates in two of China's most prestigious universities (see Figure 7.1.3).

As a top Independent School with deep roots in Chinese traditions, HCI will continue to nurture a core group of the nation's best and brightest to engage China.



HCI offers unique experiential learning outside the classroom to enhance students' understanding of Chinese literature, culture and the arts, as well as contemporary developments in China



HCI alumnus Jonathan Ong topped Fudan University in 2015. A recipient of the Hwa Chong Teaching Scholarship, Jonathan is currently a teacher in HCI's Chinese Department

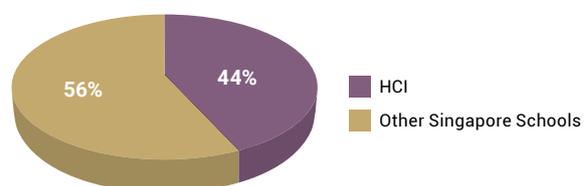


Figure 7.13: Percentage of HCI undergraduates in Peking and Tsinghua universities

“Hwa Chong plays an important role in transmitting the Chinese heritage to the next generation.”

Prime Minister Lee Hsien Loong

Message for HCI's 90th Anniversary Commemorative Book

b) Internationally Recognised Student Leadership Summits

In line with its mission, HCI provides **unrivalled leadership opportunities** to develop individuals with a sense of purpose and passion to serve, lead and inspire the next generation of Singaporeans.

Hwa Chong students are given the opportunities to organise several **global leadership summits** annually. These include the:

- Asia-Pacific Mathematical Olympiad for Primary Schools
- Student Leaders Convention
- The Hague International United Nations Conference, Singapore
- Asia Youth Chinese Forum
- International Science Youth Forum@Singapore (with close to 30 Nobel Scientists and Fields Medallists attending between 2009 and 2016),
- International Young Leaders Forum

- Hwa Chong Asia-Pacific Young Leaders Summit (involving Singapore's cabinet ministers and permanent secretaries)

In the end, HCI's vision is to see all its students graduate as confident, able, and caring individuals, ready to take on leadership roles in both local and global communities.

Every year, about 115 students understand the issues faced by everyday Singaporeans through Meet-the-People sessions (involving 36 Members of Parliament) during the **Grassroots Attachment Programme**.

More than 50% and up to 75% of HCI's student cohort holds leadership positions in Co-Curricular Activities, Community Involvement Projects (CIPs) and Student Committees respectively (see Figure 7.1.4).



MTI/MND Minister of State Dr Koh Poh Koon engaging students as part of HCI's Integrated Boarding Programme

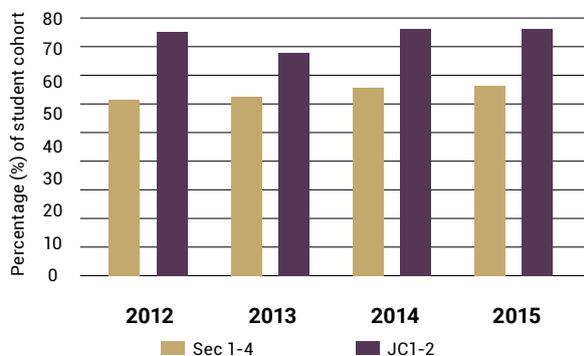


Figure 7.1.4: Percentage of student cohort holding leadership positions



Student delegates with Minister Grace Fu (Prime Minister's Office) at the 2015 Hwa Chong Asia-Pacific Young Leaders Summit



Figure 7.1.5: Average Cultural Intelligence (CQ) scores in four domains - Drive, Knowledge, Strategy, Action - before and after the CQ curriculum, in comparison with world-wide norms

c) Cultural Intelligence

Hwa Chong students are required to demonstrate cross-cultural awareness and sensitivity in dealing with others. To enable HCI students to flourish in a culturally diverse global environment, the Institution has designed and implemented a comprehensive Cultural Intelligence (CQ) curriculum for Sec 2-4 students.

CQ is an individual's set of capabilities to function effectively in situations characterised by cultural diversity.

To evaluate the effectiveness of HCI's CQ curriculum, the school enrolled the 2013 Sec 2 cohort in a longitudinal CQ study administered by the US-based Cultural Intelligence Centre. The HCI students responded to two questionnaires, before and after the CQ curriculum. The two average scores are then compared against the respective world-wide norms, as shown in Figure 7.1.5.

Overall, the results of HCI's CQ curriculum are "very

promising". The average scores were higher than the world-wide norms. This shows that HCI students have "a very sophisticated set of contemporary capabilities that are increasingly important in this globalising, multicultural world".

At the start of the study in 2013, except for Knowledge, the average scores are lower or almost the same as the world-wide norms. By the end of the curriculum in 2015, the average score has increased by 10-14% for every CQ domain such that all four CQ scores are higher than the corresponding world-wide norms.

This provides concrete evidence for the benefits of HCI's CQ curriculum in enhancing the intercultural capabilities of its students. Put simply, HCI students have acquired increased sensitivity to cultural differences and effectiveness in multicultural contexts.

d) Internationally Recognised Research and Project Work

Research is an integral part of the Hwa Chong student experience. The Institution has for years dedicated itself to nurturing leaders in research, industry and government.

The school is the first institution in Singapore to build a world-class Science Research Centre. In addition, HCI is the first and only school in Singapore to have full-time post-doctoral scientists-in-residence to mentor students' projects and to conduct workshops in research methodology. By bringing together a comprehensive range of science-related activities, the aim is to give students a head start in becoming leaders in research and industry, and incite passion for Research and Development (R&D) in Biomedical, Sciences and Engineering sectors. Its extensive collaborations with renowned organisations and research institutes include A*STAR, Defence Science Organisation, GlaxoSmithKline, National Laboratories Singapore, DSTA, general hospitals, NTU, NUS and SUTD.

HCI aims to create a pipeline of leading scientists and researchers for Singapore. To this end, HCI students organise the International Science Youth Forum@Singapore annually. To date, this global forum has involved close to 30 Nobel Prize-winning scientists and top Science students and educators worldwide.

HCI also engages in research collaborations every year with the Loudoun County Academy of Science (Virginia, US), for which the cross-border project was showcased in 2015 by *NATURE* journal as one of the world's "most innovative Science-education programmes".

Unsurprisingly, Singapore was ranked joint-first in the world, alongside the United States at the 2013 International Biology Olympiad, in terms of medal count. At this international competition, three out of the four Gold medallists and the Best Performing Singaporean were Hwa Chongians. This comes after Hwa Chong students were ranked 1st and 3rd in the world at the 2009 International Biology Olympiad. Again in 2015, another HCI student was ranked 4th overall in the world when he represented Singapore at the International Biology Olympiad.

Additionally, Hwa Chong students were awarded the World 2nd Prize (Environmental Engineering) and Sigma Xi Special Award for Team Science (Life Science) at the 2015 Intel International Science and Engineering Fair (ISEF) in Pennsylvania, US. Often referred to as the 'Olympics' of science research, the Intel ISEF is the world's largest science fair held annually for top science and engineering talents to showcase their projects.

At the High School, all students work on research projects chosen from 12 broad categories ranging from Experimental Science and Inventions, to Creative Arts, Future Trends and Service Learning. In 2015, a group of HCI students won the World Championship title at the Future Problem Solving Program International (Iowa, US), as well as the E. Paul Torrance Beyonder Award for their work with migrant workers in Singapore. The 'Beyonder' award is conferred on projects that "outdistance the others so far that they are not even on the same scale".

Across Sec 1-4 annually, there are some 500 interdisciplinary projects. More importantly, there is a steady increase in the number of high-quality projects that have been awarded distinctions, A or A*.

The steadily growing number of HCI awardees at the prestigious Singapore Science and Engineering Fair (SSEF) over the past three years (2013-2015) reflects HCI's success in nurturing leaders for Research and Industry (see Figure 7.1.6). HCI has the highest number of awardees in 2015 – an achievement underpinned by strong support from its many research and industry partners.



Team Hwa Chong is World 2nd at the 2015 Intel International Science and Engineering Fair, often seen as the 'Olympics' of science research

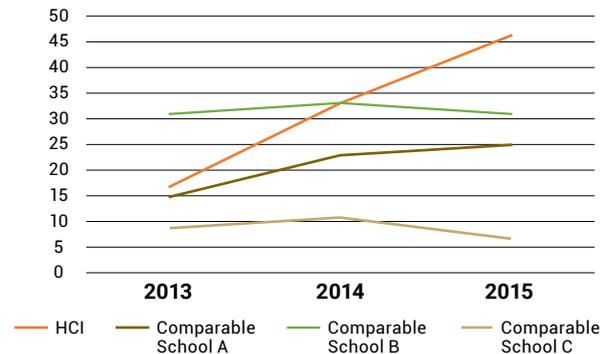


Figure 7.1.6: Number of HCI and Comparable School awardees at the Singapore Science and Engineering Fair (SSEF)

e) Community Service

Character is at the heart of education in Hwa Chong. Yearly, all Hwa Chong students are engaged in different Values-In-Action (VIA) projects. School-wide, there are over 200 student-initiated VIA projects annually. More and more students are engaged in outside-school community and service learning projects, and the school encourages more long-term partnerships between students and beneficiaries as opposed to ad-hoc activities.

The average cumulative number of CIP hours per High School and College student is 130 hours and 90 hours respectively. The recently graduated Class of 2015 served an average of 115 hours in community service. Selected service learning projects receive financial support from the Citibank Youth for Causes Fund and Campus Change Makers by the National Youth Council. Projects include promoting an appreciation of Chinese culture at the Singapore History Museum, conducting



HCI students and teachers with CDC Central Mayor Ms Denise Phua, in support of the Purple Parade – a movement that supports the inclusion and celebrates the abilities of persons with special needs

web design courses for underprivileged children at community centres, organising Rainbow Camps for the Salvation Army, and creating online learning programmes for primary school students.



*Both **Hwa Chong** and **Harvard** provided me a **well-rounded education**. There were **unrivalled opportunities** for co-curricular activities, research endeavours, and community service."*

Cong Lin

HCI Alumnus, George Shultz Scholar 2012, Gerald Lieberman PhD Fellow, **Stanford University**,
Named "Most Promising Graduate", **Harvard University**

7.1 (b) Student satisfaction and experience

Quality of School Experience

HCI offers its students an unrivalled educational experience. This is borne out by the Quality of School Experience (QSE) surveys – an established and comprehensive tool administered by MOE. QSE measures students' experience in three domains: Learning Structures, Social Processes, and Affiliation. The survey is administered to Sec 2, Sec 4 and JC2 students in all Singapore schools.

HCI's latest 2014 scores in the three domains, Learning Structures, Social Processes and Affiliation, are above national cohort rating.

HCI's strongest rating lies in Affiliation, with

every measured level (Sec 2, Sec 4 and JC2) being 6-11 percentage points above national cohort rating. This reaffirms the fact that Hwa Chong students feel strongly for their school and appreciate the people who have helped them in life.

Hwa Chong students' morale is also high. The 2014 QSE overall scores for Sec 2, Sec 4 and JC2 trended above the national cohort scores. This indicates that students are more satisfied than their peers in other schools with regard to their overall well-being. In short, Hwa Chong students' school experience is both positive and enriching.

7.2 Financial and Market Results

7.2 (a) Financial performance, including financial results and economic value

As a non-profit organisation, HCI's main focus is on creating unrivalled learning opportunities and a unique educational experience for all its students. Rather than seeking profits, the Institution's ultimate aim is to nurture leaders in research, industry and government to serve the nation.

The Institution, a member of the Institutions of Public Character, is heavily dependent on

government funding, and is therefore accountable to the government and public. The financial objective is thus to manage and optimise the use of funds and resources, so that operational services can be delivered efficiently and effectively to achieve the Institution's vision and mission.

HCI uses the following performance indicators to evaluate if it is meeting its financial objectives.

Labour Productivity

HCI staff is highly efficient and effective, in terms of producing value added per dollar of labour cost. Since 2011, labour productivity in HCI (indicating workforce success) has increased.

Capital Productivity

The world-class Bukit Timah campus has state-of-the-art facilities to support Hwa Chong's unrivalled educational programmes. There is a positive and increasing trend in capital productivity between 2011 and 2014.

7.2 (b) Marketplace performance, including growth and market share, position and acceptance

A World-Class Institution for Bicultural Education

For achieving global standards of excellence in bicultural education, HCI was conferred the Singapore Quality Award in 2010. Since then, the Institution has strengthened and deepened its distinctive advantage over the past five years in providing top-of-the-class bicultural education.

For example, in 2015, the Hwa Chong Bicultural Studies Programme received its greatest affirmation yet by producing a **record 10 students being offered admission to China's most prestigious learning institution, Peking University**.

HCI is also the first and only school in Singapore to set up the **Hwa Chong-Beijing Satellite Campus** in 2007. Today, the school hosts unrivalled immersion programmes in eight other cities in China, including **Xi'an, Tianjin, Guangzhou, Xiamen, Guizhou, Wuxi,**

Shanghai and Hainan.

As a top bicultural school in the world, HCI is able to draw from the best of the East and West.



HCI principal Dr Hon Chiew Weng meeting current Peking and Tsinghua undergraduates from HCI in Mar 2015, as part of the PSC delegation to China

Global Benchmarking of 21st-Century Teaching and Learning

HCI is at the forefront of educational change and innovation. Already recognised internationally as one of the **world's most innovative schools**, HCI is continuing to harness its close ties with its international partners to **set new global benchmarks** in 21st-century teaching and learning.

On 16 Jul 2015, the world's most cited scientific journal *NATURE*, showcased **HCI as having one of the world's "most innovative Science-education programmes"**.

This comes after the *South China Morning Post* (Hong Kong's premier English daily) featured HCI in a 'School of the Future' centrespread article as **among "some of the world's most innovative schools"** on 26 Jun 2009.

In 2012, HCI established a strategic partnership with **Columbia University Teachers College** and **Scarsdale Public Schools** ("in the nation's top 100 for Math and Science" – *US News & World Report*) to form the Global Learning Alliance (GLA).

The GLA brings together school leaders from some of the **world's most innovative schools in top-performing countries like Australia, Canada, China (Shanghai), Finland, Singapore, United States**, as well as scholars from some of the best graduate schools in education and universities, to **characterise world-class education**.

The 2012 GLA Singapore Summit, co-organised and hosted by HCI, set out a long-term plan to **forge new international benchmarks for 21st-century teaching and learning**. In 2015, HCI started a new global initiative on a potentially **ground-breaking performance-based assessment prototype** that

can help prepare students for 21st-century life and work. This rides on the long-term university-school partnership between **Columbia University Teachers College, Scarsdale Public Schools** and HCI.

This **pilot global research project** is fully funded by Singapore's **Economic Development Board (EDB)** and **GlaxoSmithKline**. The global study will be featured and benchmarked at the third instalment of the GLA Summit held in Singapore in 2016.

Ontopofthat, HCI has been involved in a cross-border collaborative research project on global education with Singapore's National Institute of Education (NIE) and **Westport School Districts (Connecticut)** ("**Among the best public and private schools in the US**" – *Wall Street Journal*). The three-year (2013-2015) research involved consulting scholars from NIE and Studies in Educational Innovation at Teachers College, Columbia University.

The research project, "A Holistic Approach to Global Education: Case Studies of Schools in Australia, Singapore, and United States", aims to **advance understanding of exemplary world-class teaching and learning**. Both the original paper and academic poster were presented at the Redesigning Pedagogy International Conference 2015. The 82-page report is also published and presented at various international platforms. In addition, HCI's efforts in spearheading initiatives in 21st-century teaching and learning are showcased in a book titled "Educating for 21st-Century Global Capacities: International Perspectives and Practices", to be published by Springer in 2016.

Market Recognition and Acceptance

Hwa Chong in the News – Growing Prominence in Local and International Media

HCI firmly believes in cultivating a good symbiotic relationship with the media. This has brought about extensive positive coverage for Hwa Chong. Through the international and local mass media, Hwa Chong's external partners, parents and public are kept informed of HCI's numerous global initiatives, innovative programmes, as well as significant student achievements. Importantly, the highly positive image of Hwa Chong has facilitated the attraction and retention of key partners.

Hwa Chong has been featured positively and extensively in both broadcast news and print media. These include headline news in the nation's major newspapers like *The Straits Times* and *Lianhe Zaobao*. To commemorate Hwa Chong's 90th Anniversary, Mediacorp's *Channel News Asia* featured a documentary ("A Story of a School, A Story of a Nation") on Hwa Chong's growth and success as a leading national institution alongside Singapore's progress.

HCI's media coverage also extends beyond Singapore. Key international highlights include:

- HCI was showcased on 16 Jul 2015 by **Nature** (vol.523) (the world's most cited scientific journal) as having one of the world's "most innovative science-education programmes".
- The Hwa Chong Bicultural Studies Programme (BSP) Forum was featured in **China's Xinhua News** in May 2015.
- HCI was featured in the **BBC Knowledge** journal (vol. 7, Issue 3, Mar 2015) for its innovative overseas outdoors experiential programme.
- In April 2014, HCI was cited as a model example in *The Hechinger Report* article "How does one of the top-performing countries in the world think about technology?" on Singapore schools and the use of ICT in teaching and learning.
- The **New Zealand online news Howick and Pakuranga Times** featured HCI in an article "Technology in Spotlight" on ICT in education in Apr 2013.
- On 9 Nov 2011, **The Telegraph** U.K. reported that under the Hwa Chong Humanities Programme (HP) alone, "more than 300 students have won places at Britain's top two universities". This places HCI as one of the world's leading Oxford and Cambridge entry centres outside the UK.
- HCI was featured under a "School of the Future" centrespread article as among "some of the world's most innovative schools" in the **South China Morning Post** (Hong Kong's English daily) on 26 Jun 2009.

Extending Local and Global Reach

Local and Global Benchmarking

Every year, the Institution organises and hosts international events like the **Hwa Chong Asia-Pacific Young Leaders Summit (APYLS)** – the first of its kind in Singapore, Asia-Pacific Mathematical Olympiad for Primary Schools, Student Leaders Convention, and the International Science Youth Forum (ISYF). The annual ISYF has involved more than 30 Nobel Laureates and Fields Medallists over the last seven years. HCI has also drawn insights on key global challenges and the future of education through eminent thought leaders who have visited HCI between 2011 and 2015.

Distinguished visitors to HCI include the President of Kazakhstan HE Nursultan Nazarbayev, Prime Minister of Tatarstan HE Ildar Khalikov, as well as different delegations of leading principals from top UK, Finnish, Russian schools and national award-winning teachers from Sweden and the US.

At the same time, HCI students have flown the Hwa Chong flag high on the world stage. The school has garnered 48 world championship titles to date in various fields including the Future Problem-Solving

Program International, Intel Science and Engineering Fair, Harvard-MIT Math Tournament, Stanford Global Innovation, and World Choir Games.

Over the past five years, HCI has shared its best practices with various local and international schools, public and private-sector organisations, and individuals. Locally, HCI has worked with over 30 local primary and secondary schools, tertiary institutions and MOE divisions on educational innovation, new technology, student leadership, teacher training and development, human resource practices, as well as global partnerships. The local institutions include Raffles Institution, Singapore Chinese Girls' School, River Valley High, Anglican High, Nanyang Girls High, Chung Cheng (Main), Yishun Town Sec, Zhonghua Sec, Xin Min Sec, Nan Hua Pri, Huamin Pri, Singapore Polytechnic, National Institute of Education, as well as MOE divisions like Planning, Human Resource Solutions and Capabilities, Educational Technology, and Curriculum Policy.

HCI staff actively conduct research on teaching

and learning as well as organisational practices. They have published their findings in top-tier, international peer-reviewed journals, and/or shared at numerous local and international conferences, including the in-house annual Hwa Chong-Nanyang Integrated Programme Education Conference.

Over 288 original research papers have been presented by Hwa Chong teachers at various platforms since 2002. HCI staff is also involved in over 100 doctoral and masters research projects with the University of Western Australia (UWA) and other universities.

Market Share and Demand

Increasing Share of High-Quality Students

This is reflected by the increasing number of HCI students who received prestigious pre-university scholarships and top external special awards (see Chapter 7.1, Page 40 for details), as well as scholarships and awards related to Bicultural Studies.

Key achievements of HCI students include:

- 56 President's Scholars to date
- Over the past five years, HCI has also produced one of the highest number of Public Service Commission (PSC scholars)
- Highest number of EDB scholars among all Singapore schools in 2012 and 2013
- Highest number of Most Outstanding National Science Scholars in the A*STAR Honours List in 2011, and one of two schools to win this honour in 2013
- 14 winners (out of 28 from Singapore) to date of the Angus Ross Prize, given to the world's best GCE A-Level candidate in Higher 2 (H2) English Literature outside the UK (out of 11,000 scripts each year)

- Highest number of recipients for the Lee Kuan Yew Award for All-Round Excellence in 2013 and 2014
- One of the highest number of recipients for the Lee Kuan Yew Award for Mathematics and Science recipients in 2012 and 2014
- Highest number of recipients for the Lee Hsien Loong Award for Outstanding Bicultural Students in 2014

Another clear evidence of HCI's growing share of high-quality students is the proportion of each graduating cohort offered admission to the world's top universities as well as local Medicine and Law faculties – standing at more than 50% and rising (see Chapter 7.1, Page 40). In addition, more than 300 Hwa Chong HP students have won places at Oxford and Cambridge (*The Telegraph U.K.*).

These coveted honours signal HCI's increasing share of a limited pool of high-quality and top calibre students.

High Demand for Quality Education in HCI - Stringent Cut-Off Points

Drawing from the best of the East and West, Hwa Chong continues to provide a seamless six-year IP that caters to the top 5% of students from Singapore. The high demand for quality education and unrivalled opportunities available at Hwa Chong is evidenced by the stringent cut-off points at both the Year 1 (Sec 1) and Year 5 (JC1) insertion points.

With the IP, all students who enter Nanyang Girls'

High (NYGH) will flow through to HCI (College Section) for education in Years 5 and 6. As such, students who make NYGH their secondary school of choice are also attracted by the Hwa Chong brand name.

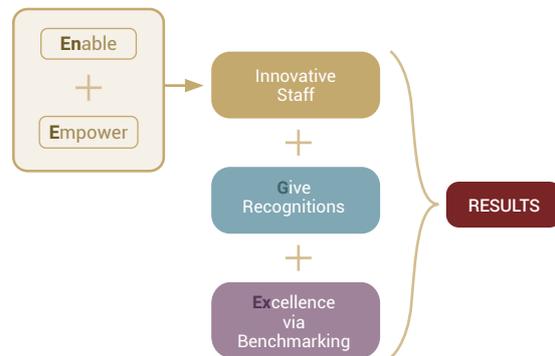
At the Year 5 (JC1) insertion point, HCI maintains one of the most demanding GCE O-Level cut-off points amongst all junior colleges.

7.3 People Results

7.3 (a) Employee Learning and Development



Columbia University Teaching Fellow and HCI Humanities Head (High School), Ms Liew Pei Li (in orange), during a workshop on Mary Shelley's *Frankenstein* in New York in June 2014



HCI cannot expect to succeed, except by making sure all its teachers and staff realise their potential. Thus, the school has over the years moved beyond **staff satisfaction** to **staff engagement** and then to its current focus on **building trust and capacities**.

To this end, HCI's Learning and Development (L&D) remains a key strength in enabling teachers to be leaders in their fields and experts in their subject areas.

Based on its People Management Principle – EnEGEx (see right), HCI's L&D is within the domain of 'Enable'. Where enabling teachers is concerned, HCI continues to place great emphasis on strengthening their pedagogical and research competencies.

To date, close to **300 original research papers** have been published and/or presented by Hwa Chong teachers.

Between 2011 and 2015 alone, Hwa Chong teachers and school leaders have (to name but a few):

- given **keynote addresses** to Thailand's leading educators at national symposiums organised by Chulalongkorn University (the country's top university) in honour of Professor Dr Wichit Srisa-An, Minister of Education, **Royal Thai Government**;

- won a prestigious Singapore Fulbright Scholarship **to Harvard University's** Graduate School of Education;
- published original research papers based on their doctoral studies in **high-impact international, peer-reviewed journals**, e.g. *Computers & Education*, *Australian Educational Researcher*;
- been invited to conduct workshops on teaching Molecular Biology using virtual reality for the **Association for Teacher Educators in the Netherlands**;
- presented original papers on corpus linguistics and the use of Team-based Learning in Science at the **World Council for Gifted and Talented Children World Conference**; and
- conferred a highly selective **global teaching fellowship by Columbia University's** Centre for the Professional Education of Teachers for a two-week workshop in New York City on Mary Shelley's *Frankenstein*.

Importantly, Hwa Chong staff members have embarked on over 100 doctoral- and master-level research projects with the University of Western Australia Graduate School of Education and other leading universities since 2001.

Postgraduate Qualifications

Figure 7.3.1 shows a positive and increasing trend in the percentage of staff with postgraduate degrees. The upward trend reflects the Institution's

unwavering commitment in enabling staff members and supporting their professional development.

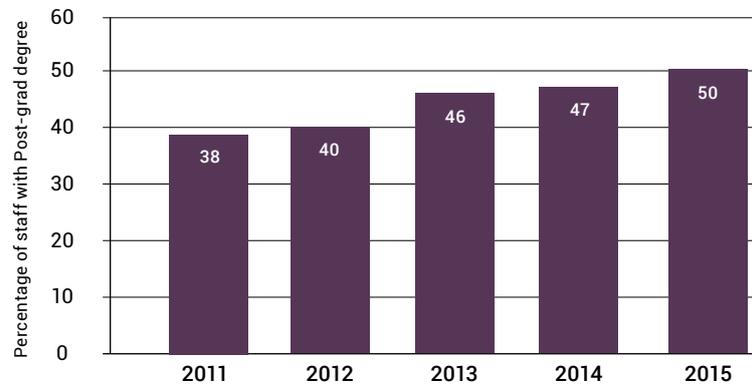


Figure 7.3.1: Proportion of HCI staff with postgraduate degrees

7.3 (b) Employee Engagement and Well-being

The second EnEGEx cornerstone is 'Empower'. Under 'Empower', various 'Employee Engagement' and 'Employee Well-Being' indicators are tracked.

Engagement indicators include data like 'Employee Attrition' and 'Direct Employment', as

well as perception survey results on engagement and innovation.

Well-being indicators include teacher-student ratios vis-à-vis other government schools, as well as perception survey results on work-life balance.

School Climate Survey on Engagement & Innovation

The staff engagement level in HCI for EOs surpassed that of the national average in the 2011, 2013 and 2015 School Climate Surveys (SCS). The EAS engagement level surpassed the national average in 2013 and 2015, and is showing a positive trend. Hwa Chong has a higher Staff Engagement Index than the Global Engagement Index and that of a comparable school (see Figure 7.3.2).

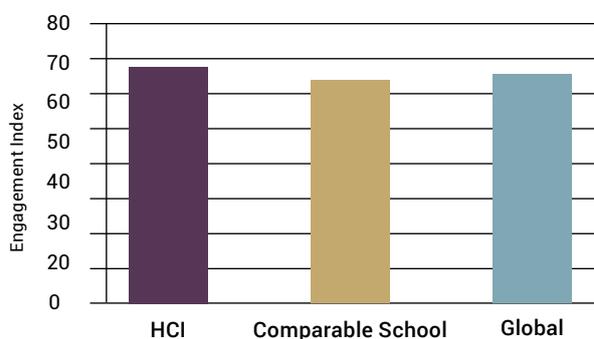


Figure 7.3.2: The Global Engagement Index and Staff Engagement Index of HCI and a comparable school (2015)

Employee Well-Being

HCI staff's well-being is well taken care of. With the Institution at the forefront of educational change and innovation, great care has been taken to ensure that staff workload is manageable compared with other schools.

Teachers and non-teaching staff are satisfied with work-life balance. The teachers' level of satisfaction with work-life balance surpassed the national average in 2011, 2013 and 2015, and shows a positive upward trend. For EAS, the positive upward trend reflects

the concrete actions taken to address non-teaching staff's concerns with work-life balance over the last three years. In 2015, EAS's level of positive perception of work-life balance surpassed the national average.

Where well-being is concerned, the satisfaction scores of both EOs and EAS surpassed that of the national average from 2011 to 2015, and are on an upward trajectory. The conclusion is this: HCI is a fast-paced, innovative and dynamic organisation that takes good care of its entire staff.

Innovative Staff

The innovative efforts of HCI teachers go hand in hand with those of non-teaching staff. The number of I-cube (I³) submissions shows a positive and increasing trend, especially for innovative improvements in Teaching and Learning (T&L) (see Figure 7.3.3). Qualitatively, the vast majority of submissions are aligned to the school's vision of defining holistic education – within the domains of Caring, Creative and Critical Thinking.

Numerous I³ submissions have been presented at local and international conferences. For instance, an innovative lesson package using Team-Based Learning to address misconceptions in Evolutionary Biology was shared at the Hwa Chong-Nanyang IP Education Conference, and subsequently at the 21st Biennial World Council for Gifted and Talented Children in Denmark in 2015.

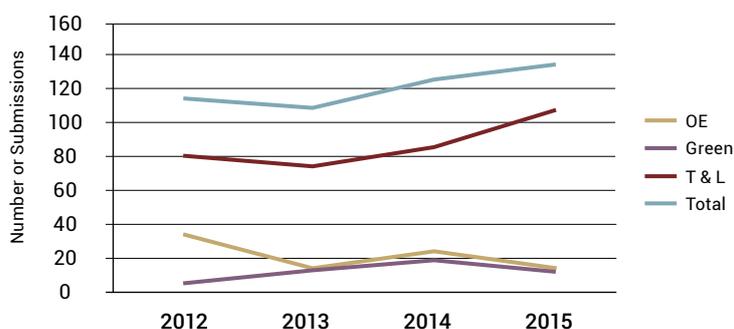


Figure 7.3.3: Number of I-cube (I³) submissions in the categories of Organisational Effectiveness (OE), Environment and Energy Conservation (Green), and Teaching and Learning (T&L)

7.3 (c) Employee performance and recognition

'Giving Recognition' for staff's good performance constitutes the third pillar of EnEGEx. Over the past five years, HCI boasts its fair share of nationally-recognised teachers and school leaders for their outstanding contributions to education (see Table 7.3.1). The Excellent Service Award (EXSA) is a national criterion-based award conferred by SPRING Singapore to recognise individuals who have delivered quality service. There is a positive uptrend in the number of EXSA awards over the past five years, indicative of the high-quality services provided by HCI's EAS.

In addition to the national awards, there are 10 internal school awards (e.g. Outstanding Contribution Award, Outstanding Educator Award, Innovation Award, Florentina Award, Most Caring Teacher Award) to encourage continued efforts in T&L.

With regard to the work recognition accorded by the Institution, the satisfaction scores of HCI teachers surpassed the national average in the 2011, 2013 and 2015 SCS. There is a positive rising trend for EAS, with the 2015 score surpassing the national average.

2015
<ul style="list-style-type: none"> • Mr Tan Chin Guan (MOE Outstanding Youth in Education Award) • Mrs Sow Yoke Keow (MOE Outstanding Science Educator (Research Mentor) Award) • Dr Yip Cheng Wai (MOE Outstanding Science Educator (Research Mentor) Award) • Ms Nada Nurwani Ng (UOB Painting of the Year Bronze Award) • Mr Yong Yuen Cheng (Finalist for ST Singaporean of the Year; SG 50 Ultramarathoner who ran 2,500km in 50 days) • Mr Jonathan Ong (Top student at Fudan University, Chinese Language Department)
2014
<ul style="list-style-type: none"> • Dr Hon Chiew Weng (Outstanding Science Alumni Award, National University of Singapore) • Mr Quek Wee Tong (NIE/ExxonMobil Caring Teacher – National Commendation Award) • Ms Liew Pei Li (Teaching Fellow, Columbia University, Teachers College)
2013
<ul style="list-style-type: none"> • Ms He Jiawen (Singapore Fulbright Scholar, Harvard Graduate School of Education) • Dr Lim Jit Ning (Crescendas Medal and Prize for Outstanding Physics Teacher) • Mr Tan Wah Jiam (National Inspiring Teacher of English Award)
2012
<ul style="list-style-type: none"> • Ms Jenny Low Yen Yen (MOE Most Inspiring Mother Tongue Language Teacher Award)

Table 7.3.1: HCI's award-winning teachers

Excellence via Benchmarking

Besides staff publications/presentations in international journals and conferences worldwide, HCI has created several global benchmarking platforms for teachers in the last five years. The aim is to forge new international benchmarks in educational innovation for 21st-century teaching and learning.

These global platforms (e.g. Global Learning Alliance, SWIFT Conference) involve some of the world's most innovative schools from high-performing nations, including Australia, Canada, China, Finland, Hong Kong, New Zealand, Sweden, Singapore, and the US.

For example, HCI is currently spearheading an EDB/GlaxoSmithKline-funded global pilot project with Columbia University Teachers College and Scarsdale Public Schools (New York). The ground-breaking international collaborative study is led by a global committee comprising leading professors, research scholars as well as school leaders and teachers from HCI and Scarsdale. The aim is to set new global benchmarks in innovative curricula, assessment and 21st-century pedagogical practices that transcend TIMSS and PISA.

In addition, the Hwa Chong Centre for Pedagogical Excellence (CPE) is the first research centre in a Singapore school to benchmark teaching innovation and leadership excellence in the classroom. The

Centre's special focus is to help HCI teachers develop as educators and professionals by strengthening teaching capabilities across all levels. Every year, the CPE organises an annual in-house education conference for over 500 teachers from HCI and its partner school, Nanyang Girls' High School.

Between 2011 and 2015, HCI has worked with over 30 local primary and secondary schools, tertiary institutions and MOE divisions on educational innovation, new technology, student leadership, teacher training and development, human resource practices, as well as global partnerships.



Active teacher participation in a hands-on concurrent session at the 2015 Hwa Chong-Nanyang IP Education Conference

7.4 Operational Results

7.4 (a) Process performance

Quality Control of Key Processes

To ensure quality in key processes, HCI has set in place a range of quality control measures.

Over the last five years, HCI has been subjected to regular structured external reviews, starting with the Singapore Quality Award (2010), MOE Integrated Programme (IP) Study Review (2011), School Excellence Model (2012 and 2014), MOE School-Based Gifted Education Programme Review (2014), and not least the Singapore Quality Award with Special Commendation review exercise in 2016. The

83-page MOE IP Study Report in 2012 concluded that the "key enablers of the Hwa Chong IP outcomes lie in the school's bold and strong leadership; pervasive school culture of innovation and flexibility; investment in professional development and the purposeful cultivation of strategic partnerships with tertiary institutions and organisations."

To monitor, evaluate and improve its teaching and learning processes, HCI has initiated a number of internal reviews (see Table 7.4.1).

Initiative	Examples of Improvement made following review
Positive Education	The school introduced the Penn Positive Psychology in its Character and Citizenship Education (CCE) curriculum to help students find meaning and purpose in life. After piloting the Positive Education programmes in two consortia, the Positive Psychology module was incorporated into the High School Pastoral Care and Moral Education (PCME) curriculum from 2013 onwards.
Learning Support Programme	In 2013, the school further refined the Learning Support Programme for academically underperforming students.
Student-Led Forum (see Chapter 2, Page 15)	The Student-Led Forum (SLF) is a new initiative rolled out in 2014 at the High School Section. SLF replaces the conventional Parent-Teacher Meeting which tended to focus on academic achievements. To align with the Hwa Chong Holistic Education Model, SLF provides a platform for students to lead in sharing with parents/guardians and teachers about their learning journey. This provides opportunities for students to showcase their talents and passion, as well as for their strengths and passions to be recognised and affirmed. Students are also empowered to take ownership of their personal growth. The open discussions during SLF help to foster better parent-child as well as teacher-student relationships.

Table 7.4.1: Improvements made (2013-2015) following reviews

Knowledge Management (KM) – Data Delivery for Timely Decision-Making

Knowledge Management (KM) modules refer to online modules created to enable more efficient management of data to facilitate reviews and tracking of results. Figure 7.4.1 reflects the growing number of KM modules over the past five years. The moderation in the rate of increase is due to the focus on improvement and refinement of existing modules in order to enhance operational functionality and user-friendliness.

Under the school's KM system, there is a concerted effort to ensure that appropriate teaching and learning resources are adequate, relevant, up-to-date, and easily accessible by teachers

and students. The physical resources (materials and equipment) are managed by the Heads of the respective academic departments/units and organisation support teams. The digital resources are accessed through various online platforms, namely the Intelligent School Portal (ISP), network drives, webpages, wikis, and Electronic Message Board (EMB).

Results of staff surveys show that the vast majority (over 90%) of teachers agree that the various KM systems are good platforms for updating, retrieval, sharing and dissemination of resources, which are accessible, up-to-date, relevant and adequate.

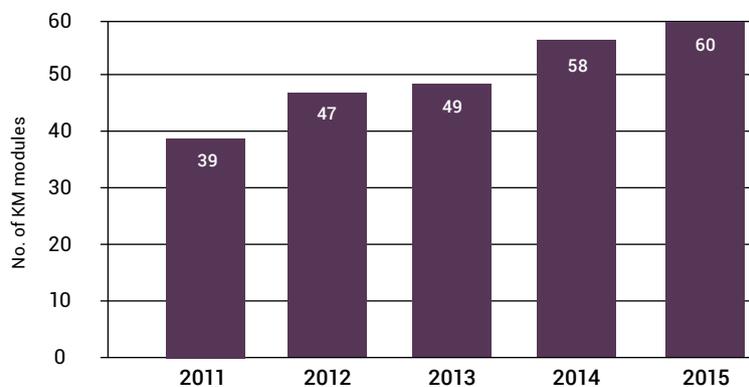


Figure 7.4.1: Number of Knowledge Management (KM) modules

7.4 (b) Suppliers and Partners Performance

Active Strategic Partners

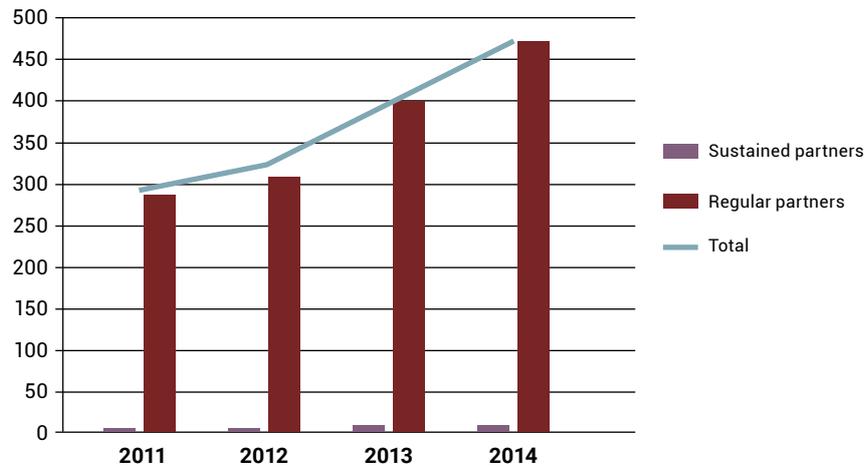


Figure 7.4.2: HCI's sustained strategic partners

HCI's active sustained strategic partners refer to partners who have worked with HCI for at least two years, and are continuing to work closely with the school to provide support in various forms, ranging from expert support in joint development of programmes/events to sponsorship of signature events. HCI's sustained partners have doubled over the last five years to its current 12 (see Figure 7.4.2).

In addition, HCI collaborates with close to 500 individuals and organisations, including more

than 100 local and overseas partner schools as well as universities in over 20 countries across five continents. These regular partners help add value to HCI's flagship programmes and signature events. For example, NTU's Institute of Advanced Studies provides tie-ups with Nobel Laureates for the International Science Youth Forum organised by HCI. Over the years, HCI has steadily grown its regular partner base, as seen in Figure 7.4.2.

7.4 (c) Governance System and Contribution to the Community, Society and the Environment

Serving Non-Profit Organisations

(a) HCI students are encouraged to render services to a wide range of non-profit organisations. The number of non-profit organisations HCI serves every year is consistently high, numbering between 250 and 300 (see Figure 7.4.3). These organisations include Bukit Batok Old Folks Home, Care Corner Counselling Centre, Children's Cancer Society, Joo Eng Home for the Elderly, Lion Befrienders Home, and Zoo Wildlife Buddies. In recent years, the focus has been on the quality of student experience, rather than on the number of such projects.

(b) Recognition for Contributions to the Community. Hwa Chong students have been recognised by several national and international community organisations (e.g. National Youth Council) for their contributions to the community. In 2013, for HCI students' exceptional contributions to the wider community, the school won the Most Supportive School Award in the Citibank-YMCA Youth For Causes programme. In 2014, the school won the Community Chest Award Special Events Award (Youth).

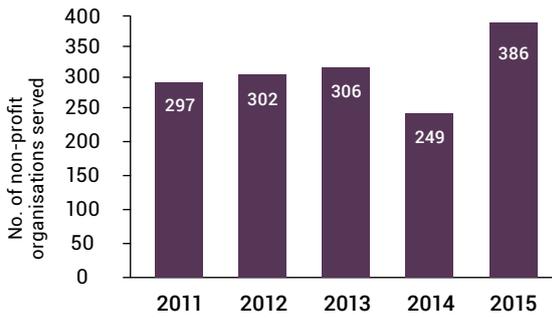


Figure 7.4.3: Number of non-profit organisations served by HCI



HCI principal and teachers at the 2013 Citibank-YMCA Youth For Causes award ceremony, for winning the Most Supportive School Award

Energy Conservation Efforts

In recognition of the school's efforts to go green, HCI was awarded the pinnacle Lotus Sustained Achievement in the School Green Award by the Singapore Environment Council (SEC) in 2012 and 2013. In both years, HCI also received the Gold Award for the 3R Awards by SEC. In 2014, Hwa Chong was

awarded the GOLD Award for Green Living Awards@ Schools by the North West Community Development Council (CDC) and National Environment Agency. To top it all, HCI was awarded the Most Innovative Award for the 3R Awards – the first time the school has won this coveted award.



HCI Deputy Principal Chan Kwok Leong receiving the certificate from Mr Masagos Zulkifli, Minister for the Environment and Water Resources



Solar panels installed on-campus to conserve energy

“ We want to imbue our students with a strong sense of community and commitment to society. However brilliant they may be, the final measure of their real worth will be the contributions they can make to society. They must be men and women of conscience.”

Dr Hon Chiew Weng
Principal, Hwa Chong Institution

// DISTINGUISHED VISITORS //

A SELECTED LIST (2011-2015)

Over 100 district government officials, principals and teachers from China have visited and benchmarked HCI between 2012 and 2015. These include government ministries and leading schools from Beijing, Chengdu, Guangzhou, Guangxi, Sichuan, Wenzhou, Wuxi, and Zhuhai.



His Excellency Ildar Khalikov, Prime Minister of Tatarstan



His Excellency Dr Michael Pulch, European Union Ambassador



Mrs Marion Lai, Permanent Secretary of Education, Hong Kong



Mrs Rebecca Mielowocki, US National Teacher of the Year 2012



Top Finnish school leaders



Top UK school leaders



Two award-winning teachers from Sweden (School St Iliansskolan in Enköping)



MOE Thailand, and Chulalongkorn University (country's top university)

自強不息



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